



# KEAN

KEAN UNIVERSITY  
RESEARCH DAYS

2019



# KEAN RESEARCH DAYS 2019

College of  
Liberal Arts

College of Business  
and Public Management

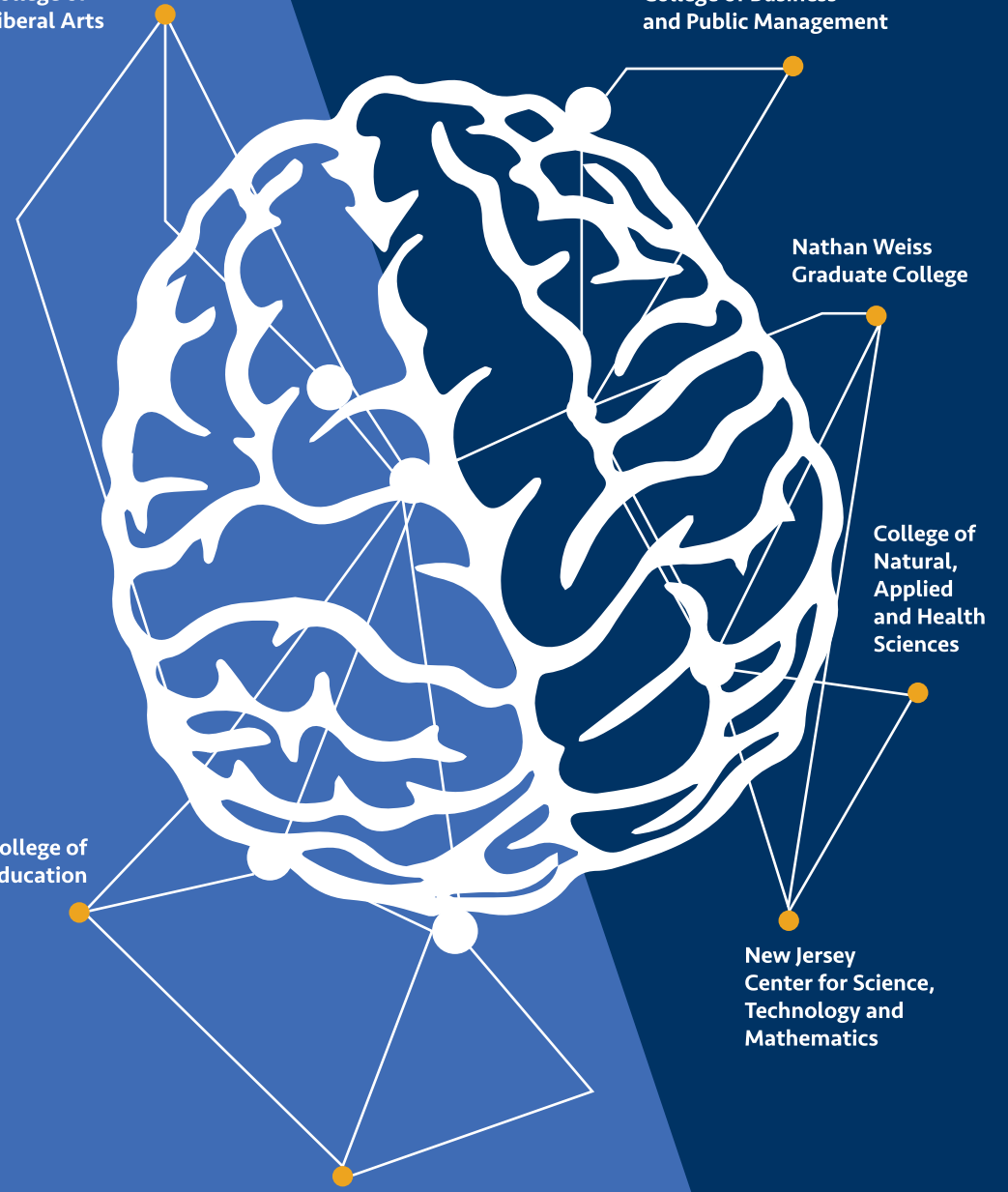
Nathan Weiss  
Graduate College

College of  
Natural,  
Applied  
and Health  
Sciences

New Jersey  
Center for Science,  
Technology and  
Mathematics

College of  
Education

Michael Graves College



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# Welcome

This year 1,100 students will participate in Research Days on the Union campus — another record-breaking number. Several hundred more will participate on the Wenzhou-Kean campus. Presentations will include research projects, creative work, interactive exhibits, and live performances. The joy of discovery has become deeply embedded in Kean's culture.

One of the participating students is our undergraduate student research award winner, Isabel Morais. Isabel was in the audience for the 2018 Research Day keynote presentation by Dr. Marvin Andujar, Assistant Professor at the University of South Florida (USF) and a Kean alumnus. Isabel was intrigued by the brain-computer interface that Dr. Andujar used as an undergraduate at Kean and continues to use in his research group at USF. Building on this idea, she collaborated with two other Kean students to form a team and write a proposal for a year-long research project that was funded by the Computing Research Association's Collaborative Research Experiences for Undergraduates. During her time at Kean, Isabel participated in several research projects and was mentored by four different faculty in Computer Science and in the Robert Busch School of Design. To date, three of Isabel's research papers have been accepted for publication and presentation.

Many of our students will be presenting creative works during Research Days. Our keynote speaker, Paula Gaetano Adi, is both an artist and a researcher as well as an educator. Paula is an associate professor in the Division of Experimental and Foundation Studies at the Rhode Island School of Design. She works in sculpture, performance, interactive installation, and robotic agents. She has lectured and published worldwide, contributing actively to the field of new media



art. Professor Gaetano Adi often speaks about inspiring students to imagine, speculate and make alternative worlds.

Whether it is in the laboratory, the clinic, the studio, or on the stage, Kean students are finding their passion, gaining skills, and preparing for rewarding careers. The 1,100 students presenting during Research Days each had a faculty mentor guiding their work. I would like to thank all the mentors for their dedication to our students. I would also like to thank the staff of the Office of Research and Sponsored Programs for their work organizing this annual event and President Farahi for his support.

I invite you to attend as many Research Days events as possible and to talk to our remarkable students to experience for yourself the vibrant community of researchers and artists at Kean University.

**Jeffrey H. Toney, Ph.D.**  
Provost and Vice President  
for Academic Affairs

## SCHEDULE OF EVENTS

### TUESDAY, APRIL 23, 2019

Time	Location	Event
9:00 a.m. – 3:00 p.m.	STEM 3rd Floor	<b>Faculty Research Presentations</b> <i>See program for times and locations</i>
9:30 a.m. – 10:30 a.m.	STEM 317	<b>Assessment Panel</b> <i>The Implementation, Expansion, and Assessment of Supplemental Instruction (SI) at Kean University</i>
9:30 a.m. – 5:30 p.m.	STEM Various locations	<b>Student Oral Presentations</b> <i>See program for times and locations</i>
4:00 p.m. – 5:30 p.m.	STEM Atrium	<b>Interactive Exhibit</b> <i>Exploring Self-Representation and Aesthetic Presentation in New Digital Media As a Resurgence of Dada Idealism</i>
4:00 p.m. – 5:30 p.m.	STEM Atrium	<b>ILSE Research Showcase</b>
4:00 p.m. – 5:30 p.m.	STEM Atrium	<b>Student Poster Presentations</b> <ul style="list-style-type: none"> <li>● Communication Disorders and Deafness</li> <li>● Computer Information Systems (M.S.)</li> <li>● Counseling</li> <li>● Counseling and Supervision (Ph.D.)</li> <li>● Exercise Science</li> <li>● Holocaust and Genocide Studies</li> <li>● NJCSTM – graduate</li> <li>● Nursing</li> <li>● Occupational Therapy</li> <li>● Physical Therapy</li> <li>● Psy.D. – Combined School and Clinical Psychology</li> <li>● Public Administration</li> <li>● Social Work</li> <li>● Special Education</li> <li>● Speech-Language Pathology Doctorate (SLPD)</li> </ul>

### WEDNESDAY, APRIL 24, 2019

Time	Location	Event
9:00 a.m. – 3:30 p.m.	STEM Various locations	<b>Student Oral Presentations</b> <i>See program for times and locations</i>

### WEDNESDAY, APRIL 24, 2019

Time	Location	Event
9:00 a.m.	STEM Auditorium	<b>Music Performance</b> <i>The Impact of the Rock Band Performance Experiences on Quality of Life Music of Adults with Developmental and/or Physical Disabilities</i>
9:30 a.m. – 11:00 a.m.	Downs Hall	<b>Student Poster Presentations</b> <ul style="list-style-type: none"> <li>● Accounting and Finance</li> <li>● Architectural Studies</li> <li>● Asian Studies</li> <li>● Athletic Training</li> <li>● Biology</li> <li>● Business</li> <li>● Chemistry</li> <li>● Communication, Media and Journalism</li> <li>● Community Health Education</li> <li>● Computer Science/Information Technology</li> <li>● Design</li> <li>● Earth Science</li> <li>● Economics</li> <li>● English Studies</li> <li>● Environmental and Sustainability Sciences</li> <li>● General Studies</li> <li>● Global Studies</li> <li>● History</li> <li>● Mathematical Sciences</li> <li>● NJCSTM – undergraduate</li> <li>● Psychology</li> <li>● Sociology</li> <li>● Therapeutic Recreation</li> </ul>
9:30 a.m. – 11:00 a.m.	Downs Hall	<b>Architecture and Design Showcase</b> <b>Interactive Exhibits</b>
10:45 a.m.	Downs Hall	<b>Students from Wenzhou-Kean Research Days will present live via Skype</b>
11:15 a.m.	STEM Auditorium	<b>Presentation of the Faculty Research Mentor, Undergraduate Student Research, and Cover Design Awards</b>
11:30 a.m.	STEM Auditorium	<b>Keynote Presentation</b> Paula Gaetano Adi <i>Mestizo Robotics &amp; Otras Especulaciones</i>
1:30 p.m.	STEM 501	<b>What You Should Know About Graduate School As Presented by a Graduate Student</b>

## KEYNOTE PRESENTATION



### PAULA GAETANO ADI, MFA

**Associate Professor**

Division of Experimental and Foundation Studies  
Rhode Island School of Design

*Mestizo Robotics & Otras Especulaciones*

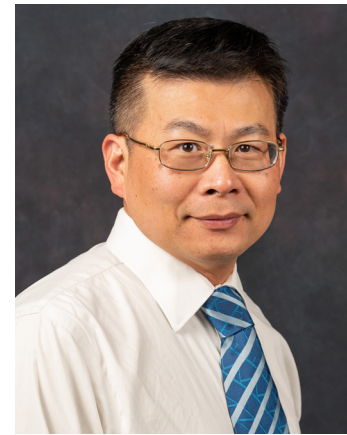
The keynote speaker for Research Days 2019 is Paula Gaetano Adi, artist and professor at the Rhode Island School of Design. Gaetano Adi is best known for her speculative robotic sculptures and machines that explore the poetics and politics of technology by resisting the scientific conventions that dictate how to make, think, circulate, and operate technology. Over the last decade, Gaetano Adi has created robotic agents that call into question the arguments for disembodiment in the cybernetic tradition, performed absurd and poetic scenarios of machine and human encounters, and developed hybrid forms that employ a combination of robotic technologies with traditional crafts and vernacular materials and knowledges.

Gaetano Adi has exhibited her works internationally in locales such as Beijing, Stockholm, Madrid, New York, Mexico City, São Paulo, Berlin and Moscow, among others. She has received awards for her work such as the First Prize VIDA 9.0 by Telefonica Foundation, the First Prize LimbØ / Museum of Modern Art Buenos Aires, the National Endowment for the Arts. A visiting scholar at REMAP / UCLA, professor at UNTREF Electronic Arts - and resident at EMPAC Rensselaer Polytechnic Institute, she has lectured and published worldwide, contributing actively to the field of new media art.

\* \* \* \* \*

Gaetano Adi obtained a degree in Media Studies from Universidad Blas Pascal in Argentina and an MFA with emphasis in Art and Technology from The Ohio State University. She was visiting scholar at the UCLA REMAP, University of California Los Angeles and artist-in-residence at Sachaqa Eco Art Center (Peru). She has served as a faculty for the Electronics Arts program at the Tres de Febrero National University in Buenos Aires and the Rensselaer Polytechnic Institute in Troy, NY, and she directed the undergraduate and graduate programs in New Media Art at the University of North Texas. She is currently associate professor at the Rhode Island School of Design (RISD), in the Division of Experimental and Foundation Studies.

## FACULTY RESEARCH MENTOR OF THE YEAR



### CHING-YU HUANG, PH.D.

**Assistant Professor**

**School of Computer Science**

Faculty Research Mentor of the Year 2019

Since joining Kean University in the School of Computer Science, Professor Huang has worked extensively with undergraduate students, providing mentoring and research leadership. He has co-authored a number of publications with students, and regularly presents his work with them at conferences and at Kean's Research

Days. Additionally, Austin oversees a group of students, "Code Samurai" in the computer science department, and schedules workshops and talks for all students, but particularly the Code Samurai, providing them with enrichment information about advanced tools and techniques they can use in the classroom and in their professional careers. Austin is a mentor for Kean's First in the World Research Active Mentor grant, under the direction of Professor Rose Gonnella.

Austin received the 2018 NY/NJ computer science Chairs award for his outstanding work with undergraduate students. He has conducted summer research with Union County College and Kean students as part of the STEMPact program, and in 2018 he recruited two students to Kean from Union County College based on the superior mentorship and research guidance he provided. Most recently, in February 2019, Austin arranged to take a group of RAM scholars, CS and IT majors and Kean faculty to IBM Labs. He accomplished this by making the acquaintance of a member of the Computer Science Department Advisory Board and following up, both with IBM and Kean, to make arrangements for a bus to take the Kean students and faculty to Yorktown Heights, NY. It was an outstanding visit, with terrific photos, and it excited many students. It also provided outstanding exposure for Kean students to IBM researchers, who were very generous with their time. Austin created an inclusive, welcoming environment for our students while they visited this top-tier research lab.

Austin has published with numerous undergraduate students in the International Journal of *Computer Theory and Engineering*, the International Journal of *Information and Electronics Engineering* (three times), and the World Journal of *Engineering Research and Technology*. He has also published in conference at the Proceedings of 5th Annual Conference on Computational Science and Computational Intelligence; and the Proceedings of the International Conference on Pattern Recognition and Artificial Intelligence; the Proceedings of 2017 International Conference on Computational Science and Computational Intelligence; the Proceedings of 2nd International Conference on Biomedical Imaging, Signal Processing; and the Proceedings of the 13th International Conference on Frontiers in Education: Computer Science and Computer Engineering.

## FACULTY PRESENTATION SCHEDULE

**TUESDAY,  
APRIL 23, 2019**

Time	Location	Faculty/Title
9:30 a.m.	STEM 317	Neva Lozada & Karolina Wolfe <b><i>Assessment Panel: The Implementation, Expansion and Assessment of Supplemental Instruction (SI) at Kean University</i></b>
10:00 a.m.	STEM 306	Dr. Brian Regal & Dr. Frank J. Esposito <b><i>The Allen's Tavern Reclamation Project: Update</i></b>
10:00 a.m.	STEM 307	Dr. Thomas Richardson & Dr. Keith Bostian <b><i>Supporting Kean University through Entrepreneurship</i></b>
10:00 a.m.	STEM 308	Dr. Bok Gyo Jeong, Dr. Kihwan Kim, Dr. Patrick McManimon, Dr. Deborah Mohammed-Spigner & Leonard Grayson <b><i>Inventing Reentry Programs: Public, Nonprofit and Social Enterprise Collaboration</i></b>
11:00 a.m.	STEM 307	Erin Alghandoor, Dr. Abigail Perkiss & Frank Harpster (M.A. student) <b><i>Kean University's Lost Rock and Roll Archive and Counterculture</i></b>
11:30 a.m.	STEM 308	Manuel Divino, Jr., Brianna Camacho, Nicole Duncan, Monda Gerges, Amanda Hauser, Jaime Krass, Lindsay Mazzeo, Callie MacCormack, Monica Morales and Rob Nalesnik <b><i>Interior Design for an Autism Learning Center</i></b>
12:30 p.m.	STEM 307	Panelists: Mildred Antenor & Marjorie Williams-Cooper Moderator: Dr. Consuelo Bonillas, Donnalynn Scillieri Women's and Gender <b><i>The Power of #MeToo: From African Mother Goddess to Wall Street</i></b>
2:30 p.m.	STEM 306	Dr. Juan Jenny Li, Dr. Sara Compion, Dr. Paul Croft, Dr. Kikombo-Ilunga Ngoy, Dr. Feng Qi  Interdisciplinary Panel <b><i>ACCESS Behaviors: Active Classification of Civic Engagement of Students' Social Behaviors</i></b>

**WEDNESDAY,  
APRIL 24, 2019**

Time	Location	Faculty/Title
12:30 p.m.	STEM 318	Dr. Rieko Miyakuni, Dr. Robert Kitzinger, Dr. Katherine Shirley, Eurica Pinthieve (doctoral student), Maria Briffa (graduate student) <b><i>Come Out or Not: Review of LGBTQ Affirming Substance Abuse Intervention</i></b>
12:45 p.m.	STEM 317	Dr. Thomas Koc Jr., Dr. Michael Durante, Dr. Timothy Marshall, Inah A. Bunales (student), Melissa Wint (student) <b><i>The Immediate Effects of Knee Flexion Range of Motion Following Manual Therapy or Self-Stretching/ Active Range of Motion Following a Total Knee Arthroplasty: A Case Report</i></b>
1:00 p.m.	STEM 414 (CAVE)	Professor Craig Konyk & Dr. David Joiner <b><i>Fully Immersive Public Space</i></b>
1:30 p.m.	STEM 318	Dr. Jane Webber, Dr. J. Barry Mascari, Kareem McKenzie (doctoral student) and Maximina Rivera (doctoral student) <b><i>Resolving Trauma Stories without Retraumatization: A Paradigm Shift in the Evolution of Trauma Therapy</i></b>
2:00 p.m.	STEM 306	Dr. Kassaw Merie <b><i>Resettlement and Self-sufficiency: Refugees Perspectives on Social Entrepreneurship</i></b>
2:00 p.m.	STEM 317	Dr. Maria Shumskaya <b><i>Molecular Ecology of Dead Wood: Undergraduate Research and Citizen Science to Wdiscover the Secret Life of Saproxylic Fungi</i></b>



## FACULTY RESEARCH PRESENTATIONS

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### **ERIN ALGHANDOOR, ABIGAIL PERKISS, FRANK HARPSTER (M.A. STUDENT)**

*Department of History, College of Liberal Arts*

#### **Kean University's Lost Rock and Roll Archive and Counterculture**

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Dr. Abigail Perkiss, Archivist Erin Alghandoor and Graduate Assistant Frank Harpster will present on *Kean Rocks Through the Ages*, an exhibit located in the Cougar's Den about the music scene on campus from 1961-2017. There were multiple factors that made our campus a unique college concert venue. From the candid relationship with music promoter John Scher of the Capitol Theater, to hip administrator Eugene Fixler, and the student College Center Board whose budget, at its peak, reached \$100,000, there's been a lot to rediscover about how it all came about. The music scene here comments on the culture, politics and growing diversity reflected on our campus, New Jersey, and the nation. Dr. Perkiss will describe the historical context and the counterculture of the time, Alghandoor will comment on the archival collection material, and Harpster will talk about his research and curation of the exhibit and how it has reconnected alumni and is growing into a book.

### **CONSUELO BONILLAS, MODERATOR MILDRED ANTENOR, DONNALYNN SCILLIERI, MARJORIE WILLIAMS-COOPER, PANELISTS**

*Women's and Gender Studies Program, College of Liberal Arts*

#### **The Power of #MeToo: From African Mother Goddess to Wall Street**

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The Women's and Gender Studies Program will conduct a panel discussion on women and gender issues with three adjunct faculty. Dr. Bonillas, the Women's and Gender Studies program coordinator, will be the moderator for the panelists. The discussion will begin with Professor Antenor who will speak about her published autobiography that focuses on her survival, assimilation, acceptance, perseverance, adversity, tragedy, and redemption. She will also talk about her experiences with love in its many manifestations. Professor Scillieri will then speak about her published autobiography during her time as a Wall Street stock trader in the 1980s. Her talk will interconnect gender, ethnicity, race, and class during an era of free market, mergers, hostile takeovers, and Reaganism. Professor Williams-Cooper will conclude the panel discussion with her talk on the African Mother Goddess. She will discuss humans' migration out of Africa around 60,000 B.C.E, and how the African Mother Goddess spirituality migrated with them. She will reflect on how the power of the ancient African Mother Goddess was systemically shattered as male dominance disempowered matriarchal authority in those new geographic spaces. She will then explore how women's identities, values- and beliefs can be reconstructed today in the sacred enclaves of Herstory of African Mother Goddess.

### **MANUEL DIVINO-JR., BRIANNA CAMACHO, NICOLE DUNCAN, MONDA GERGES, AMANDA HAUSER, JAIME KRASS, LINDSAY MAZZEO, CALLIE MACCORMACK, MONICA MORALES AND ROB NALESNIK**

*Interior Design, Robert Busch School of Design, Michael Graves College*

#### **Interior Design for an Autism Learning Center**

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For four weeks of the Fall 2018 semester, students in the Interior Design department researched and designed a Learning Center for young adults with autism. The work was part of a competition held by The Interior Design Educators Council (IDEC). The students were broken up into teams of three, and each approached the problem in a unique way. Aside from their own research, and the research provided by IDEC, the class was guided by Jeanine Contreras, mother of a child with autism and a faculty member at a school for children with autism; JoAnne Cascia, Ed.D., CCC-SLP, assistant professor and co-coordinator of the SLP Graduate Program at Kean University; and Ellen Hedden from the Communication Disorders and Deafness Department at Kean University.

### **BOK GYO JEONG, LEONARD GRAYSON, KIHWAN KIM, PATRICK MCMANIMON, DEBORAH MOHAMMED-SPIGNER**

*School of Criminal Justice and Public Administration, School of Management and Marketing, College of Business and Public Management*

#### **Inventing Reentry Programs: Public, Nonprofit and Social Enterprise Collaboration**

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The objectives of this study are to explore and examine the models and practices of a collaborative partnership in local reentry programs in New Jersey. The recidivism rate is rising and the rotating prison door has become a public policy issue. The lack of accessible service, low level of job skills and insufficient professional training for job transition have been identified as the main obstacles facing returning citizens in integrating into society. In order to tackle the dilemma of lack of service and resources, this study pays attention to a collaborative form of response to the public policy problem of high re-incarceration. The constraints of resources and limited capacity of one single actor or sector in addressing the increased incarceration problems have made a collaboration mandatory. This project firstly maps out local initiatives and reentry programs demonstrating the collaborative partnership between public agencies, nonprofit organizations, social enterprises, and corporations. Secondly, this study conducts a survey and interviews with municipality public officials, senior nonprofit managers and returning citizens. This study contributes to identifying local actors that contribute to resolving the high re-incarceration issue. This study also highlights the significance of collaborative partnership as an alternative solution for addressing public policy problems in a more effective and innovative way.

## FACULTY RESEARCH PRESENTATIONS

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### **THOMAS KOC JR., MICHAEL DURANTE, TIMOTHY MARSHALL, INAH A. BUNALES (STUDENT), MELISSA WINT (STUDENT)**

*School of Physical Therapy, Nathan Weiss Graduate College*

#### **The Immediate Effects of Knee Flexion Range of Motion Following Manual Therapy or Self-Stretching/Active Range of Motion Following a Total Knee Arthroplasty: A Case Report**

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This case study included an 85-year-old male patient who was admitted to the hospital for a right elective TKA secondary to degenerative OA. The patient was transferred to the transitional care unit three days later for subacute rehabilitation and was weight bearing as tolerated on the right lower extremity. The patient's past medical history was remarkable for hypertension, benign prostatic hyperplasia, atrial fibrillation, mitral valve prolapse, and a left TKA. The patient (N=1) was taken from a sample of convenience from the transitional care unit. Interventions that were selected and performed were randomized. The independent variable was the type of intervention performed and the dependent variable was the outcome of knee flexion range of motion. The patient received pain medication approximately 30 minutes prior to the scheduled session each day. The patient ambulated the same distance each day to our gymnasium where he was instructed to lie supine on the standard Hi Lo table. Each intervention was performed at the barrier of motion (end range of joint motion). Each intervention was performed for the first 15 minutes of the patient's treatment session that was monitored with a digital timer by the Physical Therapist (See Appendices B-H for specific intervention protocol). A 12-inch handheld goniometer was used to measure active range of motion (AROM) and passive range of motion (PROM) before and after each intervention. Mild pressure was applied to the lateral knee to palpate and identify the lateral femoral condyle through the patient's pitting edema. A black washable marker was used to mark the lateral femoral condyle to maintain consistent placement of the fulcrum for the measurements of knee flexion for before and after each intervention. A sterile, 70% isopropyl alcohol prep pad was used at the end of the session to clean the black mark from the skin. This process was repeated in the same manner each day.

### **CRAIG KONYK AND DAVID JOINER**

*School of Public Architecture, Michael Graves College and New Jersey Center for Science, Technology and Mathematics*

#### **Fully Immersive Public Space**

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This specific students partnering with Faculty STEAMed Research Project for Summer 2018 was conducted in conjunction and partnership with Dr. David Joiner of the New Jersey Center for Science, Technology and Mathematics in the simulated CAVE environment organized and administered by Dr. Joiner.

Working with one computer science student, Nahquasia Robinson, and two architecture students, Eric Anderson and Sara Mountford, the SPF STEAMed Research Grant for Summer 2018 allowed for the recreation of the historic and significant public space of the Campo located in the center of Siena, Italy, through the incorporation of UNITY software in the CAVE. This is the first of an inventory of these "virtual experiential events" that can be organized by typology and will be developed and integrated into the First Year Architecture curricular experience, which is dedicated to "Urbanism and Architecture." This summer's efforts proved the value of exploring future potentials for the use of the CAVE, both interactively and architecturally.

### **JUAN JENNY LI, SARA COMPION, PAUL CROFT, KIKOMBO-ILUNGA NGOY, FENG QI**

*Interdisciplinary Panel*

#### **ACCESS Behaviors: Active Classification of Civic Engagement of Students' Social Behaviors**

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This panel will present an interdisciplinary approach to analyzing students' civic engagement in the virtual versus the physical world. Scientists from computer science, social science, and environmental and sustainability sciences plan to use the computer-generated Latent Semantics Indexing method to automatically classify students' social media posts into predefined categories of virtual civic activity (e.g. tweeting often/positively about politics). This virtual data will be correlated with actual physical civic activity (e.g. student voting data) and depicted on a geographic map to show spatially where students' virtual and physical worlds align/misalign—at least in terms of civic engagement. We present the research methodology piloted with Facebook data. A posting classification tool working with Facebook API extracted 100 posts and classified them into five categories: politics, entertainment, science, technology, and daily life. Our aim is to adopt this approach to analyze Twitter tweets, and in doing so we hope to contribute to the fields of computer science, political sociology and sustainability science by applying machine learning algorithms to the study of students' civic behavior. We intend to seek internal or external funding to carry out this research not only for its transdisciplinary attributes but because it has a great potential of benefiting social sciences with data quantification and validation.

## FACULTY RESEARCH PRESENTATIONS

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### **NEVA LOZADA, KAROLINA WOLFE**

*Office of Student Success and Retention, Office of Accreditation and Assessment*

#### **Assessment Panel: The Implementation, Expansion and Assessment of Supplemental Instruction (SI) at Kean University**

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A nontraditional form of academic assistance, Supplemental Instruction (SI) aims to increase student retention and improve graduation rates by removing obstacles in historically challenging gateway courses. In peer-facilitated SI review sessions, currently enrolled students engage with complex course content through collaborative learning strategies that combine what to learn with how to learn, thus developing strong academic skills and active learning competencies. This presentation discusses the implementation, expansion and assessment of the SI program at Kean University, which was originally launched in Fall 2018 to support students enrolled in CHEM 1083 (General Chemistry 1). Current SI leaders will offer their perspectives on the benefits of the program to both the student participants and themselves as student leaders. Program evaluation data and future implications will also be shared.

### **KASSAW MERIE**

*Department of Graduate Social Work, Nathan Weiss Graduate College*

#### **Resettlement and Self-sufficiency: Refugees, Perspectives on Social Entrepreneurship**

---

Community integration is a key refugee resettlement policy objective. A fundamental component of community integration is economic self-sufficiency. In resettlement policy, this is achieved through employment. Resettled refugees in the United States, however, struggle to rise out of poverty (Dickerson, et al., 2011; Steimel, 2010). According to ORR (2013), 14 percent of refugees in the U.S. are unemployed while many refugees live in poverty even if employed. Social entrepreneurship could address self-sufficiency within refugee communities through job creation and self-employment (Fong, et al., 2008; Harris, et al., 2014). Findings of this study suggest the applicability of refugee social entrepreneurship as a viable alternative to traditional approaches to self-sufficiency within resettlement practices. Refugee social entrepreneurship is a promising strategy if supported adequately within resettlement policy implementation and community participation and leadership.

### **RIEKO MIYAKUNI, ROBERT KITZINGER, KATHERINE SHIRLEY, EURICA PINTHIEVE (DOCTORAL STUDENT), MARIA BRIFFA (GRADUATE STUDENT)**

*Department of Counselor Education, Nathan Weiss Graduate College*

#### **Come Out or Not: Review of LGBTQ-Affirming Substance Abuse Intervention**

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Discrimination at individual and institutional levels contributes to negative mental health outcomes among LGBTQ individuals. To meet the unique needs of LGBTQ individuals with substance abuse and misuse issues, integrating a LGBTQ-affirming and-inclusive approach into existing evidence-based substance abuse intervention is imperative. However, we must distinguish that LGBTQ friendly and LGBTQ affirming are not the same. The presenters will provide the review of LGBTQ-inclusive and-affirming counseling practice and propose an integrative model for LGBTQ-affirming and-inclusive substance abuse intervention. Through this qualitative research, we wish to explore the perceptions of LGBTQ individuals who are in substance abuse treatment toward their current substance abuse treatment, identify what they perceive as affirming and inclusive as well as non-affirming and non-inclusive, and discover the components that promote an effective treatment.

### **BRIAN REGAL AND FRANK J. ESPOSITO**

*Department of History, College of Liberal Arts*

#### **The Allen's Tavern Reclamation Project: Update**

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In 2017 a research project was begun to investigate the possibility of excavating the historic Allen's Tavern site on the Kean University campus. The first year of work—which included student participation—paved the way for the next step in the archaeological investigation at the site. Ground-penetrating radar examinations were made locating the foundation of the tavern, and several artifacts were found. This presentation will be an update on where this project has gone and plans for the future.

### **THOMAS RICHARDSON AND KEITH BOSTIAN**

*New Jersey Center for Science, Technology and Mathematics and the Institute for Life Science Entrepreneurship*

#### **Supporting Kean University through Entrepreneurship**

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The Institute for Life Science Entrepreneurship (ILSE) serves as a gateway to the biopharma industry in the New Jersey region and beyond. As a nonprofit, we support Kean faculty and students through engagement with early-stage companies that are making advances in health care, from new medicines to technologies to research tools. We operate a research institute



## FACULTY RESEARCH PRESENTATIONS

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with a specialty in microbiology, antibiotics research, and bioinformatics and employ Kean graduates who work on real-world problems from our collaborators all over the world. ILSE is also a business accelerator and works with companies addressing the global threat of antimicrobial resistance. We provide business, strategic, scientific, clinical and operational support, while bringing to campus world-class research with funding from the NIH, Wellcome Trust, the Bill and Melinda Gates Foundation, and many others. Students and faculty can interact with companies through programming and events held throughout the year. Lastly, we operate a state-of-the-art incubator facility in the STEM building, boasting eight companies and 35 scientists performing pioneering R&D all while collaborating with faculty, hiring Kean graduates and providing internship opportunities.

### MARIA SHUMSKAYA

*School of Natural Sciences, College of Natural, Applied and Health Sciences*

#### Molecular Ecology of Dead Wood: Undergraduate Research and Citizen Science to Discover the Secret Life of Saproxylic Fungi

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Molecular ecology is an interdisciplinary field that combines traditional ecology with molecular genetics and bioinformatics. Methods include manipulations with DNA sequences, such as DNA barcoding to identify biological species. In our Laboratory of Applied Genomics, we work on diversity and ecology of dead wood (saproxylic) fungi, using molecular ecology methods. Saproxylic fungi live in fallen logs, branches, etc. Often fungi show no fruiting bodies, making DNA analysis a must while identifying them. Forests rely on saproxylic fungi to decompose wood and return elements back to the ecosystem, prepare wood as habitat for animals or associated plants, etc. In the United States current park and forest management practices rarely consider saproxylic fungi when removing dead wood and are likely to reduce the diversity of these important organisms. In our research, we travel across various parks and recreation areas of New Jersey, collect samples of fungi and dead wood with invisible fungi, analyze the species using both visual identification and DNA analysis, and assess the diversity of saproxylic fungi. Students work both in the field and laboratory. The SpF 2018 project focused specifically on invisible fungi; CURE, STEMPact, LSAMP and Independent Research students work with fungi that present visible fruiting bodies. A citizen science group, New Jersey Mycological Association, collaborates with us during field trips. Our work received several awards at both local and international conferences.

### JANE WEBBER, J. BARRY MASCARI, KAREEM MCKENZIE (DOCTORAL STUDENT) AND MAXIMINA RIVERA (DOCTORAL STUDENT)

*Department of Counselor Education, Nathan Weiss Graduate College*

#### Resolving Trauma Stories without Retraumatization: A Paradigm Shift in the Evolution of Trauma Therapy

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Telling their trauma story using conventional therapy methods may overwhelm some survivors and lead to retraumatization. Trauma therapist Babette Rothschild (2000) cautioned counselors and mental health practitioners that “the goal of trauma healing must be to relieve, not intensify, suffering.” Through a phenomenological and historical study of trauma treatment approaches and cases, we examined the potential retraumatizing effects of conventional therapies and techniques. We then chronicled discoveries and developments that led to a paradigm shift in trauma treatment that intentionally minimizes and avoids the threat of retraumatization and facilitates healthy resolution of the traumatic experience with or without restoring the trauma. With these findings, we developed a trauma-informed doctoral curriculum that integrates current trauma awareness and postmodern trauma counseling skills.

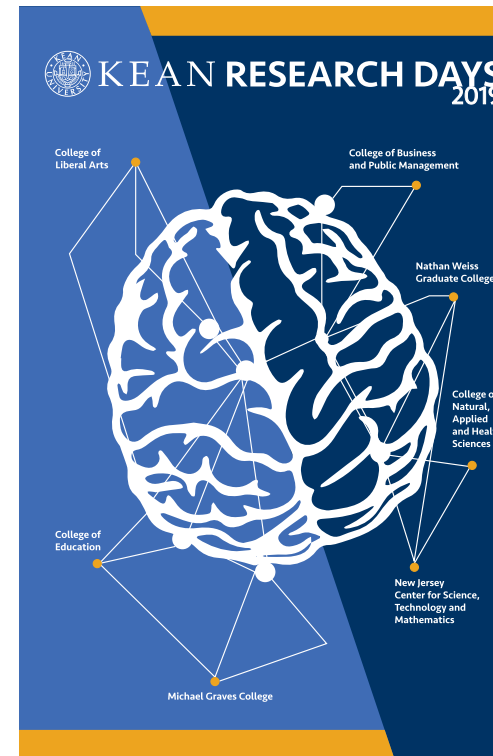


The Institute for Life Science Entrepreneurship (ILSE), on the campus of Kean University, is a nonprofit organization established in 2014 to accelerate life science discoveries to improve human health, including new medicines, devices and transformative technologies. ILSE is both a technology accelerator and a science-driven research institute that works in partnership with affiliated academic and biomedical institutions across the region. ILSE Labs, a business unit of ILSE, provides incubator space, consulting expertise via a network of global life-science experts and a network of R&D service organizations.

Selected research presented during Research Days 2019:

**ILSE and CARB-X Global Accelerator Network: Tackling Antibiotic Resistance**

The World Health Organization (WHO) in its annual report stated that antibiotic-resistant infections are the greatest threat to world public health, and without urgent and effective help the world is headed to a post-antibiotic era in which minor illness and infections, which were treatable in the past, will once again kill in increasing numbers. Currently over 700,000 people die each year from bacterial infections. In the United States, about 23,000 people die from drug-resistant infections, according to the Centers for Disease Control and Prevention (CDC). The world urgently needs new antibiotics, vaccines, diagnostics and other products to help fight the rise of drug-resistant bacteria. CARB-X is a public-private partnership that was set up to address this issue. In 2018, ILSE joined CARB-X as one of its lead global accelerator network partners. ILSE spearheads various antibiotic research and development activities as part of this initiative from the early discovery phase all the way to Phase I clinical studies. ILSE also accelerates biotechnology companies that are funded by CARB-X.



**Program Book Cover Design Award 2019**

The Office of Research and Sponsored Programs in collaboration with the Robert Busch School of Design hosts a program cover design contest for Research Days. All RBSD students were encouraged to submit designs that visually represent the essence of research and creative work.

**WINNER**

**Alexus Haynes-Albert**  
Senior, Graphic Design:  
Interactive Advertising major

**HONORABLE MENTIONS**



**Nathanael Jenkins**  
Senior, Graphic Design:  
Interactive, Print and  
Screen major



**Arlenis Roberts**  
Senior, Industrial  
Design major



**ISABEL MORAIS**

*Senior, Computer Science Major*

Undergraduate Research Award 2019

Isabel Morais has participated in research projects with faculty and other students throughout her time as a Kean undergraduate student. After attending the 2018 Research Days presentation by Dr. Marvin Andujar, Isabel was intrigued by the brain-computer interface (BCI) that Dr.

Andujar had used as an undergraduate at Kean and continues to use in his research today. Building on this idea, she collaborated with two other students to form a team and write a proposal for a year-long undergraduate research project, “Analyzing Student Understanding of Cybersecurity Concepts Using a Brain Computer Interface (BCI)-,” that was funded by the Computing Research Association’s Collaborative Research Experiences for Undergraduates (CRA-CREU). With this funding, two BCI headsets were purchased for use with students in Project Adelante to measure changes in cybersecurity awareness in high school students. During the fall semester, a series of cybersecurity lessons were presented to Project Adelante high school students, and Isabel oversaw the pre- and post-test assessment and BCI assessments. Posters from this effort, both on the BCI activity and cybersecurity education, will be presented at Kean’s Research Days.

Isabel’s work on the CRA-CREU project was preceded by her work on a 2018 Students Partnering with Faculty STEAMed project, “Intelligent Wayfinding” (Dr. Patricia Morreale, Computer Science joint with Professor Ed Johnston, Design). Isabel was part of a team of four students, two from CS and two from Design, who prepared an enhanced website for Liberty Hall Museum and developed an augmented reality (AR) experience for Liberty Hall visitors. Two papers from this work have been accepted for presentation and publication at an upcoming human computer interaction conference.

In 2018, Isabel worked with Professor Mayra Bachrach on developing a curriculum for middle school teachers and presented the curriculum to teachers during a summer workshop and a follow-up event in January. This research was funded by Professor Bachrach’s Google Education grant. The results from that research have been accepted for presentation at a conference in Princeton, NJ.

Working with Dr. Daehan Kwak, Isabel prepared a poster for submission to the National Conference on Undergraduate Research (NCUR), which will be presented in April. The poster was also accepted for presentation at Posters on the Hill in Washington, DC, in April.

Isabel is an outstanding student and in NSF S-STEM Scholarship recipient, and she has received scholarships to attend the Grace Hopper Conference (2017) and Women in Cybersecurity (2019). She has been the Treasurer for the ACM-W student chapter and was one of the founders of Kean’s Women in Cybersecurity (WiCyS) chapter. To date, three of Isabel’s research papers have been accepted for publication and presentation, with an additional two in preparation. Isabel has accepted a full-time job at Ford Motor Company in Dearborn, MI, after graduation.

**ACCOUNTING AND FINANCE**

**KENNERH EIB, LUIS CASTANEDA**

*Faculty Advisor: Sut Sakchutchawan*

**The Ethics and Corporate Social Responsibility of Media/Social Media**

The purpose of this research paper is to explore the ethics and Corporate Social Responsibility (CSR) when it comes to media, or media-platforms through the decade. With media-platforms being a major perpetrator of addressing, as well as instigating, a lot of issues around the world. This is essential to study as it can be what makes or breaks your career when trying to expand your work base. With supporting evidence we found through Kean online databases, scholarly articles, and other external resources, we were able to evaluate the effects of (CSR) in a social media environment. The results of this study can be implemented to the population as a whole. We conclude that social media can be a very case-sensitive platform. As you never know what audience you reach.

**YUANJUN GUO**

*Faculty Advisor: Kihwan Kim*

**The efficiency and Risk of Internet Finance from Ant Financial Services Group**

The rise and popularity of internet finance, a new financial model, is a major driving force to promote China’s cashless society. The descriptive study assessed the efficiency and hidden risk of internet finance in China, based on the current economic and social environment. The assessment focused on Ant Financial Services Group, one of the three largest internet financial companies in China. By describing the specific business sectors, including Alipay, Yu e bao, Ant Credit Pay, Ant Wealth and so on, the study demonstrated the benefits of internet finance for people’s lives and the overall Chinese financial market, as well as its risk problems. Through qualitative analysis, the research provides suggestions that the users can have a clearer understanding of internet finance and substantially reduce risks while benefiting from it.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### WEI WEI, YUNXIN XU

*Faculty Advisor: Qian W. Mao*

#### U.S.-China's Trade War and China's Outward M&A Activities

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After the development over the past three decades, China has become the second largest economy in the world. Its trajectory to rise continuously has fueled many outward cross-border mergers and acquisitions M&As. We review the outbound M&As deals by Chinese state-owned enterprises SOEs and non-SOEs since 2005 when Lenovo acquired IBM's personal computer business division, the first major outbound acquisition by a Chinese company. We'll identify the motivations behind Chinese outbound M&A activities and the competitiveness of Chinese firms in the global market. While the Chinese firms had been on a buying spree, the trade war between the U.S. and China broke out when President Trump won in 2016. The U.S. regulators have intensified their scrutiny of Chinese M&As when the deals could help Chinese companies acquire U.S. technologies. Besides, the U.S. and China are racing for global technological supremacy. Because China has the largest foreign reserves and the second largest sovereign wealth fund, they are still ample opportunities. The number of M&A by non-SOEs is growing much faster than by SOEs. Furthermore, the Chinese firms are building their own models to be successful and sustainable in the long run, and the trade war could become a driving force for China's technological innovation.

### MING YANG, MINGZHEN ZHANG

*Faculty Advisor: Qian Wang*

#### A Study of Dim Sum bonds, Panda Bonds and Kungfu Bonds

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In this research project, we examine three interesting bond issues in the Chinese domestic bond market and international bond market, Dim sum bonds, Panda bonds, and Kungfu bonds in the last ten years. Dim sum bonds are bonds issued outside of China but denominated in Chinese renminbi, rather than the local currency. A Panda bond is a Chinese renminbi-denominated bond from a non-Chinese issuer, sold in the People's Republic of China. U.S. dollar-denominated bonds issued by Chinese institutions have been referred to as Kungfu bonds. China's domestic bond market has grown rapidly in the last decade. Furthermore, there are more Chinese corporations that raise debt from the overseas capital market than ever. We are looking into the reasons that spur the fast developments, such as domestic and international interest rates, GDP growth rate, stock market returns and government regulation initiatives. We also compare the benefits and the costs of issuing those bonds. Particularly, we recognize the challenges faced by the issuers and the investors, which include the transparency of financial statements, credit rating assignment, foreign exchange risk, and market liquidity, etc. Finally, we provide future outlooks as China is fast becoming one of the most attractive capital markets for foreign investment.

## ARCHITECTURAL STUDIES

### KOMAL ACHARYA

*Faculty Advisor: Craig Konyk*

#### Education and Empowerment Center for Women in India

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Education for many people is an essential aspect in life. It gives us an opportunity to dream big and help reach our goals. Unfortunately, not everyone is lucky enough to have this chance. There are still areas in world where education is not prioritized, especially for girls. One such place is Jaisalmer in Rajasthan, India. The city is a very popular tourist destination that still suffers from not having enough education centers for girls. This research thesis project focuses on designing a place that will provide education to women, while also being a women empowerment center. This center will enable the women in villages to do what they desire in life along with teaching them about their human rights, and also providing support in cases of domestic violence, financial problems and other everyday problems they might face at home or out in the real world. It is an architectural proposal to attempt to solve a dilemma that the state has been facing for years now. In various collages made throughout the semester this research looks into the problem from architectural point of view and the point of view of the people in every detail. Every woman in Rajasthan deserves the same opportunities as women anywhere else and this is one way to bring them closer to what they are entitled to. This research will seek to identify how educational and other strategies for empowerment, housed in a suitable architectural solution, can make a significant social impact.

### LILLIAN AGUTU

*Faculty Advisor: Darion Washington*

#### Roman Refugee Housing

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This is an investigation into the actual reuse of unoccupied Roman monuments as habitable spaces for migrants and refugees who pass through Italy. Semi-permanent housing modules were designed into the Colosseum without physically removing any of the existing as well as educational and medical spaces.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### AYANA AYSCUE

**Faculty Advisor:** *Craig Konyk*

#### Gravity and Architecture

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My research explores the relationship between gravity and architecture, the vocabulary to make visible the invisible forces of gravity. I study how gravitational energy is a language that was utilized throughout architectural history. Employing various detailed drawings of how different structures have expressed gravity as a language, my research seeks to answer: What is space? What is space made of? What is the geometry of space? What is the relationship to the scientists who have developed theories on gravity? Has anyone challenged any of these scientists' theories and what have they discovered? My research also includes my studies of architecture from Rome that form the foundation of my thesis, in addition to my analysis of what the language of gravity is in the 21st century.

### GABRIEL EMMANUEL CASTILLO

**Faculty Advisor:** *Craig Konyk*

#### The Secret Life of Materials

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My research explores certain unique qualities inherent in materials. For example, a closer inspection of tree bark yields an intimate surface knowledge and material recording of age, climate change, and insect interaction. The richness of this information can be incorporated into residential housing and materials. Nature has hidden patterns and constructable methods that can be exploited for means of comfort and functional aesthetics. For example, the use of clay gives a physicality of touch, exposing the creative process in the material. These natural material qualities allow the experience of an architecture to be intimate and relatable to the user.

**Research Supported by:** National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780

### SOL CONDO

**Faculty Advisor:** *Craig Konyk*

#### Civic Engagement

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The stadium typology is unique in its clear formal and functional geometry as well as its program of spectacle. It is a large intervention to be attempted within an existing urban condition. The design strategy for the introduction of a World Cup-class stadium into McCarren Park in Williamsburg, Brooklyn, is NOT to place it in the park, but rather right next to it. The stadium would neither overwhelm nor obliterate its present community uses of athletic field, swimming pool/play center, skatepark, tennis courts and ball fields. I have opted to integrate the stadium onto an urban mixed-use site to the northwest of McCarren Park: a site bounded by the main

arterial streets of Manhattan, Driggs, McGuinness and Humboldt. My strategy involves adapting that existing block structure to incorporate it into the new stadium. Upon the completion of the World Cup, the stadium itself will then gradually adapt itself-adjusting to the evolving needs of the block and community, be it housing or commerce. I am interested in encouraging the juxtapositions of spectatorship with residential dwelling. By "mashing up" these two at the inception, my proposal accomplishes the integration that is usually a failed planned condition that is rarely achieved after the games leave town.

### MEAGAN DAVIS

**Faculty Advisor:** *Linnea Moore*

#### NO PARKING – Raritan Valley Line – New Jersey Transit Hubs

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Imagine a New Jersey where no one needed to use their personal automobile for their daily commute. A Garden State Parkway that is actually just a Garden State Park. Instead, what if one's commute was in an autonomously chauffeured multi-person vehicle, scheduled to pick you up at home when you are ready to leave and drop you off at home upon your return? A logistics/dispatch/concierge app (similar to Uber peer-to-peer services) would be developed to allow commuters to access the system. You would never need to find or pay for parking at any NJ Transit Commuter Station. And you would never miss a train because of doing so. And what if each NJ Transit Station had a plethora of amenities, such as on-site meeting and banquet facilities, daycare, dining, health and wellness facilities, small overnight capsule hotels, theaters, playgrounds, and cafes where the community could engage one another, dwell, linger and develop a richer sense of community? This proposal is to design the necessary infrastructure by developing the acres of currently unused parking lots that surround each and every NJ Transit Station into locales of interactivity instead of only points of transit.

### ELISE DUSENSHINE, RACHELEANN CORT

**Faculty Advisor:** *Craig Konyk*

#### Queens' Bees – an Architectural Intervention in New York City

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It is no secret that New York City lacks the environmentally forward stance of many of our world's cities, especially in less developed boroughs like Queens. It is for this reason that an architectural intervention could be made along the High Bridge — a research and factory site focusing on bees and their habitat. The High Bridge is not a completely neglected site, but a dual site design with a new connecting bridge that has the ability to bring new life to the area, both figuratively (bees) and with actual visitation by New Yorkers. Bees provide a variety of beneficial resources and would make a welcome addition to the High Bridge and to Queens. Our research hopes to demonstrate the value of exposing natural processes within the built environment



## STUDENT POSTER PRESENTATION ABSTRACTS

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### ANTOINE GBAMOU

*Faculty Advisor: Craig Konyk*

#### Geometricizing the Sun

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Solar energy is an inexhaustible and sustainable type of energy. The “Photovoltaic effect” that explains how sunlight is used to create energy was discovered in 1839 by Alexandre Edmond Becquerel and has come along way since. Today’s advancements in technology have made solar energy available to practically anyone who can afford it. People are progressively going solar by installing solar panels on their homes in efforts to make a sustainable change and save on electricity bills. However, we are potentially not exploiting this inexhaustible source of energy to its maximum. What if we can architecturally geometricize our roofs? The purpose of this research is to find out how we can we design a roof in such ways that it is sustainable, is energy efficient and maximizes the solar panels’ exposure to the sun. Keywords: Geometry, Sun, Sustainable, Roof, Efficient, Energy.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### YAZMINE GRAHAM

*Faculty Advisor: Craig Konyk*

#### Preservation of Destruction

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The *Preservation of Destruction* is a publication that will provide insight by way of research and case studies to define historic preservation. This research will focus on when and how humanity preserves acts of urban destruction and their role in shaping urban memory. By assisting in research for the publication I will provide information on where, how and why building new but with a memorial as a way of preserving destruction affects society. The memorials I will use to explain my research are the Bath School Massacre in Bath Township, Michigan; African American Burial Ground in New York and the 9/11 Memorial and Museum.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### JOHN GREGA

*Faculty Advisor: Craig Konyk*

#### Unearthing the Baths of Caracalla

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In the Spring of 2018, we had the opportunity to study in Rome and visited many historic monuments, one being the Baths of Caracalla. The Baths were a very important part of Roman history because these were the social hubs of ancient Rome. My research investigated these ruins, how these Baths actually functioned and unearthed the mechanics of them to better inform and be appreciated by a visiting public.

### SARA MOUNTFORD

*Faculty Advisors: Michael Licht and Darion Washington*

#### Highbridge Factory

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Can food production once again be imbedded in the urban condition? For this research project, we created a factory space that included a dining experience, kitchen, culinary school, dormitories, and production center. It was located next to the Highbridge in the Bronx, a historical water viaduct that is now converted into a pedestrian bridge. We took local products raised across the Harlem River to make it consumable for locals, tourists, students and workers. The concept was to have the structure blend into its surroundings, mimicking the angles presented by the bridge. The roof of the production center was at a slight slope, which is turned into a park to give the Bronx some much-needed green space. It was also extremely important to feature the river, which is often an overlooked part of the city. In addition, we designed a bridge connection from each side, it replicating the way tree roots grow. It was a series of pipes wrapping itself around the bridge to create a visual focal point of the site, creating a centering device for the entire “Factory” complex.

### SABRINE WARYAH

*Faculty Advisor: Laretta Farrell*

#### Preserving Monuments in Today’s Generation

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Monuments are a reflection of how rich the heritage and culture of past eras were. People are able to learn about those times by beholding a single monument—style represents the era of construction and design and the beautiful motifs represent the quality of craftsmanship as well as the hard work people put in, to cut each and every stone and carve them to create beautiful pieces of art, long before technology made it easier. The significant amount of planning shows how talented architects were, without major softwares that aid today’s design. The scale of the monument represents its importance to society. My colleague and I traveled to Costa Rica this past winter break to build a monument platform base for a cement leather back sea turtle. Leather back sea turtles are known for nesting their eggs in Gandoca, Limon, Costa Rica and all along beaches on the southern border. The environmental, biological, and ecological factors into effects in climate, pollution, etc. which all plays a huge role to how architects design, construct, and sustain architecture in today’s generation. We got to see what the true meaning of the purpose of preserving monuments and the art that represents so much more than just as an item.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### ASIAN STUDIES

#### MAY OO

*Faculty Advisor: Kihwan Kim*

#### **The Influence of Political and Economic Transition on the Development of Entrepreneurship in Myanmar**

With the recent political and economic reforms, Myanmar, a southeast Asian nation previously known as Burma, has entered a new era of liberalization. The people of Myanmar are ready to seize the opportunity to develop the country, enjoy their liberty and re-engage with the international communities. There is an unrealized potential of entrepreneurship in Myanmar that has been hindered by the military cronies for decades. This paper explores how the political and economic transition facilitates the development of entrepreneurship in Myanmar. The country shows exponential growth mainly in internet access and mobile phone usage. The paper also discusses the growth potential of e-commerce and the challenges. The country is still underdeveloped; much work is needed to improve the infrastructure and financial services. The cooperation between government and development partners will be the main support that can unlock the potential of entrepreneurship in Myanmar. Therefore, this paper aims to promote entrepreneurship and attract foreign investors by analyzing the current economic policy, the business environment and the entrepreneurial characteristics, and focusing on promising areas, particularly e-business.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### ATHLETIC TRAINING

#### ERIC ACEVEDO

*Faculty Advisor: Nicole Matuseski*

#### **Bilateral Femoral Acetabular Impingement with Associated Labral Tears in Baseball Player: Level 3 Case Study**

This case study focuses on a 18-year-old Division III ambidextrous baseball pitcher with bilateral femoral acetabular impingement and his current rehab protocol. Recognizing the ways it can present itself in ways such as a groin or hip flexor strain. Studies show if impingement is present in one hip, it is likely present in the other. However, due to the nature of the sport, since he was ambidextrous, surgery on both hips became unavoidable due to the ineffectiveness of the conservative treatment.

#### FRANCIELLY ALVAREZ

*Faculty Advisor: Nicole Matuseski*

#### **Seizures and Shoulder Labrum Tear in Male Lacrosse Player**

An 18-year-old male lacrosse player has had multiple grand mal seizures. Within the time frame of having seizures, he tore his shoulder labrum and received surgery and rehabilitation for it. The athlete had pain in his labrum again possibly due to recurring seizures. With more imaging and testing, we would be able to diagnose if the athlete had sustained another labrum tear injury. Until then, the rehab protocol for a labrum tear is maintained.

#### TERESA ANDOLINO

*Faculty Advisor: Nicole Matuseski*

#### **Isolated Grade II Posterior Cruciate Ligament Sprain**

An isolated tear of the posterior cruciate ligament makes up only about 1 percent of acute knee injuries. It is not always easy to diagnose since there is no distinct sound that is heard or felt with a posterior cruciate tear like there is with tears of other ligaments of the knee. It is very important to educate athletes and coaches on some preventive care that could be implemented in their warm-ups and or cooldowns.

#### DANIELA COSTANZO

*Faculty Advisor: Nicole Matuseski*

#### **Lisfranc Sprain in Preseason Soccer**

A female collegiate soccer player obtained a lisfranc sprain of the metatarsals from which she experienced a lot of ecchymosis and edema post-injury. Many challenges were encountered while finding an effective rehab protocol in addition to a helpful stabilization for return to play. The position of an athletic trainer is important in finding the best ways to heal the injury and aid the athlete in returning to their sport without pain. With treating this rare injury, we kept all treatment possibilities in mind while using trial and error to find the best ways to alleviate pain during playing time.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### ANEIKA DALEY

*Faculty Advisor: Gwen Cleaves*

#### Rhabdomyolysis

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Rhabdomyolysis is a rare condition where muscle tissue breaks down and damaged muscle cells are released into the bloodstream. During preseason, an athlete began experiencing severe muscle cramps that led to him going to the hospital and being admitted with the diagnosis of rhabdomyolysis. It's a rare condition, so having an athlete experience it twice during his collegiate career was very unique. Rhabdomyolysis can be a very dangerous condition if not treated promptly and properly; severe complications such as kidney failure and organ failure can occur.

### KYLE DALY, JULIANA ROMERO

*Faculty Advisor: Nicole Matuseski*

#### Pulmonary Contusion and Enlarged Spleen in a Collegiate Football Player: Level III Case Study

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A direct hit to the chest of a collegiate football player caused a contusion to the right lung, which is an uncommon injury to see. Sharp pains in the chest made it more difficult to breathe for the athlete and blood was found in the athlete's saliva. This is considered an emergency situation; emergency scenarios are stressful situations and it is important to act in a calm and efficient manner. After a full evaluation, the decision was made to send the athlete to the emergency room for further evaluation. In conclusion, the athlete had trouble breathing for some time and was unable to return to play for several weeks; with further testing, an enlarged spleen was found and he also had his appendix removed due to appendicitis.

### TAYLOR DE MAIO

*Faculty Advisor: Gwen Cleaves*

#### Weber C Fracture in a Female Softball Player: Level III Case Study

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Danis-Weber, also known as Weber classification is a method of describing an ankle fracture that comes in three categories (types A, B, and C). With a type C Weber fracture, the structures that are involved and most likely damaged are the medial malleolus, the medial deltoid ligaments and the fibula. Due to the extreme force of inversion, the deltoid ligament was damaged with syndesmotic tears as well as a distal diaphysis of the fibula. Surgery was advised within the next couple days. After surgery the athlete had two tightropes from arthrex to repair syndesmosis, with lateral and medial incision sites. Comparing studies, the athlete had a positive outcome for restoring normal biomechanics of the ankle from the tightrope method versus the screw method. Tightrope provides and maintains more accurate reduction of syndesmosis compared with screw fixation and prevents the need for routine implant removal.

### SAMANTHA DREW

*Faculty Advisor: Nicole Matuseski*

#### Patella Subluxation and Medial Patellar Femoral Ligament Tear in Men's Lacrosse: Level III Case Study

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21-year-old male lacrosse athlete was treated for a lateral patella subluxation in his left knee, during a game. The athlete has a history of patella subluxations dating back to his sophomore year of high school. There was significant swelling over the patella and he was missing most degrees of active extension and flexion, as well as the last few degrees of passive extension. The athlete was sent for an MRI in April 2018 and the results confirmed a complete tear of his medial patellar femoral ligament. If the athletic trainer was aware of the previous history that this athlete had with patella subluxations, he could have tried a patellar tracking tape job, to help prevent the frequent subluxations, and possibly would have avoided the need for surgery.

### KENIA FLORES

*Faculty Advisor: Nicole Matuseski*

#### Collegiate Women's Volleyball Player Sustains Non-Traditional "Unhappy Triad"

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A 19-year-old female collegiate volleyball athlete sustained a debilitating injury during preseason while playing outside in practice. Testing and imaging revealed a full ACL and MCL tear alongside a bucket-handle tear of the lateral meniscus and bone bruise on the tibial plateau. With rehabilitation before and after surgery, athlete should be able to re-establish control in her left leg and be fully functional.

### TYLER HORSCH, MELISSA DAMESTOIR

*Faculty Advisor: Nicole Matuseski*

#### Full Thickness Biceps Femoris Tendon Rupture in Men's Soccer: Level III Case Study

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This study looked at a college-level soccer player who suffered a rupture to his biceps femoris tendon and partial tears to his iliotibial band, ACL and PCL. This injury is very uncommon and has not been seen in an athlete who has taken no contact to cause this injury. It is also the only recorded case with multiple structure involvement. The study also suggests why a valgus stress test of the knee could be used for determining a rupture of the biceps femoris tendon.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### NOELLE SOLLIVAN

*Faculty Advisor: Nicole Matuseski*

#### Injured fourth Digit of Adolescent Football Quarterback's Throwing Hand

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This case study looks into the effectiveness of the treatment plan throughout the season for a high school level football quarterback, who suffered trauma to the ring finger of his throwing hand. Finger injuries in football are common. This case study will provide alternative treatments for this diagnosis, which will aid athletic trainers in providing quality care for all of the physically active population. This case study involves information that I have collected firsthand while working with this athlete throughout the season. The athletic training staff tried a variety of different treatment and taping methods to find what was successful. The athlete was able to participate in every practice and game during the course of treatment.

### KENDALL TROTMAN, JULIANA ROMERO

*Faculty Advisor: Nicole Matuseski*

#### Rhabdomyolysis in Collegiate Football during Preseason: Level 3 Case Study

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Rhabdomyolysis in athletes today is more prevalent than ever before. Rhabdomyolysis is the breakdown of muscle tissue that releases damaging proteins into the blood. The athlete that suffered this traumatic injury was dehydrated and practicing on turf in full pads in 90 degree weather. Implementing regulatory water breaks, monitoring weather and adjusting accordingly as well as watching the intensity levels athletes are undergoing can all be beneficial to the life of the athlete.

## BIOLOGY

### MIRLEY ADOLPHE

*Faculty Advisor: Carisa Davis*

#### Detection of Salmonella in Chicken

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Salmonellosis is one of the most common causes of food poisoning in the United States and affects up to 1 million people annually. Any raw or undercooked animal can carry salmonella, including chicken, which is the most purchased and consumed poultry in the country. Therefore, we analyzed grocery store chicken samples for the presence of salmonella with the purpose of determining the risks of food-borne illnesses to the general population. We used the Loop Mediated Isothermal Amplification (LAMP) method to quickly identify salmonella in the samples. The LAMP method, is a low-cost alternative to PCR and has been used for diagnosis of various infectious diseases and identification, and differentiation of pathogenic

microorganisms, including salmonella. We ultimately hope that this technique will provide a useful method for infectious disease diagnosis in low-and middle-income countries in the future.

### SHANICE ALLEN

*Faculty Advisor: Laura Farrell*

#### The Skin-Glow Up Manual

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“Why is having a skin-care routine important?” A skin-care routine includes consistency; the right tools for extraction, exfoliation and circulation; organic-nutrients; SPF+ and patience. Mild skin concerns can be improved and prevented by practicing a skin-care routine designed specifically for the problem. The magic behind having a skin-care routine is long-term and in some cases, permanent usage. To demonstrate how good skin-care can be, I will present the data collected from a self-experiment conducted from 2016 through 2018. In my early teens, I suffered from hyperpigmentation and mild acne. After some extensive research, I understood the importance of skin care and the long-term benefits it can provide if done consistently and correctly. The method for this project was simple; design a skin-care routine to treat my concerns, gather organic extracts to use as nutrients, schedule days to thoroughly extract impurities, and record the time it took to see improvements. As some may say, “the proof was in the pudding.” By the end of 2018, my skin showed significant improvement. Acne, hyperpigmentation and signs of early aging are non-existent due to this consistent routine. The skin we are living in protects us from so much, so why not do the same?

### STEVEN ALMAZAN-HERRERA, KAITLYN WEILER, KYRA HUGHES AND ANGELA VALLE

*Faculty Advisor: Elizabeth A. Manheim*

#### Analysis of the Mps1-PP1 Interaction in vivo

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Meiosis and mitosis, essential to the survival of all organisms, rely on the formation of a bipolar spindle to segregate chromosomes and complete cell division successfully. Many of the spindle assembly mutants are lethal, requiring the use of transgenic constructs (both wild type and mutant) to compensate for the lethality and study the protein. Monopolar spindle-1 (mps-1) is a spindle checkpoint gene responsible for monitoring kinetochore attachment to the microtubules and ensuring that the spindle is properly built before giving the cell permission to enter anaphase and progress through the cell cycle (InteractiveFly: Genebrief altereddisjunction, 2018). Since mps-1 null alleles are usually embryonic lethal, transgenic flies carrying a mutant (or wild-type) construct must be generated allowing for analysis in an mps-1 null background, with the embryonic lethality bypassed. Here we present the results of mapping and balancing our two transgenic lines, including Drosophila genetics. One must

## STUDENT POSTER PRESENTATION ABSTRACTS

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first map the transgene by determining which chromosome the construct integrated into followed by balancing the transgenic chromosome, resulting in true-breeding stock lines that will not lose the integrated transgene to meiotic recombination. Once the transgenic stocks are established, phenotypic analysis can begin.

### **JULIA ANNUZZI, YASSEL HERNANDEZ**

**Faculty Advisor:** *Maria Shumskaya*

#### **Evaluation of Next Generation Sequencing Technique as a Method to Assess Saprophytic Fungal Community Composition**

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The focus of our research is to evaluate the potential of the Next Generation Sequencing (NGS) method in identification of dead wood fungal species from a specific location, such as an urban park. In North America the research on biodiversity of dead wood fungi is still developing and there is no complete database so far. For our project, 37 fruiting bodies of various dead wood fungi were collected from Ocean County Park during October 2017. The species were identified morphologically where possible, with the confirmation by DNA barcoding. For the barcoding, DNA was isolated from each individual fungal body using a DNeasy PowerSoil kit, then amplified by PCR using ITS specific primers to obtain a fragment of the gene, which serves as a barcode in fungal identification. This fragment was sequenced and the resulting sequence was compared to the database of fungal ITS sequences in the NCBI portal using BLAST and the species were identified. As a result, a local database of the species found in Ocean County Park was created. NGS sequencing was used as a method allowing metabarcoding of a mixed DNA sample. This method allows you to identify species all at once, without individual sequencing. The efficiency and reliability of this method in comparison to the individual species identification is discussed.

### **SHAZNEKA BLUE, EVE BELL**

**Faculty Advisor:** *Maria Shumskaya*

#### **Next Generation Sequencing Analysis of Dead Wood as a Method to Study Saprophytic Fungi for Biodiversity Assessment**

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Dead wood is an important component to the conservation of biodiversity in forests. When left to decompose on the forest floor, it protects soil from erosion, promotes nutrient cycling, and provides a unique ecological niche for decomposers such as fungi. The species richness of dead-wood inhabiting fungi can therefore serve as an indicator of the overall health of the forest. Most species of dead-wood inhabiting fungi are cryptic and do not always produce visible fruiting bodies for study. The goal of this project is to evaluate new techniques that can be used to quickly assess the diversity of undetectable species present in decomposing wood. Samples of tissue from trees in varying stages of decay were collected near Elizabeth river, NJ and mixed, then DNA was extracted, PCR of ITS gene marker performed and sent for Next Generation

Sequencing (NGS). Resulting DNA sequences were analyzed using SCATA pipeline and fungal species or OTU identified based on NCBI database. The results are to demonstrate how many dead wood trunks would require NGS assessment in order to collect information on dead wood fungi representative for the whole location.

**Research Supported by:** **Students Partnering with Faculty (SpF) summer research program, Kean University**

### **EMILY BREEN**

**Faculty Advisor:** *Kim Spaccarotella*

#### **Dishing Up Science: Healthy Kitchens Over Time at Liberty Hall**

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The purpose of this project was to create programs with a STEM component integrating biology, nutrition, and food history for school groups visiting Liberty Hall Museum. Programs were created by researching and developing short lessons with visual aids, hands-on experiments, handouts and teachers' guides. These lessons were aligned with NJ elementary school curricula and learning standards. Feedback from parents, students and museum staff stated that they found the event enjoyable and informative and felt that they had learned something new. Future work will include creating professional development opportunities for teachers.

**Research Supported by:** **STEMpact, a cooperative project between Union County College and Kean University, U.S. Department of Education Title V grant**

### **DANIELLE BUTLER**

**Faculty Advisor:** *Claudia Knezek*

#### **Hand Hygiene Habits of Young Adults Working in Health care Settings**

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The rates of hospital-acquired infections has been rising for the last decade. In 2002 the CDC developed a guidebook for health care workers to follow as a preventive measure. In order to encourage proper compliance of guidelines, health care administrators routinely use direct observation, immediate feedback and training of their staff (Luke & Alavosius, 2011). Since many Kean students work in the health care field while attending college, it is important for them to protect their personal health in a proactive manner. Twelve young adults were surveyed on the importance of handwashing to stop the spread of infectious pathogens. Since they were biology majors, it was expected that the use of hand sanitizers would be a routine procedure. Most worked in the health care field (85 percent), but only 60 percent had followed the CDC guidelines at work and with personal care. Barriers that inhibited them from adopting proper hand hygiene procedures was unavailable sanitary supplies and the extra time needed to properly wash hands. According to the study, the most effective method for increasing hand hygiene compliance was through active participation in training courses sponsored by their employers. Peer education did not appear to offer much success for improving personal health care habits.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### ALYSSA CARBONE

*Faculty Advisor: Denise Rizzolo*

#### First Impressions: Does Physician Attire Have an Effect on a Patient's Confidence?

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It is important for any patient to feel confident in their physician and trust that they are receiving the best care and guidance. When a physician walks in the room, before they even speak to a patient, their attire may be the first attribute that is noticed. Based on the physician's attire, a patient's initial opinion can be positively or negatively altered. If negatively altered, a patient may lose faith and therefore trust in the person that is supposed to be caring for them. The research was conducted to determine what attire makes patients feel the most confident and trusting of their physician. The population of interest was undergraduate students in a state institution with a diverse student body. A survey was administered that displayed two photos of the same physician in different attire. The first photo was of the physician in a white coat with corresponding questions and the second photo was of the physician in scrubs followed by the same corresponding questions. This research was used as a pilot study and additional research is being conducted with an updated survey instrument. The findings suggest that the white coat is still the patients preferred attire of the physician.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### MELISSA CASIMIR, SANDRA SERTILE, EMILY BREEN AND ED JOHNSTON

*Faculty Advisor: Kim Spaccarotella*

#### Super Tracking: Using a Theory-Based Nutrition Website to Create a Diet-Tracking Tool for Pre-Health and Sports Science Students

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The purpose of NOURISH (Nutrition Outreach to Undergrads in Sports Science and Health Professions) is to understand how a multimedia, theory-based nutrition website affects nutrition self-efficacy among students preparing for careers in medicine and sports science. Research has shown that nutrition knowledge and resources are often limited for this population. The objective of the current phase of NOURISH was to create a diet tracking tool to support a healthier lifestyle following the discontinuation of the U.S. Department of Agriculture's (USDA's) tool, SuperTracker. The Social Cognitive Theory was used to build an interactive tracker in Google Drive Office Suite that incorporates core elements of behavior change, such as observational learning, self-efficacy, goal-setting and self-monitoring, with a link to the USDA's Dietary Guidelines. The USDA's nutrition guide, MyPlate Plan, was used as a framework to show food group targets for two calorie allowances so that the plan could be personalized. The tracker consists of questions to classify intake of five main food groups with

graphics to show users how much they need to consume from each food group. Pilot testing will enable refinement and assessment of the website's and tracker's effectiveness.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### STEPHANIE CERNA

*Faculty Advisor: Brian Teasdale*

#### Protracted Bacterial Bronchitis: A specific Investigation into the Role of Biofilms in Hiding Accurate Diagnosis in Children

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Chronic cough in children is often a distressful situation for many parents and physicians. Coughing is one of the most common symptoms presented to the physician's office and many conditions associated with coughing leads to further examinations. The primary focus of this review will be on protracted bacterial bronchitis (PBB) which is a chronic wet cough affecting young children; caused by a bacterial infection in the airways lasting more than four weeks. Specifically, an investigation into the following will areas will be detailed: 1) current challenges physicians, mainly pediatricians, face in their clinical approach to adequately treat PBB without misdiagnosing, 2) the examinations and treatments such as bronchoscopy, high resolution computed tomography (HRCT), bronchoalveolar lavage (BAL), antibiotics, and how they are used to assist the diagnosis process and treatment of children with PBB, 3) how to distinguish PBB from other respiratory conditions (asthma, emphysema, cystic fibrosis, foreign body aspiration (FBA), etc.) because this will ensure symptoms and complications are not misinterpreted by physicians and finally, 4) a review of biofilms and how they function in PBB.

### ELIZABETH DIAZ, JOSE BENCOSME-GIL AND MARINA GEORGE

*Faculty Advisor: Salvatore Coniglio*

#### Effect of Niclosamide on Microglia Immunity Gene Expression

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Microglia are macrophages of the central nervous system and their main role is in immunity and homeostasis. Advanced brain cancer (glioblastoma) reprograms microglia, which in turn assist in tumor promotion and invasion of the brain. This type of microglia/macrophage is identified as a tumor-infiltrating or tumor associated macrophage. Glioblastoma cells reprogram gene expression pattern of microglia. Potential therapies which block the ability of cancer cells to reprogram macrophages may be useful. The purpose of this study is to test the effect of the drug Niclosamide on microglia gene expression. In particular we focused on genes involved in immunosuppression such as TGF- $\beta$ 1, IL-10, Arg-1 and PD-L1.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780, U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### NANCY DUKER-ESHUN, RAPHJOYCE SEIGNON

*Faculty Advisor: Sylvio G. Codella*

#### Distribution and Abundance of Allegheny Mound Ant Colonies at Turkey Swamp Park, Monmouth County, New Jersey (Hymenoptera: Formicidae)

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The Allegheny mound ant, *Formica exsectoides* Forel, is the most common mound-building ant in the Northeast and is abundant at Turkey Swamp Park in Monmouth County, where it frequently interacts with park visitors. Using the Gaia global positioning system (GPS), we mapped the location of *F. exsectoides* mounds along the Metedeconk Trail as a preliminary to creating a management plan for Park staff. We surveyed an intercept transect along the trail and located 33 mounds. Volumes, as well as internal, surface and ambient temperatures, were determined for each mound. Mound volume averaged ( $\bar{x} \pm \text{sem}$ )  $67.6 \pm 12.3 \text{ cm}^3$  ( $R = 0.56 - 272.5 \text{ cm}^3$ ). The largest mounds were surrounded by smaller satellites due to colony budding. Territorial experiments were also conducted to study interactions among neighboring colonies. Also, the location of one of the most important glands in ants, Dufour's Gland, was identified during dissection in the lab. Future studies will examine the communication functions of the glandular secretions.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### EUGENE GIARDINO, CHRISTOPHER TORRES

*Faculty Advisor: Lucas Kirby*

#### Riparian Tree Community Analysis of Trotter's Creek

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Trees are a critical component of riparian ecosystems (the forested area adjacent to a body of water) as they are tasked with providing diverse habitat and performing many ecosystem functions required to keep the greater landscape healthy. The purpose of this research was to perform a riparian tree community analysis of Trotter's Creek on Kean University's Union campus, with respect to the overall context of the riparian ecosystem quality assessment performed by the Applied Ecology class. Trees on the northern bank meeting specific size requirements (stem diameter  $\geq 0.1\text{m}$ ) and within 5m of the stream's edge were identified. Those trees also had their circumference and distance to the stream measured. Data analysis was completed in order to calculate importance values which numerically demonstrate each species' value to the ecosystem. While it was ultimately concluded that the Trotter's Creek riparian area displays a fair amount of tree diversity, the overall ecosystem health is poor. Basic measures including planting more young trees and altering landscaping practices can be implemented to reduce further degradation due to issues such as soil erosion, habitat loss, and invasive species proliferation.

### MICHELLE GIGANTE

*Faculty Advisors: Dr. Roxie A. James and Dr. Denise Rizzolo*

#### Social Media's Impact on Mental Health

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Social media is used by one-third of people in the world, which is approximately 3.1 billion people; however, with the use of social media, mental health is affected. The purpose of this study is to examine how social media affects mental health. It is hypothesized that the use of social media can be associated with negative feelings such as social comparison, low self-esteem, envy, fear of missing out (FOMO), anxiety, and/or stress. This study is a cluster sampling experiment, with a 15 question survey validated by Kean University faculty Dr. Roxie James and Dr. Denise Rizzolo. A total of 40 people from Northern New Jersey were surveyed including 10 people from each generation: Baby Boomers (1946-1964), Generation X (1965-1980) Millennials (1981-1995); and Generation Z (1996-2010), with fifty percent of each generation female and fifty percent male. In regard to generations, the feelings of social comparison, low self-esteem, envy, FOMO, anxiety, and/or stress decrease from Generation Z to Baby Boomers. There is a need to express the effects of social media on one's mental health because if social media is used less, the negative effects on mental health can decrease or even diminish. This research would be of interest to parents and mental health practitioners.

### SUNAINA KANCHAN

*Faculty Advisor: Christopher Zambell*

#### The Relationship of Mushroom Poisoning Incidents to Climatic Variables

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A high frequency of wild mushroom poisonings in New Jersey in the summer of 2018 led us to hypothesize that this was linked to the warm and rainy conditions at the time that might fuel fungal growth. We set out to investigate whether increased temperature and precipitation are correlated to increased mushroom poisoning incidents. Data was extracted from the database of the New Jersey Poison Control Center showing the number of mushroom poisoning-related calls for every day from the years 2000 to 2018. We plotted average monthly calls over the 19 years and found that calls peaked in June, July, and August. We selected August for our initial analysis of climatic variables. We downloaded precipitation and temperature data from the National Oceanic and Atmospheric Administration (NOAA) data over the same time period. We found that there was no correlation between average monthly temperature and number of calls per month, but we did find a significant correlation ( $P < 0.05$ ) between average monthly precipitation and number of calls. A better understanding of factors leading to wild mushroom poisonings might be helpful to public health officials in mobilizing resources and warning the public about the dangers of consuming fungi gathered in the wild.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### JORDAN KING

**Faculty Advisor:** Patrick Field

#### Adolescent Idiopathic Scoliosis

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A presentation explaining the most common spinal deformity in school-age children, this case study includes critical information for all students interested in Anatomy and physiology, neuroscience, or pre-medical studies. Using quantitative and qualitative data from previous scientific research, we are able to provide the public with a general knowledge of adolescent idiopathic scoliosis, including its symptoms, diagnosis, and treatments.

### MARISSA LERNER

**Faculty Advisor:** Roxie James

#### “Chemical Eric” – Can’t See: Retinitis Pigmentosa

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Retinitis pigmentosa is a rare, genetic, degenerative disease that causes the pigments lining the eyes to gradually break down. Individuals lose the ability to sense light that they come in contact with, causing visual impairment, and in some cases going completely blind. Usher syndrome, which affects vision and hearing loss, is the most common cause of deafness and blindness and has three types, with type 1 being the most common. This type is responsible for 50 percent of all genetic deaf-blindness cases. This is a case study of Eric, who has become legally blind due to autosomal recessive syndrome. A pedigree is generated to show how the mutation is passed on to future generations. Since this is an inherited syndrome, prevention is unlikely. However, there are precautions, measures and treatments that have proven to slow the effects and rate of the disease. In this study I compare the effectiveness of vitamin A, fluorescein angiograms, and gene therapy for macular degeneration. This study is important to students pursuing a career in Ophthalmology.

### MICHAEL MARKOVICH, DR. CHRISTOPHER B. ZAMBELL

**Faculty Advisor:** Maria Shumskaya

#### Proof of an Undescribed Species of Retiboletus Mushroom in New Jersey

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Amateur mycologists in New Jersey have repeatedly collected mushroom isolates identified to genus *Retiboletus*, but not matching the profile of any officially described species in the genus or family (Boletaceae). We set out to prove, using molecular evidence, that four collections of *Retiboletus* sp. made around New Jersey represent an undescribed species, distinct from the most morphologically similar North American relative, *R. griseus*. In previous studies from our group, a single unknown isolate was studied using only the Internal Transcribed Spacer (ITS) gene, leading to inconclusive results. In the present study, we analyzed both ITS and *Tef1a* (translation elongation factor 1 alpha) genes from four separate collections of the unknown

*Retiboletus* species made around the state. Specimen collections were made in Brendan Byrne State Forest, Ocean County Park, Franklin Parker Preserve, and Stokes State Forest. Seven new gene sequences were produced in this study. We additionally selected and downloaded from GenBank 18 ITS sequences, and 14 *Tef1a* sequences to make our datasets. Sequences were aligned and we produced separate ITS and *Tef1a* phylogenetic trees using the Maximum Likelihood method. In both trees, the four New Jersey isolates formed a monophyletic group with high bootstrap support.

### JONATHAN MEYER

**Faculty Advisor:** Lydia Kaplan

#### The Effects of Sleep Deprivation on Athletic Performance in College Students

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It is a known fact that sleep is an essential part of human life. Getting quality sleep is crucial, yet college students today are sleep deprived. This is interesting because sleep deprivation is widely studied, and is very common, yet sleep duration continues to decrease in humans (Rae et al., 2017). This research paper discusses sleep deprivation and the way it affects athletic performance. To elaborate, the objective of this study was to see if getting less sleep would hinder a college athlete's ability to perform in sports. The researcher sought out to obtain results from 150 participants. By using an online survey, the researcher used a primary research tool to get results quantitatively. The online survey consisted of 12 questions about sleep and sports performance. The results of this study agreed highly with the results of past studies, and it was clear that sleep deprivation does, in fact affect athletic performance. It was also concluded that being tired slows down reaction time. For future research, it is recommended that a larger study group be used, and the study group consists solely of athletes.

### ANDREA OKONKWO, KELLY BROOKS

**Faculty Advisor:** Roxie James

#### Murder by HIV

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In July 1994, a married doctor had an affair with a nurse who eventually broke off their relationship. Previously he would distribute a B12 vitamin injection for his then girlfriend. However, since the breakup, the doctor decided to continue issuing her injections. This case study discusses an actual criminal trial in which the physician was convicted of second-degree murder by intentionally injecting the nurse with HIV disguised as a B12 vitamin shot. The trial included an evolutionary tree, a graph that shows the evolutionary relationships among various biological species based on their genetic closeness. In this tree, individual samples are placed in a matrix that will display genetic length between individuals (Mahapatro, 2012). This case study allowed conclusions to be drawn about this specific crime. I also cross

## STUDENT POSTER PRESENTATION ABSTRACTS

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linked infected individuals using bioinformatic tools and interpreted phylogenetic trees. This study will be important to both the field of forensic science and to students studying genetics and bioinformatics.

### KRISHNA PATEL

**Faculty Advisor:** Eunice Nkansah

#### Perception of Body Modification Among Teenagers: Is it Self-Expression or Self-Mutilation?

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This study sought to determine how body modifications (BM) is perceived and if this should be seen as a form of rebellion or self-expression among teenagers. In today's world, BM appears to be a popular way of exhibiting artistic creativity on the human body. While some perceive this as a fashionable trend, others may consider it as a form of rebellion or self-mutilation. To answer these questions, a cross-sectional study consisting of 87 participants was conducted and responses were collected via an online survey. The data was collected from populations with BM and those without any. The results indicated that, Body Modifications(BM) is seen as both a form of Self-expression and Self-Mutilation. The results also identified clear gender differences: females with BM tend to be more easily angered than their male counterparts. It was also recorded that, 60 percent of males with BM experienced suicidal thoughts/eating disorders as compared to 32 percent of females—nearly half of the male percentage. The study contributes to past research that examined specific behaviors associated with individuals with BM and how this is perceived in society. This study is significant to the field of education and other disciplines to help clarify any misconceptions associated with individuals (students) with BM.

### KELLY RAUB, ANGELA CANDELARIO, AZUREE JENNINGS AND ARIELA VEGA

**Faculty Advisor:** Lucas Kirby

#### Identification of Pollen Sources Collected from Urban Honeybees (*Apis mellifera*) in Union, NJ

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Beekeeping has become an increasingly popular backyard hobby, but there is limited knowledge on honeybee forage (pollen and nectar) sources in urban settings. In urban areas, plant biodiversity has been substantially altered by the removal of natural lands for residential and commercial development. With decreased native plant biodiversity and increasing prevalence of cultivated flowers and invasive species, we believe urban honeybees will primarily utilize nonnative species for pollen. In the spring of 2018, Dr. Kirby from the College of Natural, Applied, and Health Sciences installed a honeybee hive at Liberty Hall Museum, and he collected pollen from returning honeybees during the subsequent summer and fall.

STEMpact undergraduate research assistants from Kean University and Union County College processed and identified the pollen grains using online keys. Preliminary results indicate low variability in species richness within samples, but considerable variability from week to week.

**Research Supported by:** STEMpact, a cooperative project between Union County College and Kean University, U.S. Department of Education Title V grant

### EMILY STONE

**Faculty Advisor:** Nancy LaFleur

#### Holoparasitic Tendencies of *Cuscuta pentagona*

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This project aims to understand why *Cuscuta pentagona*, a holoparasitic plant, chooses certain hosts over others. Interactions between parasites and hosts influence the dynamics of parasitic lifestyle and can therefore alter the population of both the parasite and host populations. *C. pentagona* was germinated and then given the option to parasitize either a tomato plant or pepper plant. Based on host selection, findings may be able to explain why this holoparasitic plant chooses one over the other.

### ADEWUNMI TALABI

**Faculty Advisor:** Rongsun Pu

#### Testing for GM Components in Cereals

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There have been a lot of controversies regarding transgenic organisms, more commonly known as genetically modified organisms, or GMOs. A GMO has undergone genetic engineering techniques using recombinant DNA to alter its genome. Class-action lawsuits have been taken against the biotechnology corporation Monsanto, claiming its pesticide Roundup and Roundup-ready corn crops are carcinogenic. These allegations have caused consumers to be cautious of purchasing GM corn, but many studies show that corn is readily cross-pollinated through wind and thus can spread the anti-glyphosate gene to other crops. With the spread of the transgene, it is important for consumers to know if common corn products they consume everyday are GM. Genetics research and polymerase chain reaction techniques were conducted to test corn cereals labeled non-GMO to analyze if the glyphosate-resistance (Roundup-ready) gene was present. The results indicate that certain cereal products on the market labeled non-GMO may have been contaminated with the Roundup-ready gene.

**Research Supported by:** National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780

## STUDENT POSTER PRESENTATION ABSTRACTS

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### ALINA TEJADA

*Faculty Advisor: Christopher Zambell*

#### Quantifying Preventable Plastic Waste from Dine-In Business at Quick Service Restaurants

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Single-use plastic waste is an inefficient use of resources, as well as a potential pollutant to the world's oceans, marine food webs, and human food and water supplies. Quick service restaurants (QSRs) typically supply single-use plastic cutlery and food containers for use by dine-in customers, rather than providing reusable items to be washed by the vendor. These soiled items cannot be recycled and are typically disposed of in landfill. We set out to estimate the average mass of plastic waste generated at local QSRs per dine-in customer. We purchased meals from 12 local QSRs and recorded all plastic items supplied, the type of plastic and the cost. We found an overall estimate of 3.0 grams of plastic waste per dollar spent (ranging from 0.5-5.8 g/\$ for any one purchase). Of this waste, the type of plastic by mass was approximately 58 percent no. 5, 26 percent no. 6, and 17 percent no. 1. The QSR sector generated \$256 billion in U.S. sales revenue in 2018, roughly 30percent of which is from dine-in customers. Using our g/\$ estimate, we calculated that roughly 230,400 metric tons (ca. 254,000 US tons) of avoidable plastic waste is generated in the U.S. yearly from the QSR dine-in sector. To our knowledge, this the first estimation of this figure that has been made.

### ABDURRAHIM VARDAR

*Faculty Advisor: Maria Shumskaya*

#### DNA-Barcoding as a Method to Identify Fungal Species in Environmental Samples

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Ecosystems with high species richness such as forests rely on biodiversity of decomposers to boost availability of forest elements. Dead wood is a substantial component of forests providing habitats for a multitude of organisms, maintaining the ecosystems health and reducing the effect of natural disturbances. Dead wood-inhabiting fungi are *saproxyllic cryptic taxa* that decompose wood and make it available for other groups of organisms to consume. Our research project involves identification of saproxyllic fungi in order to assess the richness of their species in areas with different management techniques, such as parks or protected forests. Our goal is to combine a complete database of dead wood-inhabiting fungi to serve as a baseline for the New Jersey area. In order to identify the fungal species, the DNA has to be extracted, amplification of ITS barcode performed and this segment sequenced and compared to the existent DNA database using the BLAST algorithm. Identified species are deposited in the collection at Kean University and an online into online worldwide biodiversity database at [www.inaturalist.org](http://www.inaturalist.org).

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### ANNAKAY WHITE

*Faculty Advisor: Roxie James*

#### Thyroid Trouble: Negative Feedback Regulation

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Derived from the Greek word meaning shield, the thyroid gland is a butterfly-shaped gland that sits low on the front of the neck. Part of the endocrine system, these glands produce, store and release hormones into the bloodstream. Thyroid hormones regulate vital body functions including breathing, heart rate, body weight, central and peripheral nervous systems, menstrual cycles, body temperature and cholesterol levels. The purpose of this research is to survey general knowledge of the thyroid gland and examine iodine content in a typical college student's diet. Iodine, found naturally in seafood, is essential in the manufacture of thyroid hormones. Survey questions were sent to 50 students using Qualtrics. I predict that the average college student has little knowledge of this important gland. This study will be of interest to all students, especially those studying human anatomy and physiology.

#### BUSINESS

### MARLEE ARAUJO, DAISY ROMAN, MARIO WILLIAMS, CAMILO AVELLA, ABRAHAM GOMEZ AND YERIMAR BONILLA

*Faculty Advisor: Thomas Abraham*

#### A Case Study of AstraZeneca PLC and its Sustainable Practices

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AstraZeneca is a global, science-led biopharmaceutical company dedicated to providing the most innovative, life-changing medicines with a focus on performing business sustainably. AstraZeneca's three pillars of sustainability consist of improving access to health care, reducing environmental impacts, and performing operations ethically, and with transparency. Our research hypothesis is that AstraZeneca's mission for sustainability has improved their business performance and has increased the company's ability to become more innovative. Our team will use the case study research method to collect and analyze data on how AstraZeneca carries out their sustainability practices, to support our hypothesis. The data will be primarily collected from company sustainability reports, annual reports, press releases and other media, third-party organizational reports, and secondary data. The findings will then be evaluated using the Global Reporting Initiative (GRI) and business strategy concepts, such as creating shared value. Once the findings are evaluated, an analysis will be completed, and overall results presented with a complete literature review.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### **COREY BURNS, VIN DONOFRIO, MARCELLA CIANFAMA, MECCA ALI AND KAITLYN SALES**

*Faculty Advisor: Min-Chung Han*

#### **Record the Future's Online Presence**

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Record the Future is a growing non profit organization that aims to bring funding to smaller refugee camps by selling music created by the children living there. Because Record the Future is a new organization, it has no Internet or social media presence. By creating a website for this organization, Record the Future's online presence and reputation will increase. This will make it much easier for the organization to sell their music and accept donations as their organization continues to grow and expand. We will use the knowledge gained from our Internet Marketing class to effectively present the mission of Record the Future to the public. This will give us, as students, real-world experience in creating an online platform for a company while helping a non profit organization attain its goal.

### **CHELSEA CASH, NADIA SHERMAN, CHELSEY SANJUAN, YVONNE TORIZ AND LAURA COGNAT**

*Faculty Advisor: Byeonghwa Park*

#### **RFID in Logistics and Transportation**

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This research paper introduces a chip mechanism called Radio-Frequency Identification also known as RFID. RFID is a data-carrying and automatic identification technology system used throughout industry. An RFID tag carries data programmed into a small computer chip and operates at a wide range of radio frequencies. The tag is activated by radio waves produced from an RFID reader in which it can then communicate information about an item back and forth. The use of RFID enables businesses to manage their supply chains with improved control due to the efficiency of the updates to inventory immediately. This chip is also used for vehicle identification along with confirmation of incoming loads and orders. RFID is used to identify if vehicles have actually gone to the right destination or are being used by the correct association or driver. RFID now provides the transportation industry with higher security, rapid inventory counts, optimization within ground support equipment systems, and the opportunity to maximize asset utilization. RFID delivers improvements within the transport application, which then enables business to achieve an advantage when putting this technological enhancement into place. The main aim of this research is to extract a breakeven analysis for various product prices and determine what type of RFID chip is best suited for implementing, if at all. The analysis will help organizations determine if the benefits of RFID is worth the costs.

### **JACQUELYN DILLER, TORI BROWN, TANIA STOKES, ARIANA NEWCOMBE AND YAMELIN REYES**

*Faculty Advisor: Min-Chung Han*

#### **Record the Future: reach a larger audience through Youtube.**

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Abstract: Record the Future's mission is to record and empower the voices of oppress children with the unique goal of provide them with hope and opportunities for the future generations. At the moment, this non profit organization presents a deficit into social media which heavily impact them in today's society. We are developing a marketing strategy in order to help Record the Future reach a larger audience through Youtube. In this generation, Youtube videos are enjoyed by millions of viewers per day, and at the same time, makes it possible to share videos, music, etc. through social network and cell phones. It is seen as a primary channel of entertainment, as well as, helps business' reach their target audience by attracting large amounts of traffic to their channels. Our marketing plan is to create a Youtube channel and let the world know who Record the Future is? What their mission is? And most importantly, to allow the audience to get a better understanding of these kids through the Youtube videos. We believe this would greatly impact the organization because once people get an insight as to what Record the Future is about, individuals will hopefully want to help bring this organization to light. With more people being knowledgeable about this organization, the more help the kids get.

### **ERIN DONNELLY, JUSTIN REGISTER**

*Faculty Advisor: Sut Sakchutchawan*

#### **Ethics and CSR in Social Media (Facebook)**

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There are many disputes regarding Social Media ethics and businesses corporate social responsibility. It seems that when it comes to social media and obtaining an online profile for the world to view, ethics and privacy is a large issue. The main problem we are focusing on revolves around the privacy of those using social media. Privacy of consumers and online users of Facebook has been a controversial topic of discussion among those using the site. Companies tend to take advantage of information they are exposed to, however, it is important to stay true to our morals and ethics, and transfer those to social media on all platforms. Our main source of information will be e-research, the Kean Library, scholarly articles, and websites. Through our research, we plan on finding a solution to this ethical issue with our research methods in order to increase Facebook's stance in business ethics.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **CHELSEA DUMMETT, AMANDA LAMATTINA, OGEMDI NWADIKE, JOSEPH WALTNER AND DYLAN SABORIO**

*Faculty Advisor: Min-Chung Han*

#### **An Analysis Describing How Team Instagram Plans to Broadcast Record the Future” to Its Users**

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Our goal as a team is to promote “Record the Future,” through its vision and mission statement that involves advocating the beautiful voices of refugee children through singing. Since the situation may be unknown to many, we strive to bring awareness to the ongoing refugee crisis (25.4 million people). What exactly are the challenges this brand is currently facing and how do we plan to help? We are of the understanding that Record the Future has zero online presence; however, according to recent studies, Instagram is the number one social networking site for both teens and adults. As marketing analysts, we plan to not only create an account, but to gain followers and increase brand recognition in the process. Our approach to the situation is simple, because we plan to seek motivation from other top-ranking non profit organizations while posting fun and inspiring content to draw the attention of our followers. In addition, we plan to proceed by following the pages of both established U.S. and international non profits and influential people in the industry as a way of getting our name out there. To conclude, the main content we plan to promote includes lack of funding for program expenses and refugees’ lack of access to arts/enrichment programs amongst other things.

### **CHRIS FANNELL**

*Faculty Advisor: Sut Sakchutchawan*

#### **Issues and Solutions for Consumer Protection**

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My research will explore the issues and solutions for consumer protection. This stops unfair, deceptive and fraudulent business practices by using such methods as collecting complaints and conducting investigations, while also suing companies and people that break the law, and continue developing rules to maintain a fair marketplace, and educating consumers and businesses about their rights and responsibilities. Consumer protection is important as consumers’ interests need to be safeguarded. They are informed and ununited individuals who are often exploited by sellers. The existing environment of business is chaotic, with the existence of cutthroat competition, where each seller is trying its best to survive and thrive by dominating the market. In order to maximize profits, sellers go to great extents, which can also end up being unethical and subsequently harmful I plan to use the internet, one on one conversations and news articles to conduct my research.

### **DIANA FERNANDEZ, JOHN DONNADIO**

*Faculty Advisor: Sut Sakchutchawan*

#### **Managing Across the United Kingdom and China**

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Our paper is an overview of how different cultures have an impact on business operations. It observes the different types of management styles that managers use with their subordinates and the practices they use based on their cultural values. In addition, our paper will discuss the types of regional markets established in these countries as well as compare and contrast them. A problem that we have investigated is that China and the United Kingdom have very distinct ways to manage across their cultures as they have different cultural factor and global mindsets. The methods we have used to help answer our research questions involve scholastic journals and reliable studies based on their traditional management styles. The main conclusion we hope to report is how businesses and the way they conduct their operations merge together regardless of their culture or target audience.

### **HERNA FLORUS**

*Faculty Advisor: Kihwan Kim*

#### **Environmentally Sustainable Companies and Profitably**

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AR5, one of the largest scientific reports ever produced, analyzed 9,300 peer-reviewed research papers submitted by scientists from nearly every country in the world and they all agree that climate change is happening now. The atmospheric concentration of CO<sub>2</sub>, the most powerful global warming gas, has increased 42 percent since the industrial revolution, and current levels are higher than they have been in the past 800,000 years, resulting in record-breaking heat, prolonged drought, wildfires, extreme weather and flooding, sea level rise and even ocean dead zones. In a country where political leaders deny the fact that is global warming and its effect on our environment, businesses are taking a stand. In the past few years, more U.S. companies have been adapting more environmentally sustainable practices to protect our planet. Although, it can be financially beneficial to adapt environmentally practices in the long run, it can sometimes also be costly. Therefore, the purpose of this study is to analyze whether businesses with environmentally sustainable practices as one of their core values in the workplace can also be profitable.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **ANNA FRANCISCO, GIUSEPPE RIZZO**

*Faculty Advisor: Sut Sakchutchawan*

#### **Impacts of the Takata Airbags Towards Consumers Negatively**

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The purpose of this research paper is to discuss the issues of Takata airbags and review the solutions from the standpoint of significant consumer protection. Our research is done through internet sources, published scholarly journals, as well as Kean Library Resources, taken place on this situation. The issue Takata is facing is due to their manufacturing defect, that is causing catastrophic injuries, or even death, to those driving vehicles equipped with Takata airbags. The purpose of this is to also address Takata's approach and its awareness regarding the recent and upcoming lawsuits faced because of this, as well as the results that Takata agreed to compensate big brand car companies and the victims who were affected during the malfunction of their product.

### **JAVAUGHN GARVEY-GRAHAM, LOUIS AUGUST**

*Faculty Advisor: Sut Sakchutchawan*

#### **Managing Across Cultures**

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Our research will address the problems faced when managing across different cultures. Every culture has its own set of values and etiquettes that vary in level of respect due to their customs and nationalities. This is important because when dealing with other cultures, it is never acceptable to be disrespectful, for it is unethical and unprofessional. No company wants to work with another company whose employees lack respect because there will be a breakdown in communication. One of the methods of research we plan on using is the Kean library as well as its databases. We will also be using Kean student Research Day as a way to collect additional information. This method is one that we discussed in class as it is tailor-made for this project. The main conclusions and outcome that we were able to report on, is that each culture has different values and norms. What may be viewed as respectful in the United States may not be respectful in Japan. In the United States it is respectful to shake someone's hand when meeting, while in Japan it is respectful to bow when meeting. Therefore, it is highly recommended that prior to taking a meeting with someone from a different culture, you should understand what their way of managing entails and what to expect in your meeting.

### **DEANDRA KING, MELVIS MWAFISE AND DEBBIE GASPARD**

*Faculty Advisor: Sut Sakchutchawan*

#### **Ethical Training in New Jersey**

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This paper provides comprehensive solutions to the matters of ethics training in New Jersey. We established that the use of kinesthetic learning is highly beneficial in gaining an effective understanding of ethical values within the workplace. We identify New Jersey's inefficient ethics training procedure of only utilizing the reading and writing learning style with employees. The importance of developing ethical training procedures that are mandatory to all organizations in New Jersey. The concept of ethical training and the development of qualitative and quantitative training methods that will engage employees, creating a memorable effect. Most companies often require their professional and nonprofessional employees to establish and maintain a code of ethics in order to foster a workplace environment in which the human rights, values, customs and religious beliefs of the individual are respected. This ethical training is often given to the employees upon hire or in some cases forwarded to them for self study. These ideas compare and contrast how self study and other procedures used in today's society are considered an inefficient form of ethics training with ways in which companies can and are suggested to improve how workers are expected to perform using the Internet.

### **MARK KUZIW, ANDREW HOPPER AND GAIA CIOLI**

*Faculty Advisor: Sut Sakchutchawan*

#### **Ethics and CSR of International Corporations, Adidas- "Run for the Ocean"**

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The problem that this research focuses on is whether or not Adidas' CSR campaign "Run for the Oceans" is effective at reducing ocean pollution and creating social goodwill for the company. CSR is an increasingly important aspect for corporations to take part in in the world today, and it is important for business managers to understand the part that ethical practices play in running an organization. The researchers implemented both qualitative and quantitative measures retrieved through academic articles and press releases in order to better comprehend the scope and effects of "Run for the Oceans." The researchers concluded that the campaign was very effective in improving the company's global reputation, but more research is required to determine how much of an effect their campaign had on reducing ocean pollution.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### MITCHELL LANZL

*Faculty Advisor: Kihwan Kim*

#### Amazon: The Undisputed E-commerce Giant

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After being in the electronic commerce world for over 20 years, Amazon has grown to be the most well-known and most influential company the world has seen to date. The research examined how in such a short period, Amazon has grown amongst other competitors in their market as the well-known giant, which is backed by its customers all around the world. Throughout this piece, the research focused on the cause and effect of Amazon's control in the marketplace and analyzed the possibility of being a pure monopoly in the future, if not seeing the early stages even now. Also, the idea of Amazon being a monopoly entertains the various pros and cons of the company's effects on society. This paper offers a diverse viewpoint on Amazon and integrates new business ideas with foundational ones that are exposed as obsolete in this day and age. In people's lifetimes they rarely get to see a company that affects their everyday life with the amount of impact that Amazon does. It is crucial that people study this company and truly find out what lies beyond its future and role as an influence in our cultural environment.

### MITCHELL LANZL, MATTHEW SEESSELBERG AND MATTHEW VILLANUEVA

*Faculty Advisor: Kihwan Kim*

#### Negotiation via Mobile/Web Applications and Traditional Paper-based Methods: A Comparative Study

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Negotiation is a social process through which more than two parties try to settle on what each party shall give and take, or perform and receive, in order to satisfy their needs. For decades, negotiation educators and researchers have long adopted the use of paper-based role-playing simulations (where students pair up to simulate negotiation) as an experiential learning technique for negotiation training. Despite the extensive use of paper-based negotiation tasks, it failed in reflecting a variety of dynamic natures of negotiation due to its inflexibility. In addition, limited effort was put on developing alternative tools for negotiation training and research. Through interdisciplinary research from the business and computer science discipline, our project addresses three key challenges: 1) Developing a mobile app, 2) developing a web-based application as an alternative tool to help improve negotiation effort, performance, and better describe the nature of negotiation, and 3) Conducting empirical research of their effectiveness, conflict resolution, and negotiation planning. The mobile app version is developed using Android studio and SQLite for its database. The web app version is hosted on a server developed using PHP and two MySQL databases are used to track each action.

### JESENIA LAZO, CHARLES TOLOSA AND JOSE JAQUEZ

*Faculty Advisor: Sut Sakchutchawan*

#### Managing Across Cultures

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The capability to manage cultural differences plays an important and significant role in achieving great performance in an organization. High productivity, effective collaborations and breakthrough innovation depend gradually on culturally adaptable managers. Cultures around the world have different effects on a person's personality and their upbringing. Cultures have influenced managerial styles based on what part of the world the business or managers are located. In this research study, we will be getting a better understanding of the differences cultures makes on management by researching how Chinese culture influences management and how it differs and might compare to American culture's influence on management. Using information found from the Kean Library and online research, we will display information regarding a way to make space for these different but complementary approaches through an empathetic non judgmental view of the local culture, while remaining slightly separate from it. This is what could be described as freedom within a framework. Essentially, you come up with a metaphor that holds a global frame while allowing for local adaptation with the ethics of the country you are in. Through this research we can conclude that American culture has created a more self-oriented identity.

### STEPHANIE MAZZREI

*Faculty Advisor: Kihwan Kim*

#### Contingency Model of Multiple SNSs Running Strategy in Art and Cultural Institutions

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The Social Network Service (SNS) is becoming popular among various organizations as a powerful tool for communication and promotion. Recently, cultural and art institutions began to employ multiple SNS platforms for a variety of applications such as marketing, communication, customer service, and even program development. It is a challenging task to run multiple SNSs platforms to execute many different applications. Although this is a more common trend, there have been few studies to explore the factors that might influence the successful running of multiple SNSs, in particular in art and cultural institutions. As critical factors, our study considered three factors, 1) the applications of SNS use, 2) the features of SNS platform, and 3) the characteristics of SNS. From the perspective of contingency theory, we suggested the integrative model that when the fit among these three factors will result in the best outcomes. Using a case study method, we analyzed the case of Daelim Museum in order to test our proposed model. We found that the fitness among the target audience, the selection of platform and the purposes of usage led to the increased number of audiences and satisfaction with the services.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **TATIANA MORENO, TAMMY ARAMBURU AND YONEYRIS RAMIREZ**

*Faculty Advisor: Sut Sakchutchawan*

#### **Managing Across Cultures**

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The goal of this research paper is to draw attention to the relationship between the United States and Latin America, and the practice of managing across these cultures. After introducing what the managing across cultures in today's modern world; the key determinant factors were cultural shock, language, behavior, diversity, and relationships. It also considered the cultural relationship differences between the United States and Latin American countries and how those differences can be used to enhance the opportunity of doing business. We will be using documentary survey methods, credibility journals, published books, and data from the Kean University library and JSTOR. These research methods were chosen to have a successful outcome for the research project. Cultural diversity is a reality that cannot be avoided and it must be accepted to adapt the existing tools in the management of businesses across cultures.

### **JORDAN MORRIS AND PHILEMON NYAABA**

*Faculty Advisor: Byeonghwa Park*

#### **The Impact of RFID on the Bullwhip Effect**

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Radio frequency identification (RFID) is a wireless communication system that utilizes electromagnetic fields to track and identify objects by using radio waves to read and capture information stored on tags. They are able to operate hundreds of meters from the RFID reader and run off of a built-in battery source. The RFID consists of three components: the antenna, the transceiver and the tag. A huge benefit and what helps them to be so efficient is that they work to translate data without the need of a direct line of sight. The purpose of this research is to assess the potential reduction in the bullwhip effect in the supply chain thanks to real-time visibility of product flows provided by the RFID. This topic is important in supply chain because a small fluctuation in customer demand gets magnified as we move back through each level of the supply chain. This can have a huge impact on production, demand, quality and wasted time, and it can raise costs. We are going to use quantitative and qualitative data to support our results; also, as employees of major corporations, we will use our own experiences and observe ways that RFID can impact a business as a whole. The results of this research will show that real-time visibility of the supply chain generated by RFID can dramatically reduce the bullwhip effect and lower costs for any company.

### **LORI MOSTACERO, JOSEPH WINTERS, RYAN SIEB, JADAH SUBER AND RISHI BUTTAN**

*Faculty Advisor: Min-Chung Han*

#### **Reach Potential Customers through a Professional Network: In the case of LinkedIn**

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The purpose of Record the Future is for refugees to develop a voice through art and other constructive outlets. With the utilization of social media, we will connect the refugees with possible donors by our outreach program so the investors can see just what they are putting their money into. The main issue of this program is building up awareness to the less fortunate children of the world and the creativity and input they have to offer. We will analyze our social media platform and pinpoint the most optimal demographics that will aid us in our dilemma. We will conduct this process by reaching out to different people from all walks of life and see which category seems to empathize more with our program, then from there structure our business plan to best market to that demographic. We will be able to reach 9,000 followers on LinkedIn.

### **DAVID NELSON**

*Faculty Advisor: Sut Sakchutchawan*

#### **Social Media in Business and CSR**

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With the growth of social media, and its vast influence, it has become impossible to deny the impact it has on the business world. What are the benefits and disadvantages of using personal social media in the workplace? Upon reviewing articles from online databases, we conclude that there are many benefits to using social media, especially as an advertising tool. It is wise to have an ethical code of conduct with specific guidelines as to what content is allowed to be posted, to prevent information that might hurt public relations from being hastily released. Also, it would be unwise if trade secrets were released in this manner.

### **SARA OLIVEIRA AND CAROLINA FERREIRA APONTE**

*Faculty Advisor: Sut Sakchutchawan*

#### **JPMorgan Chase's Social Responsibility**

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The purpose of this research is to study and analyze JPMorgan Chase's impact on society through their social responsibility actions. We will demonstrate the different programs JPMorgan Chase has created in order for them to be more socially responsible. We will also look at how much of an impact their programs are having. We will employ e-research, survey of literature and Kean databases as methodologies.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### **RAUL POZO, RIO CARAIG, KIMBERLY CAMPOS AND CHRISTOPHER ROSSI**

**Faculty Advisor:** *Byeonghwa Park*

#### **The Impact of Bike Sharing in Major Cities**

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Starting in 2008 with a main focus in major cities and universities, the bike-sharing trend is bloomed quickly and prosperously. As the popularity of bike sharing increases, it brings many opportunities that can benefit both cities and society. During our research, we will gather information in order to prove that this new trend is benefiting the public economically and environmentally and aiding in a commuter's well-being. By collecting data from commuters who are currently using this method, we will determine how bike sharing is personally working with their financial situation, why commuters choose this method instead of any other form of transportation and chart the many different ways cycling can create a better environment as it requires no gasoline or harmful vehicle emissions. With this research, we can determine if the bike-sharing community should continue to grow not just in cities, but possibly suburbs as well. Giving commuters and freelancers another option to get around in a crowded city, bike sharing proves that station-based systems are part of a city's overall transportation network and used in the course of a typical commute to work or school. With bike sharing being the new modern way of getting around major cities like New York, Los Angeles and Miami, it aims to make short travels easier, safer, on-time and on their own time for commuters to get to where they have to and want to be. With a prediction of being the next Uber with its high popularity, bike sharing is at each city-consumer's street corner, making it easily accessible and effective with many benefits for both consumers and the environment.

### **RODOLF QUINTOS, JEROME BERNSTEIN, SUNBAL AMIN AND JOHN GONZALEZ**

**Faculty Advisor:** *Kihwan Kim*

#### **The Analysis of Leadership Behaviors of the Main Characters in the Movie, –“Chicken Run”**

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This paper focuses on the leadership behavior found by the main protagonist and antagonist in the film, “Chicken Run”. The movie focuses on a group of chickens living on a chicken farm trying to escape this prison and looking for a better life beyond the fence. Using the scenes from the movie, the current paper attempted to identify what forms of leadership were used for which character as well as explain why certain events happened as a result. Throughout the entire movie, the main character displayed unique leadership styles and behaviors to lead her followers, resulting in many positive outcomes. This paper also analyzes the strengths and weaknesses of the leader in the movie and provides the recommendations on how the leader can improve its leadership skills. Finally, the paper discusses how learning from the movie can be implemented in a real workplace.

### **MELISSA RIVERA AND YESENIA RIVERA**

**Faculty Advisor:** *Sut Sakchutchawan*

#### **Ethics and CSR of the Media/Social Media**

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Ethics and corporate social responsibility (CSR) in the media and social media are important because companies are held to high accountability now more than ever to do what is morally right. It has become more important in recent years for consumers to give their business and support to corporations they feel they can trust. A company found to have poor ethics and not held responsible for its actions will lose clients and shareholders for having a poor reputation. We approached the topic by conducting research through the Kean University electronic data system and e-research articles pertaining to corporate accountability. Starbucks conducting ethical training programs throughout stores due to recent events that made news headlines is one of the most relatable instances where ethics impacted the brands image through the media. We're able to conclude that the media and social media play a big part in holding corporations responsible and upholding good ethics. Our solution should be to respond to the concern of society.

### **RANDI ROBBINS, CHRIS GUERRERO, MARICRUZ CARDONA, PAXTON TSANG, TYLER SHWARTZ AND YAHAIRA MERINO**

**Faculty Advisor:** *Thomas Abraham*

#### **A Case Study of Cisco and its Sustainable Practices**

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Our group project's question, is “How did Cisco's sustainable practices increase their business performance?” Our research hypothesis is that Cisco's sustainable practices have increased their business performance and ability to become more innovative. Our group will be using the case study research method to investigate our hypothesis. Data will be acquired through company sustainability reports, case studies, and other media resources. The data will be analyzed using the Global Reporting Initiative (GRI) guidelines as well as business strategy concepts such as creating shared value.

### **HIRAL SHAH, PAYAL SHAH AND HEMA SINGH**

**Faculty Advisor:** *Sut Sakchutchawan*

#### **Managing Across Cultures**

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The topic of our project is Managing Across Cultures in which we will discuss the problems, definitions of key ideas and provide a review of relevant theories, models of culture and management. The debate of various national cultural values and norms, and their implications for management. We will produce description, analysis and discussion of employment policies and human resource management practices in U.S. culture and India's

## STUDENT POSTER PRESENTATION ABSTRACTS

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cultural contexts. By the end of the presentation the audience will have full understanding of the factors that influence marketplace trends, and organization and employment policies and practices in U.S. and India. In this research we chose to use Old Bridge Library, Kean Library and the Google Scholar website.

### **MARIAM SUFFRAND, BESARTE ZENUNI AND MARIA MUNOZ**

**Faculty Advisor: Sut Sakchutchawan**

#### **International Management Styles**

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Topic: Managing Across Cultures. Abstract: Culture has a tremendous impact on managing internationally. Our project focuses on the importance of culture and customs in terms of international management. Every culture has different management styles. When trying to efficiently manage a company or corporation, you need to adapt your managing style to the ways of your employees' cultures. We are going to use different methods for our research; we are going to start to find information about how culture has a great impact on international management; and we are going to use the Kean Library database to compare two different cultures (China and EE.UU). The discoveries about culture can help leaders to comprehend their own social preferences. Different cultures have different ideas about what they want from their leaders, and these findings help our leaders adapt their style to be more effective in different cultural settings. The findings can help leaders communicate more effectively across cultural and geographic boundaries. Information on culture and leadership can be used to build culturally sensitive Websites, design new employee orientation programs, conduct programs in relocation training and improve global team effectiveness.

### **COURTNEY SURRATTE, GUERVIO CHARLES, ANGELA SMITH, CATARINA ANTUNES AND JAY PATEL**

**Faculty Advisor: Min-Chung Han**

#### **Online Presence for the Nonprofit Organization through Twitter**

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The problem that needs to be solved within this project is creating an online presence for the nonprofit organization, Record the Future. The social media platform that our group will be working with is Twitter. Record the Future is a nonprofit organization that provides entertainment to children in several foreign countries by providing music and creating an album to share in the United States. The way our group will accomplish this is by creating tweets with information regarding the causes and upcoming events of Record the Future. The main focus by using Twitter is to spread Record the Future's mission plans, and eventually cause an increase in donations. Funds can be donated through Record the Future's official website, which donors will be able to locate within our Twitter page. Record the Future hopes to make a difference in these refugee camps by helping children through music, for many

of these minors are violated in most parts of the world. In most third world countries, financially developed does not all benefit children from the same rights. Record the Future helps children forget the oppressive environment, through music and art. The local children in these areas can express themselves by creating music and art, as they generally do not get the chance otherwise.

### **COURTNEY SURRATTE, GREGORY CORGELAS AND DANIELLA QUIASUA**

**Faculty Advisor: Sut Sakchutchawan**

#### **Managing Risk of Foreign Direct Investment**

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Within our research, we will explore the company's laws, culture, and communication needed to manage and maintain the risk with direct investments in foreign countries. Other important topics that will be grounds for our research is how currency is converted, and how it will affect the outcome of these investments. The country that we felt was most interesting for our research was India. Focusing on India will allow us to better understand the market and other information needed to have the most successful outcome and what is needed to have the lowest risk factors possible. We will explore the Kean University Library as well as other internet sites as our methodology. The outcomes that we are looking for are how to manage the risk of investing in India by looking at the laws, culture, communication and currency.

### **TAYLOR TUCKER, WILLIAM KRZEWICK AND SANTIAGO GIRALDO**

**Faculty Advisor: Sut Sakchutchawan**

#### **Technology and International Management**

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Technology has advanced substantially over the course of the past decade. With no end to its advancements in sight, it is crucial to our success as international managers that we gain knowledge to help us understand how today's technology and its advancements effect management on a global scale. As undergraduate students at Kean University majoring in business management and currently studying international management, we believe it is pressing that we ask and answer the question: What impact does technology have on international management? We have used the resources provided to us by Kean University Library, to conduct our research to help us answer our proposed question. The research that we collectively gathered identifies a number of both positive and negative influences that technology has specifically caused in regard to management on a global scale.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **ERIC VENTOLA AND TIFFANY MALLINDER**

**Faculty Advisor:** *Sut Sakchutchawan*

#### **Corporate Social Responsibility of the Media/Social Media**

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Social media has been a critical source for all companies in the past years. Companies use social media to give feedback about their products and services, allowing customers to post reviews about their experience. Unfortunately, there are some companies that will delete or block comments that do not share the company's values and put negativity on their brand. Even though there can be negative comments, companies should allow all opinions and reviews, not just the ones with good feedback. It is a company's obligation to be as open as possible as well as communicate swiftly to the consumers impacted. The best method of communication between the company and customer is through online sources such as Facebook, Instagram, Twitter, etc. Building an online profile for the company allows them to post most of their good feedback and accomplishments as well as their negative feedback and crises that may occur. This shows the integrity of the company. There is always power in numbers.

### **ISA WACHIRA, CALEB LEWIS, MAXIM KOSTIN, DIONIS RAMIREZ, DANIEL TIMI AND CIERRA HORSLEY**

**Faculty Advisor:** *Thomas Abraham*

#### **A Case Study of the Neste Oyj Company and its Sustainable Practices**

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Neste Oyj is an oil refining and marketing company. Neste is the third most sustainable company in the world according to the Corporate Knights rankings for 2019. Our hypothesis is that the company's focus on sustainability allows them to be a more innovative organization. We will use the case study research method to conduct our study. Our data collection will be from secondary data sources such as Global Reporting Initiative (GRI) reports and annual reports. Our data analysis will utilize (GRI) guidelines and business strategy concepts. The results, we believe will support our hypothesis.

### **ISA WACHIRA, XEYIR VENABLE AND BRIANNA DAVIS**

**Faculty Advisor:** *Sut Sakchutchawan*

#### **A Case Study of the Nestle Company and its Sustainable Practices**

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Student Names: Xeyir Venable, Isa Wachira, and Brianna Davis. Presentation Type: Poster. Discipline: Global Business. Position: Undergraduate. Faculty Advisor: Sutcharit Sakchutchawan. Title: "A case study of the Nestlé Company and its sustainable Practices." Abstract: The Nestlé Company, is the world's largest food and beverage company. They have more than 2,000 brands ranging from global icons to local favorites and are present in 189 countries around the world. Their purpose is enhancing quality of life and contributing to a

healthier future. Our research hypothesis is that more emphasis on sustainability will enable Nestlé to maintain its competitive advantage. This report will use the case study research method to gather secondary data from Global Reporting Initiative reports and other sources. The data will be compiled from analyzing the company's sustainability and annual reports. This data will be analyzed using business strategy concepts and the GRI guidelines. Our findings will help support or reject our hypothesis.

### **WEI WEI, SIERRA WHITE AND NICHOLAS WALL**

**Faculty Advisor:** *Kihwan Kim*

#### **Analysis of the Strategic Compensation System of Johnson & Johnson**

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The purpose of this research is to analyze the compensation system of the financial positions at Johnson & Johnson. The content of this paper includes reviewing the company background, the pay system, job description/qualifications, and strengths and weaknesses of the company. Through the Johnson & Johnson website and various job search websites, we were able to find accurate information on the financial manager position and on the company itself. Johnson & Johnson is a leader in the pharmaceutical industry and is a well-known corporation. They are a credible company known for giving back and for new discoveries in the medical field. Through researching their compensation system, we were able to dissect the financial manager position and discover all that it entails. After the analysis of the strengths and weaknesses of the company's compensation system, we made recommendations for improving the effectiveness of the compensation system.

### **SAIF YASSIM, DARLENE BERMUDEZ, TERENCE COOKS JR, DESHAUN JOHNSON AND DENZEL GOODING**

**Faculty Advisor:** *Min-Chung Han*

#### **Empower the Voices of Disenfranchised Youth through Facebook**

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Record the Future is a non profit organization whose mission is to record and to empower the voices of disenfranchised youth with a goal of providing hope and opportunity for future generations. Record the Future uses a unique methodology in which the children of the refugee camps sing the songs that they know, record them, and then publish the songs for the kids and others to hear. By doing this, it helps empowers the children to be creative about what they know and show what they have to offer. Furthermore, this program teaches these children to be persistent, whether it be with music or just life in general and encourages them to keep on going no matter what. Record the Future is still at the beginning phase of raising awareness, and has little to no social media presence. Our method to help Record the Future gain social media presence is to create a Facebook page to gain followers, donors, programs and awareness for the project. With the Facebook page, we plan to provide information using

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posts about past, current, and future operations that Record the Future has or will be working on. Our overall objective is to gain as many followers and donors as we can so that we can help Record the Future grow and continue their work on these projects for the children.

### HAOMING ZHANG, JUAN GARCIA, ZHEN LI, YAXIN XU AND SIJIA JIANG

*Faculty Advisor: Thomas Abraham*

#### A Case Study of Toyota and its Sustainable Practices

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Toyota is a car manufacturing company famous for its high-quality and durable automobiles. Currently, Toyota is setting up its own eco-friendly program “econohito” with four different seasons. By focusing on different aspects such as “eliminating energy waste,” “recycling rainwater” or “improving air quality,” Toyota is engaging in a sustainability strategy. Our hypothesis is that this strategy is driving innovation. We will adopt the case study research method. The data will be collected from secondary sources such as the company annual reports, reports from media and sustainability progress reports. The data will be analyzed using the Global Reporting Initiative (GRI) and integrated reporting guidelines as well as business strategy concepts such as creating shared value. Our findings will help us test our hypothesis.

### ANGELICA ZUNIGA AND PETER CALIGUARI

*Faculty Advisor: Sut Sakchutchawan*

#### Impact of Culture on International Management

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An important quality you need to have is respect for many different cultures when conducting international business. We are investigating the impact of culture on international management. The sources we will be using are Kean’s database and e-research. We’ll be focusing on specific countries, such as Japan and Brazil. Japan has many customs in the business world that are followed very carefully. Brazil, on the other hand may be considered to be more relaxed. We’ll be able to see how different their cultures are, and how you would have to act in order to conduct business internationally. Language is the first major factor we noticed. The second is what time business is conducted due to different time zones. Third is social status and respect for others in the business world. We hope to find interesting differences, as well as similarities.

## CHEMISTRY

### KYLE ARROYO, EVE BELL, ZACHARY BORDON, JAMES CLAPP AND STEPHANIE PERALTA

*Faculty Advisor: James Merritt and Heather Stokes-Huby*

#### Synthesis of Novel CCR1 Antagonists by Coupling Carboxylic Acids to a Triazole Core for Treatment of Glioblastoma

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Glioblastoma is a brain cancer caused by the presence of a fast-growing, malignant tumor in the brain. C-C Chemokine receptor 1, CCR1, is a G-protein coupled receptor that controls chemotaxis, the movement of cells in response to chemical stimuli. Inhibiting these receptors could retard the growth of the malignant tumor by inhibiting chemotaxis. This research aims to synthesize CCR1 antagonists by coupling thoughtfully chosen carboxylic acids to a triazole core. Previously synthesized compounds have shown biological activity and probable blood-brain penetration. The prepared novel compounds represent part of an emerging structure-activity profile.

**Research Supported by: Research First Initiative, Kean University**

### EVE BELL, CATALINA GAVIRIA AND DANIEL ROSENFELD

*Faculty Advisor: Matthew Mongelli*

#### Investigation of Native New Jersey Macroalgae for Use in Producing Biodiesel

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Multiple species of macroalgae that have been collected at the New Jersey shore in the Sandy Hook area have been investigated for their ability to be turned into biodiesel. The algae are dried and have the triglycerides extracted from the biomass. The extracted lipids are then transesterified into biodiesel (fatty acid methyl esters). The biodiesel will be characterized with GC-MS and HPLC with a diode array detector.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780; U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### JUSTIN SCHWED AND KRISTINA POWYLAN-PETSCHAUER

*Faculty Advisor: Matthew Mongelli*

#### Asymmetrical Bimetallic Ruthenium (II) Complexes' Interactions with DNA

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Complexes of the form  $[(bpy)_2Ru(BL)RuCl(tpy)]^{3+}$  where bpy is 2,2'-bipyridine, tpy is 2,2':6',2''-terpyridine and BL is a bridging ligand 2,3-bis(2-pyridyl)pyrazine (dpp), 2,3-bis(2-pyridyl)quinoxaline (dpq) or 2,3-bis(2-pyridyl)benzoquinoxaline (dqb) have been synthesized and characterized. These complexes show absorbances in the visible region and have varying ability to bind and photocleave DNA with visible light. The complexes are assayed with circular plasmid DNA and are either incubated and/or irradiated with visible light and imaged using agarose gel electrophoresis. The synthesis, characterization and binding/photocleavage assays in the presence of oxygen and in oxygen-deficient conditions will be presented.

## COMMUNICATION DISORDERS AND DEAFNESS

### EMILY AMBROSIO AND MARIA PASAHOLO

*Faculty Advisor: Mary Jo Santo Pietro*

#### Use of Varied Communication Modes in Children with Angelman Syndrome: A Systematic Review

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Angelman Syndrome (AS) is a rare neurodevelopmental genetic disorder characterized by a variety of cognitive and communicative abnormalities, including limited expressive language. However, children with AS have strengths in receptive and non-verbal language that can be used to enhance intentional communication. There is little research on expressive language enhancement in AS, although methods such as augmentative and alternative communication (AAC) and gestural symbols have been tested on this population. A systematic search of EBSCO, ScienceDirect and ProQuest databases was conducted to determine if there is a preferred communication modality to increase intentional communication. To focus this research study, exclusion criteria included date of publication, research population, methodology and duration of the study. Results indicated that coupled with a modified treatment and intervention using applied behavioral analysis (ABA) to decrease behaviors while increasing skills, children with AS preferred enhanced gestural communication. The use of no-tech AAC was also found to be successful with extensive delivery of therapy. Findings of this research can help to bridge a gap that exists in the treatment of individuals with genetic disorders that impact expressive language.

### MIA APOSTLE, MARIA CECILIA SANTOS BARBOSA

*Faculty Advisor: JoAnne Cascia*

#### Perceptions of Language Syntax Disorders in Preschool-Aged Children

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Preschool-aged children have been shown to be influenced by television programs in a variety of ways. For example, they are able to distinguish between standard and rural accented characters, as well as form opinions on which accent they preferred overall (Satmou, Matoniti, & Griva, 2015). Additionally, they judged the varied dialects of characters in viewed programs (Sophocleous & Wilks, 2010). They form opinions about the characters' intelligence and friendliness based on how the characters spoke. This current study aimed to determine preschool-aged children's perceptions of syntax disorders as well as the relationship to the amount and type of television that preschoolers are watching. This study also assesses parents' perceptions on various television programs. Participants included both preschool-aged children and their parents from multiple preschools in the area. Researchers hope to determine if preschool-aged children associate certain character traits to people with syntax disorders. While data collection is ongoing, preliminary data suggests that preschool-aged children three to six years old may not have an awareness to syntactical differences as much as their parents.

### KIM BAGGATA-BOWELS AND EMILY MARSALA

*Faculty Advisor: Mahchid Namazi*

#### Does Method of Voice Alteration Affect Satisfaction with Voice in Transgender People

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It has been reported that there are nearly 700,000 transgender individuals in the U.S.; and of those who identify as transgender, a majority has taken steps to transition from one gender to another. However, the research regarding the method of voice alteration and self-satisfaction outcomes is limited. This research study investigated satisfaction with vocal quality in transgender adults using multiple modalities of voice alteration. Types of voice alteration investigated included speech therapy, self-modification, phonosurgery, hormone injections and informal instructional methods (such as YouTube videos and books). Research in this discipline of the field can validate the involvement of speech-language pathologists in transgender voice alteration and add to the limited body of research that currently exists. Transgender and nonbinary adults completed a short survey and the Transgender Self-Evaluation Questionnaire (TSEQ) through an online survey. Scores obtained from the TSEQ were compared across voice alteration modalities. Results, conclusions, and implications are tentative as this study is ongoing.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### **EMILY BORUCH, MICHELLE LANGOWSKI AND ELLEN MAZZEI**

*Faculty Advisor: Jessica Scheuer*

#### **The Relationships Among Cognitive Skills, Socio-Economic Status, and Narrative Abilities in Preschool-aged Children**

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Socioeconomic status (SES) is a robust predictor of children's cognitive development and academic performance (Gardner-Neblett & Iruka, 2015). SES disproportionately affects language and literacy skills, which then affect other cognitive domains and could explain the school-aged academic disparities seen between students from high-and low-income households (Sirin, 2005). One way to investigate early language development is through assessing narrative skills, which have been linked to academic achievement and language acquisition. This study examines how SES indices might be differentially related to cognitive skills and early narrative abilities in typically developing preschool-aged children. Their cognitive abilities, including working memory, inhibition, and planning skills, are being assessed through a variety of game-like tasks while their parents complete a questionnaire reporting objective measures of SES. Data collection for the present study is ongoing; however, it is hypothesized that the relationship between cognition and narrative abilities will vary across socioeconomic strata. The study may have clinical implications including potential treatment of cognitive skills for improvement of narrative abilities.

### **KARMEN CAPORASO AND NICOLE ZARRILLO**

*Faculty Advisor: Sarah Patten*

#### **To what Extent does Training and Experience Have an Impact Upon Perceptual Rating Of Voice: A Comparative Study Between the U.k. And U.s. Utilizingthe Cape-V and Grbas**

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Perceptual ratings of vocal quality are an important part of how clinicians in the field of speech and language pathology measure the severity of and identify voice disorders and possible pathologies, in conjunction with other clinical methodologies (i.e., instrumental assessments, acoustic assessments, and more). While some research has examined the inter-rater reliability of the perceptions of student clinicians, most studies focus solely on experienced clinicians. In addition, little has been assessed with regard to the inter-rater reliability of perceptual voice assessments on an international scale. This research was sought out to determine the following: 1. Whether or not geographical location and different training practices may impact how voice is perceived on an international level (United Kingdom vs. United States). 2. Determine consistency and inter-rater reliability of perceptual assessment of voice between inexperienced and experienced clinicians. Participants undertook an initial and exit survey, a one-hour classroom session in which both the U.S. and U.K. participants listened to voice recordings and rated vocal quality utilizing the CAPE-V and GRBAS scales. The researchers are hoping to find a correlation in perceptual rating of voice between students in the U.S.

### **NICOLE CASTRO AND NATALIE PRINCIPATO**

*Faculty Advisor: Mary Jo Santo Pietro*

#### **The Effectiveness of Training Protocols on the Knowledge of Doctoral in Clinical Psychology (Psy. D.) Students when Communicating with Persons with Aphasia**

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Aphasia is a communication disorder that impacts all language modalities, typically affecting people who endured a stroke or brain injury. Currently, more than 2.5 million people in the United States are living with aphasia and approximately two-thirds of those people have clinical depression. However, mental health professionals have reportedly received little education on the nature of aphasia and little to no training on how to communicate with people with aphasia (PWA). Consequently, less than one percent of PWA receive any treatment for their depression. The aim of this ongoing study was to compare and contrast the success of 36 Psy.D. students' in recognizing, describing and understanding communication deficits in PWA when given a formally developed aphasia training video presented by aphasic clients, versus a set of standard printed handouts retrieved from the National Aphasia Association regarding communication strategies to use with PWA. Each participant was given a case study to examine and answer both open-ended and Likert Scale questions regarding information learned from the training. Results, conclusions, and implications are tentative as this study is ongoing.

### **TESSA DEEKEN, MARIA DOLAN AND NADEZDA O'NEIL**

*Faculty Advisor: Beth Davidoff*

#### **Reading Together: Story Time in an Inclusive Classroom**

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The purpose of this observational study is to investigate whether teachers employ similar shared book reading strategies used with typically developing children, as compared with those with developmental disabilities in a preschool inclusive classroom. The research question of our study is whether teachers in a preschool inclusive classroom setting use similar shared book reading strategies with children with developmental disabilities as with typically developing children, or do they make modifications based on the developmental needs of students. We are unable to report any results at this time as the study is ongoing. Results will be reported at the poster presentation. Data will be gathered via observational checklist utilized, marking occurrences noted of various known shared-book reading strategies, during two shared-book reading sessions in the inclusive classroom.

### ELIZABETH DEL PINO

*Faculty Advisor: Sarah Patten*

#### Do Thickened liquids Change in Flow Rate Over Time and Are SLPs Able to Predict These Changes Based on Experience and Knowledge?

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In clinical assessment and treatment of swallowing disorders (dysphagia), speech-language pathologists (SLPs) routinely prepare thickened liquids for patient consumption. A number of physical and environmental factors have been shown to influence thickened liquid viscosity. The purpose of the present research study is to further investigate changes thickened liquids exhibit compared to SLPs' predictions. A mixed-methods design was utilized to gather participants' predictions of hypothetical scenarios regarding changes in thickened liquid viscosity over time based on initial thickness. An experiment was then conducted to measure actual changes in viscosity of thickened liquid samples prepared based on the survey. Results compared the objective changes found in the experiment to SLPs' predictive accuracy and confidence.

### MICHELE DESIMONE

*Faculty Advisor: Sarah Patten*

#### Maximizing Potential in the Early Years

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The brain is much more sensitive to experience in the first few years of life than in later years. During this time, it is crucial for parents to understand and appreciate the impact of environmental stimulation and reciprocal interaction on their child's developing brain and to realize their ability to directly influence it. Although development continues into the early adult years, early childhood represents a period particularly important to the development of a healthy brain. A pretest-intervention-posttest experimental research design has been utilized to investigate parents' level of understanding on the impact that environmental stimulation and reciprocal interactions have on early brain development. Outcomes represent a need for parent education at the one year well visit or prior on their prospective impact on future learning.

### LAUREN FOGARTY

*Faculty Advisor: Beth Davidoff*

#### Internet Usage for Communication Purposes in Adults with Aphasia

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In the field of speech-language pathology, clinicians often rehabilitate clients with acquired language disorders such as aphasia. According to the American Speech-Language-Hearing Association (ASHA), aphasia "is a language disorder that happens when you have brain damage" that "may make it hard for you to understand, speak, read, or write" (ASHA, n.d.). In addition to more traditional forms of written communication and language, such as reading and writing letters and reading newspapers, online communication is becoming an integral part of modern communication. The internet is frequently used for social purposes, often accomplished through email or a multitude of social media platforms. As people who are accustomed to the internet continue to age, a sudden change in the ability to use it to interact with others could possibly lead to social isolation. The purpose of this study is to determine how a person with aphasia uses the internet to talk to others, and if these habits have changed since the participant acquired aphasia. The main focus of this study is to survey people with aphasia about their internet usage on computers and phones with regards to communication. A survey is being used to collect these results. The research is ongoing and results will be reported.

### KRISTINA GRIECI AND ZINAMARIA SINICROPI

*Faculty Advisor: Sarah Patten*

#### Comparison of Language Assessments Based on Socioeconomic Status

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Language assessments are a measure used to identify, diagnose and plan goals for children who have a language disorder. Controversy exists as to the appropriateness of language assessments given to children from low-socioeconomic (low-SES) areas. Researchers examined the similarities and differences between two language assessments: the Clinical Evaluation of Language Fundamentals, Fifth Edition (CELF-5) and Test of Language Development-Primary, Fourth Edition (TOLD-P4). Three monolingual English participants, aged 5-8 years, residing in low-SES areas, were administered the CELF-5 and TOLD-P4. Participants included one typically developing child, one child who has a language disorder, and one child who presents with a phonological processing disorder/delay. Researchers anticipate that participants will yield higher scores on the TOLD-P4 than the CELF-5. Patterns will be identified across results gathered from the CELF-5 and TOLD-P4, to investigate the TOLD-P4's sensitivity to children of low-SES areas. There is debate that the CELF-5 is not a suitable measure of language skills in children of low-SES areas. The findings of this study will provide researchers with similarities and differences between the aforementioned tests in comparison to children from low-SES areas.

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### **KAREN KIMBERLIN**

*Faculty Advisor: Sarah Patten*

#### **Can Multisensory, Cursive Handwriting Instruction Improve the Early Literacy Skills of a Kindergarten Student?**

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There is substantial research supporting handwriting instruction with students as young as preschool age. Explicit handwriting instruction via pen/pencil, finger or stylus has been found to impact development of letter recognition, spelling, early writing, kindergarten readiness and fine-motor skills. This study sought to determine if a brief period of handwriting instruction with a rhythmic, multisensory program, Write on the Beat, would improve the early reading and writing skills of a kindergarten student presenting with an at-risk profile for dyslexia and dysgraphia. Improvement between pre-and post-test results on a measure of early reading and a test of early writing skills suggests that 10-15 minutes of instruction and practice, five times per week, can improve the literacy skills of a developing reader and writer. Handwriting instruction is not a component of the NJ Language Arts (LA) Learning Standards, yet could easily be incorporated into multiple settings, such as general education classrooms, resource classes or LA stations, that focus on development of early literacy skills. Classroom teachers and Speech-Language Specialists (SLSs) working on pre-literacy skills (i.e, phonemic awareness, letter-sound knowledge, letter writing) could also consider a co-teaching model.

### **ALYSSA LEBOWITZ**

*Faculty Advisor: Beth Davidoff*

#### **Patterns of Screen Time and Media Use in Families of Young Children: Their Relationship to Children's Language Development**

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The purpose of this research project is to determine whether there are any associations between screen time and media use during play and meal times and language and vocabulary acquisition in young children. Through this study, we want to determine whether patterns of media and screen time vary in families of children with and without disabilities. Lastly, we would like to determine whether patterns of media and screen time differ in families of young children of varying socioeconomic levels.

### **KELLY MATSSON**

*Faculty Advisor: Beth Davidoff*

#### **Caregiver's Impression of a Novel Augmentative and Alternative Communication (AAC) System: the Visual Scene Display**

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The purpose of this study is to obtain subjective information on the caregiver's first impressions of Visual Scene Display (VSD) programming and use, in comparison to their current

Augmentative and Alternative Communication (AAC) software, to determine possible factors that may be involved in clients' long-term use of each system. The study seeks to answer the following research question: Is VSD programming potentially a more efficient and beneficial communication software for adults with acquired neurological disorders who have severe spoken language impairments as compared to a traditional grid format speech-generating system? The general aim of this study is to collect information on the caregiver's first impressions of their satisfaction and/or dissatisfaction with the VSD.

### **TENNILLE MILLER**

*Faculty Advisor: Sarah Patten*

#### **Incorporating Family Practices While Designing a Parent-Training Program to Address Feeding Difficulties in Children**

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Speech-language pathologists (SLPs) are often provided with education to care for issues related to pediatric dysphagia; however, understanding the role culture has in the development of treatment protocols is essential. Understanding a family's individual beliefs, values, and lifestyle is necessary to designing a home carryover protocol that can be fully integrated into the family's mealtime practice. The aims of this research project were to learn what family practices were used during mealtime, understand how to modify treatment strategies when adapting individual family practices and to create an evidenced-based model detailing how family practices can be incorporated into feeding intervention to promote improved parent-training. This study provided a questionnaire to one to three families from two different ethnic backgrounds. Certified SLPs were asked to distribute surveys to six parents of children, birth-to-five years of age, with feeding difficulties. This project was structured using a non-experimental research design, where data was collected qualitatively. Results suggested that commonalities amongst completed surveys indicated that parents had concerns about food refusal behaviors associated with eating foods of different textures.

### **SAFARI MINCEY AND LILIA PLESKUN**

*Faculty Advisor: Sarah Patten*

#### **Advantages and Disadvantages of Mothers' and Fathers' Involvement in Speech-Language Pathology: Parental Perspectives**

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Existing studies have investigated parental involvement in speech therapy, but have rarely reflected the perspectives of fathers, both parents, or one parents' perspective of their spouse's involvement. The purpose of this study is to identify what factors, if any, influence parental involvement from the perspectives of mothers and fathers, and to determine how those factors vary based on the child's diagnosis and parent's gender. Additionally, the purpose of this study is to examine mothers' and fathers' perceptions of the advantages and disadvantages of involvement. The methodology of the study is qualitative, which will allow for researchers

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to analyze mothers' and fathers' perspectives in-depth. Data will be collected through questionnaires from parents in support groups and parents whose children are receiving services at centers. Expected results are that fathers will report lesser levels of involvement in their child's speech-language therapy, across all diagnoses, than mothers will report. An expected barrier to involvement would be demanding work schedules. The conclusions drawn from the results will augment existing studies and determine what other methods may be helpful to implement to increase parental involvement in speech-language therapy.

### **BERNADETTE ERIN MULLEN**

*Faculty Advisor: Sarah Patten*

#### **Teaching Social Skills — Computer Interventions versus Traditional Interventions**

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Interest in the use of computerized social skills programs for children with ASD led to this research. The focus of this study was to compare the engagement skills of students using a computerized social skills program, SiLas (silassolutions.com, 2018), as compared to a paper and pencil program called Room 14 (Wilson, 1993). The secondary purpose of this study was to look at the effectiveness of computerized learning for social skills. This was an experimental, quantitative, research design using repeated measures between subjects. The computer trials were compared to a traditional intervention in the following ways: computer versus traditional intervention, students, individual scores on the intervention, and students performance on each goal overall. The independent variables in this research were the two separate interventions. The dependent variables were the behaviors measured including engagement and participation markers. The study included six intervention sessions. There was a total of two participants who were 14.5 years. The use of computer programs in education is increasing specifically when teaching social skills but we need research to validate the use of computers, specifically avatars in teaching social skills.

**Research Supported by: U.S. Department of Education, First in the World, Research Active Mentor (RAM) program, P116F150028**

### **NICOLE PICCILLO AND ANA DEPAOLA**

*Faculty Advisor: JoAnne Cascia*

#### **Perception of Speech Sound Disorders in Preschool-Aged Children**

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Speech is composed of motor movements that are involved in the production of the sounds in speech; these motor movements are referred to as articulation. Language involves a sound system with rules that govern its production, known as phonology. According to the American Speech-Language-Hearing Association, articulation disorders occur when there is an impact of the form or function of speech sounds within a language, whereas a phonological disorder

impacts the way speech sounds function within a language. This study aimed to find the correlation between preschool-aged children and their perceptions on cartoon characters with articulation disorders. Technologies such as television and interactive media have become a big part in the daily lives of toddlers and preschoolers. There is research regarding the impact that television/media has on children's education. This study aimed to determine the impact cartoon characters with speech disorders have on preschool-aged children. Roughly 370 invitations were sent out to participants throughout various locations, such as preschools, daycares and/or early childhood facilities. Children between the ages of three and six years were invited to participate. Children were shown a two-minute video that consisted of age-appropriate dialogue between two puppets. One puppet spoke with articulation distortions of the /r/ and /l/, whereas the other puppet spoke typically. Children were given surveys that consisted of seven questions regarding the children's feelings/perceptions toward each of the puppets. Surveys were sent out to parents regarding their opinions on television shows for children. Data collection is currently in progress as we obtain more participants.

### **MARIA L RODRIGUEZ**

*Faculty Advisor: Sarah Patten*

#### **Preparedness of Monolingual Speech-Language Pathology Supervisors to Work with Bilingual Speech-Language Pathology Clinicians**

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Effective supervision is important for speech-language pathologists (SLPs) working with the bilingual population as the needs of bilingual clients are highly specialized and individualized in regard to cultural and linguistic diversity (American Speech-Language Hearing Association, 2017). This study sought to examine if monolingual SLP supervisors have adequate training and the knowledge and skills necessary to appropriately supervise bilingual students and SLPs. Open-ended questionnaire responses of ten participants were included and analyzed using thematic analysis; primary and secondary theme were identified from the qualitative data across both groups' responses. This study found that bilingual supervisees, both students and certified clinicians, are most often supervised by monolingual supervisors. The bilingual supervisees indicated having to self-teach, enroll in bilingual SLP training programs, and reach out to bilingual colleagues when their monolingual supervisors were unable to provide support to clinical questions regarding the assessment and/or treatment of bilingual clients. Additionally, it was noted that monolingual supervisors have asked bilingual supervisees for their assistance in the evaluation and treatment of bilingual clients.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **CAROL RODRIGUEZ GORDON, VIANA CARDIELLOS AND JUSTINE LUMINOSO**

*Faculty Advisor: Mahchid Namazi*

#### **Need for Alternative and Augmentative Communication Devices for Persons with Autism over 21 years of age: Reports of Caregivers**

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The number of individuals with Autism Spectrum Disorder (ASD) has been steadily increasing. Individuals with ASD may learn to communicate with Alternative or Augmentative Communication devices (AACs). Based on clinical experience, the AAC device a student is utilizing is generally provided by the school, but as they transition out of the educational system, they often cannot keep their device. Additionally, not every appropriate individual is provided a device; the reasons vary and the research is lacking. The aim of this ongoing study is to determine the percentage of respondents who report the following their child is nonverbal without any form of AAC; their child had an AAC prior to graduation but no longer has access to it; they are not satisfied with the transitioning training they received; and reasons their child doesn't have any form of AAC. We are seeking to document and characterize a pervasive problem in the community of young adults with autism and their caregivers. This is a qualitative study using Qualtrics Online Survey. Findings of this research can help to provide awareness to the need for communication devices for adults with ASD and the need for better transitioning information for the caregivers. Results, conclusions and implications are tentative as this study is ongoing.

### **ADRIANNA SIRIGOS AND TALA SHATILA**

*Faculty Advisor: JoAnne Cascia*

#### **Perceptions of Stuttering in Children's Entertainment Media**

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This study investigated how entertainment media for preschool children impacted their perceptions of characters who stutter. Investigating preschoolers' perceptions of media characters with typical and dysfluent speech will add to the knowledge of the field of communication disorders. A video depicting two visually similar puppets having an age appropriate conversation was shown to a group of preschoolers, ages three to six. One puppet spoke with typically developing speech and the other presented with a fluency disorder. After viewing the video, the participants responded to six questions evaluating their perception of the puppet characters. The data collection is still in progress and will be analyzed upon completion.

### **MAY SWISSA AND ELIANA LOCHAK**

*Faculty Advisor: Beth Davidoff*

#### **Early Language and Gesture Development in Children with ASD**

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Early gesture production appears to be related to spoken language comprehension and production in children who are typically developing. Previous research (Charman, Drew, Baird, & Baird, 2003) has suggested that preschool children with autism spectrum disorder (ASD) were delayed in their production of gestures that involve shared reference compared with their production of gestures that involve actions on objects. This is a pattern that differs from children who are developing typically. Furthermore, these authors found that children with ASD were more delayed in their ability to comprehend phrases compared to their comprehension of single words. The present study investigated gestural development and early comprehension of phrases in twelve children with ASD who were beginning communicators, as measured by parent report on the MacArthur-Bates Communicative Development Inventories (Words and Gestures form; Fenson et al., 2007). Comparisons with published research and clinical implications for intervention will be discussed in this poster presentation.

### **MIA VALENTE, VANESSA CORREIA, MICAH CHAN AND KAYLA TYRA-GANT**

*Faculty Advisor: Jessica Scheuer*

#### **Potential Effects of Working Memory Training on Language in Adults with Aphasia**

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Aphasia, an acquired neurological disorder, affects language production and comprehension, as well as executive functions and working memory (WM). Traditional speech and language intervention for individuals with aphasia focuses on improving articulation and linguistic capabilities. However, these individuals plateau in progress following years of conventional language therapy. Recent research has examined the potential of increasing executive functioning as a way to improve language skills. Executive abilities, including WM and interference control, were found to be highly correlated with individual differences in language skills (Baddeley, 2003). Therefore, we examined if training WM updating and interference control would result in increased language skills, along with reading comprehension and speed of language processing. Four individuals diagnosed with aphasia secondary to a cerebrovascular accident completed a computerized, home-based executive function intervention, consisting of letter and picture n-back tasks. Results of this study will provide insight on WM updating intervention as a potential new treatment method to improve the language impairments associated with aphasia.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### TIFFANY WICKERT AND KRISTYN DICONSTANZO

*Faculty Advisor: Sarah Patten*

#### Investigation into Student and Qualified Speech Language Pathologists, Perception of the Use of Formal and Informal Assessments for Persons with Aphasia

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The purpose of this study is to determine whether Speech-Language Pathologists (SLPs) prefer using formal or informal assessments or if they prefer to use both to guide their clinical decision making. The researchers performed an assessment on a client diagnosed with aphasia utilizing both an informal assessment and a standardized test. The nine qualified and nine graduate student SLP participants were divided into three groups: one that watched only the formal assessment, one that watched only the informal assessment, and one that watched both. After viewing the assigned recording, the qualified and student clinicians were given a questionnaire that included a Likert Scale. The questionnaire asked specific questions including possible diagnosis, whether or not the client should receive speech-language therapy, what specific area/disorder they would choose to treat and why, and potential long and short-term goals. The researchers will compare the preferences of graduate student clinicians and qualified SLPs and decide if experience level determines assessment preferences, and what role experience plays in the process of analyzing and utilizing information from formal/informal assessments.

### KRISTEN WRIGHT AND KELSEY DUDGEON

*Faculty Advisor: JoAnne Cascia*

#### Perceptions of Voice Disorders in Children's Entertainment

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Previous research studies have determined that children tend to perceive individuals with voice disorders more negatively than individuals with typically sounding voices. However, limited research has been conducted to determine the influence of voice disorders in the media, specifically children's cartoons. To address this gap, researchers will investigate preschoolers' perception of voice disorders, specifically hyponasality, in the media. The focus of this literature aims to determine the impact and perception of hyponasality and the multitude of effects it has on the speaker and listener. Children from various preschools and daycares will participate in this study, as they play an important role on how characters in the media are perceived based on the quality and characteristics of their voice. The current study will thus compare the perception of several groups of children on characters with a voice disorder in a short media clip.

## COMMUNICATION, MEDIA AND JOURNALISM

### ORELLA CHICHESTER

*Faculty Advisor: Fred Fitch*

#### Black Twitter Hashtags: A Coping Mechanism for the Trauma of Black Individuals

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This research project seeks to identify the various ways Black individuals use Black Twitter hashtags to cope with racial trauma. In order to prove this thesis true, the various ways Black Twitter hashtags are used as coping mechanisms for racial trauma by Black individuals were analyzed. A series of interviews with Black Twitter users were conducted along with the tracking of popular Black Twitter hashtags such as #blacklivesmatter, #sayhername, and #blackgirlmagic. An analysis of the aforementioned methods of data collection found that Black individuals use Black Twitter hashtags as a coping mechanism by forming communities that connect and empower those who have experienced various forms of racial trauma.

Keywords: Black Twitter, Black Twitter Hashtags, Racial Trauma.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### VALERIA DIBROVA

*Faculty Advisor: Christopher Lynch*

#### Avon and Enron – The intersection of Door-to-Door Sales and Pyramid Schemes

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The purpose of this paper is to investigate the door-to-door sales companies, culture and compare that to Corporate America culture. How the ethics of these corporate entities such as Enron mirror the door-to-door sales and pyramid schemes that are played out in the American suburbs. In a larger sense, the inner contradiction of door-to-door sales companies is about the dodging of responsibility. The findings show, firstly, that there is a particular communication strategy that leads to pyramidal corporate and business experience, and secondly, the heart of door-to-door sales companies, as the Enron cultural component - its obsessive focus on the short term. These findings suggest additional evidence that the pyramid scheme of door-to-door companies is basically a capital accumulation by a pyramidal system of percentage charge. The additional purpose of the paper is to analyze the ethical module of those two companies. Enron and door-to-door sales companies ethical culture is pivotal to grasp that the crucial foundation for the ongoing success of the public corporation is a healthy corporate culture.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### PETRUCE JEAN-CHARLES

*Faculty Advisor: Sally Abdul Wahab*

#### Perspectives on Television: African-American Women Leads

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This study extends research on portrayals of African-American women in mainstream television. It explores how young African-American women perceive the protagonist of the television series “*Scandal*”, Olivia Pope, and the extent to which they consider that the character’s way of navigating romantic relationships is realistic in light of their own experiences and expectations. Findings are based on a thematic analysis of responses to an open-ended questionnaire from thirty African-American college students.

### KATELYN PIORKOWSKI AND CHRISTINE PIERRE

*Faculty Advisor: Jeffrey Toney and Sarah Mack*

#### The Voter’s Imperative: Demystifying the Legislative Process

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Elections have consequences, effecting change or supporting the status quo. Too often, the right to vote is squandered. The 2016 primary election had some of the lowest voter turnout rates in years. According to the New Jersey Division of Elections, some 1,850,957 registered voters of New Jersey did not vote. Our study explores why people choose not to vote, in order to support better citizen engagement in the legislative process, including advocacy and having their voices heard by legislators. People want to be involved and advocate for what they believe in, but often times, the task seems too large and complex. As case studies, we chose four different animal welfare causes. A lay summary of pending legislation for each cause was developed to be easily understood by the general public, accompanied by actionable steps: a reason to support the cause, and a call to action. A pre- and post-survey (\*\*\*) will be given to participants to measure the impact of our approach. Through this research, we hope to help people become more politically aware, giving citizens the skills that most currently lack to effectively advocate for their needs. Our findings could be the basis of empowering citizens to help shape laws that accurately reflect their needs and dreams of a better future, the very reason that each of us should vote.

**Acknowledgement: Raymond J. Lesniak, former State Senator (20th Legislative District)**

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### TENZIN TSEPEL

*Faculty Advisor: Joshua Burnett*

#### Digital Familiarity: Seeking Correlations of YouTube Viewer Choice Based on Ethnic Background

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Digital media has continued to steal the spotlight of traditional media. However, as the industry became more intricate and corporatized, it started to experience paralleling issues of its traditional counterpart. One major theme included diversity and representation. Many studies displayed a strong correlation between ethnic viewers being attracted to like individuals on the silver screen. But did this relationship exist within the digital world? This study seeks to find any existing correlation between ethnic background with a YouTube viewer, within a sample of students at Kean University, and the YouTube creator they choose to watch using a series of video clips and a survey. The 20 participants displayed that while there was no direct correlation between ethnic backgrounds of viewers and creators chosen, the higher number of votes on a YouTuber correlated with their general online popularity at the time.

## COMMUNITY HEALTH EDUCATION

### MOISES AZCONA, JENNIFER TORRES AND ALYSSA ANTOINE

*Faculty Advisor: Omara Cardoza*

#### Year 7 Results of Implementing a Teen Pregnancy Prevention Program in NJ High Schools

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This research study evaluated the longitudinal effectiveness of the program “Reducing the Risk-Building Skills to Prevent Pregnancy, STDs, and HIV,” an evidence-based program designed to decrease adolescent pregnancy and sexually transmitted infections in two New Jersey State identified high-risk municipalities. The year 7 findings of the program will be presented. During the 2017-2018 academic year, the Reducing the Risk curriculum was implemented in high school health classes. The study was conducted in three high schools in New Jersey with high rates of adolescent pregnancy. A cohort of 463 9th and 10th grade students participated in the program. Participants completed baseline, post- and 3-month follow-up surveys. Ultimately, the Reducing the Risk program was effective in reducing the rate of adolescent pregnancy, and protecting against HIV and other STDs by increasing participants’ intentions to abstain or use a condom during sexual activity.

**Research Supported by: U.S. Department of Education, First in the World, Research Active Mentor (RAM) program, P116F150028; New Jersey Department of Health Personal Responsibility Education Program DFHS19PRP004**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **SARAT BUSARI, DARNELL FELDER AND FERNANDA MOURA**

*Faculty Advisor: Dr. Norma Bowe*

#### **Be the Change Leadership Initiative Recovery High School**

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It is estimated that approximately 1.5 million teenagers meet the criteria for a substance abuse disorder. Of those adolescents, only seven percent receive treatment. Adolescent brain research shows that the prefrontal cortex is underdeveloped. This leads to impulsivity, difficulty in goal setting, reasoning and judgement. University of Michigan survey data (2015) indicate that adolescent substance abuse rates were at the highest in this country thirty years. In addition, nearly two thirds of high school seniors and one third of eighth graders used alcohol in the month before the survey. The public health consequence is enormous and correlated to negative outcomes such as legal problems and physical, sexual and emotional abuse. The be the Change Community Leadership Initiative is a leadership initiative developed and implemented by Be the Change NJ. Be the Change NJ is a community service and activism group dedicated to improving community outcomes and working with community partners to effect positive social change. The Building Community Leadership Project is developed for those teens receiving educational and support services at Recovery High School Prevention Links. The cohort will be no larger than 15 teens. A 12-week mentoring/educational program will consist of didactic, group discussion.

### **ANNA MICHEL, DARNELL FELDER AND BELKI AGUIRRE**

*Faculty Advisor: Dr. Norma Bowe*

#### **Be the Change, Changing the Landscape for Peace One Garden at a Time.**

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Abstract: Newark is the largest city in New Jersey, with a population of 277,140. The crime rate in Newark is considerably higher than the national average across, with a rate of 46 crimes per 1,000 residents. After conducting a social epidemiology project murder mapping all four Newark wards, garden projects were implemented in the high-violent-crime areas. Newark has 3.65 acres of parkland per 1,000 residents; national standards call for 325-500 acres for a population of this magnitude. Other high-density cities (New York, San Francisco, Chicago, Boston, Philadelphia, Miami, Baltimore and Los Angeles) averaged 7.17 acres per 1,000 residents. "Be the Change" Kean University is actively engaged in peace efforts by "adopting" vacant lots in dangerous Newark neighborhoods and turning them into "peace gardens." These efforts have been highly successful in "bringing unity to the community," as one resident said and creating a dialog regarding peace and nonviolence as well as demonstrable drops in violent crimes. These gardens promote visual improvements to city neighborhoods, empower residents to take back their streets and understand the role that they can have in local issues that affect their quality of life and promote food justice. This has shown positive growth.

### **ANNA NUNEZ, FERNANDA MOURA, KHAMAYAH MCCLAIN, VENUS EVERETT AND DARNELL FELDER**

*Faculty Advisor: Norma Bowe*

#### **Be the Change Dream Big Leadership Initiative**

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It is estimated that over 1.6 million youth are homeless each year in the United States. Adolescence can be a challenging time, particularly for those dealing with issues of housing and food insecurity, family chaos and adverse childhood experiences. The Dream Big program is a young women's leadership initiative developed and implemented by Be the Change NJ. The Dream Big program will target young women ages 10-17 receiving services at the Elizabeth Coalition to House the Homeless in Elizabeth, NJ. A 12 week mentoring/educational program will consist of didactic, group discussion, and field trip experiences geared towards building self-esteem, self-efficacy and positive health outcomes. The main objectives of this program are as follows to increase personal development and wellness, to learn leadership and teamwork skills, to engage mentorship volunteers in goal setting and positive educational outcomes, to increase community engagement, and to decrease risk factors associated with homelessness. Pre and post-testing shows a significant increase in all study variables.

### **CHIDINMA OPARA**

*Faculty Advisor: Consuelo Bonillas*

#### **Field Experience in Learning About Comprehensive Adolescent Pregnancy Prevention Programs in NJ High Schools**

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This project is based on the experience of being a volunteer research assistant of the New Jersey Personal Responsibility Education Program (NJPREP) at Kean University. NJPREP focuses on decreasing adolescent pregnancies and sexually transmitted infections in New Jersey. Since October 2011, Kean University has implemented the Reducing the Risk: Building Skills to Prevent Pregnancy, STD and HIV Program (RTR). The RTR program was implemented in high schools at targeted high risk municipalities in the state of New Jersey. Recently, in the Fall of 2018, Kean University became the state's program evaluators and will be evaluating the following programs: the RTR program, the Teen Outreach Program (TOP) and the Teen Prevention Education Program (Teen PEP). Throughout this experience I was able to grasp the initiatives and the process of adolescent pregnancy prevention programs. It helped me understand the background work that occurs in research as well as discovering patience in the process of obtaining and analyzing data over a period of time. It ultimately improved my skills in performing certain procedures for a future career in research.

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### COMPUTER SCIENCE

#### VERONICA CASTRO ALVAREZ

*Faculty Advisor: Ching-yu Huang*

##### Visualization of Health Data

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As data becomes more accessible, visualization methods are needed to help make sense of the information. Analyzing and visualizing data helps the public to better recognize the patterns and connections between different datasets. By using visual elements such as graphs, charts, and maps, it is easier to see and understand the trends and outliers in data. This project aims to study the correlation between environmental factors and public health. Data mining techniques will be used to collect and process large datasets related to the environment and health. The tool that will be used to analyze and visualize the collected data is Tableau, which is a software that is used to transform data into dashboards and visuals such as treemaps, histograms, or area charts. For this project, the data will be displayed through charts and interactive maps that will be created through this software.

#### PHILIP ANKRAH AND MARK FERRERA

*Faculty Advisor: Kazi Zunnurhain*

##### iCallNxt: a Geolocation Based Queue

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iCallNxt is a mobile application in which users will be able to sign in at various locations and insert themselves into a queue. The primary focus will be for public parks (i.e, basketball, tennis, and open fields). Many times when using public utilities in a shared space, it can be difficult to maintain order. There can often be disputes as to succession and usage duration of said utilities. iCallNxt allows for such order while minimizing confrontation. iCallnxt will promote organization in any public location.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

#### NIHAL BARCIN

*Faculty Advisor: Ching-yu Huang*

##### Social Media Analysis Data

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The research analyzes the Twitter social media data using Tableau. Twitter is one of the most popular social media sites with a huge amount of data being produced and one can download Twitter data without any restrictions. Tableau is a software for data visualization. After processing the tweets and importing the extracted data into Tableau, we can analyze it using the Tree Map and find out the most-used hashtag to the least used hashtag by people on

Twitter. Using the bar chart, we can find the most popular day for tweeting by the people. With the help of Map in Tableau, one can analyze the data and gather the findings of the distribution of people around the world tweeting on Twitter. We can drill down further in the Map and find out the time people are more active on Twitter and the count of tweets from different parts of the world. With more in-depth analysis of the data and Tableau, there are more insights that can be drawn from the Twitter data.

#### KINGBERLI CAPELLAN

*Faculty Advisor: Jing-Chiou Liou*

##### Ethical Hacking: Penetration Test

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The rising computer and the internet usage around the world have led our society through a drastic change in lifestyle. Almost everything can be done using a computer and the Internet. Things like shopping, applying for schools, jobs and even banking fall into the category of things that can be done from the comfort of home. This comfort, however, comes with a lot of risks. In order for us to obtain what we need, there is a need for personal information. The devices and networks in which our personal information is stored, is constantly at risk of being attacked by malicious software developed by cybercriminals. In order to test the security of these systems, a penetration test is needed. Penetration testing is used as an attempt to secure these systems by using techniques that are often used to harm the system but instead of harming it in this case, it tests the security of the system. This study will review techniques for penetration testing by starting to gain some basic knowledge from the book “*The Hacker Playbook 2: Practical Guide to Penetration Testing*” by Peter Kim and create a baseline to continue developing new skills with independent research on the topic.

#### KINGBERLI CAPELLAN, MANUEL CONDADO AND ISABEL MORAIS

*Faculty Advisor: Patricia Morreale*

##### Designing and Evaluating a Cybersecurity Curriculum

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Widespread internet device use among teenagers is increasing their cybersecurity risk. High schools want to increase student awareness of cybersecurity risk with a curriculum that engages the students' interest in a highly technical topic. The research question investigated here seeks the best way to teach cybersecurity to accomplish these goals. The students selected for the study were part of Project Adelante, a pre-college program at Kean University aimed to increase the number of Hispanics/Latinos who are successful in college. Researchers developed and delivered lectures to the students weekly, observing that each lecture and activity caused a different reaction and interest level depending on the way the topic was approached. Results from this research show the best way to engage 14-16-year-old students in cybersecurity, while providing teachers with tips, advices and strategies to adopt when developing lesson plans.

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A curriculum with eight topics was prepared, with engaging subjects providing an entry point for different learning styles. Active learning activities and student outcomes show the validity of this approach, as do pre- and post-test assessments.

**Research Supported by: Computing Research Association Collaborative Research Experiences for Undergraduates (CRA-CREU) Award**

### MANUEL CONDADO, ISABEL MORAIS, RYAN QUINN AND SAHIL PATEL

**Faculty Advisor: Patricia Morreale and Edward Johnston**

#### Integrating Historical Content with Augmented Reality in an Open Environment

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Museums offer visitors a variety of historic content. However, museums still rely on traditional methods of delivering content to visitors through the use of signage to compliment an exhibit. A research study was conducted to determine the feasibility of developing mobile augmented reality (AR) experiences for a museum in an open environment. Three examples of AR experiences were investigated. First, the Serpentine Path AR experience provides contextual AR, showing the development of a historically significant garden pathway with primary source historical documents, and images. The Horse Chestnut Tree AR experience follows, presenting a miniature 3D model of a tree that is a vital part of the outdoor museum grounds. The Main House AR experience illustrates AR over time, showing the contrasting progression of a home and surrounding foliage. Approximately two-thirds of the users (68 percent) considered the AR experience good for the Horse Chestnut Tree of the users respond that the Serpentine Path AR experience, which included audio, provided access to historical content they would not receive anywhere else. Similarly, 96 percent of the users felt that the Main House AR experience provides unique access to historical content which was not available elsewhere.

**Research Supported by: Students Partnering with Faculty STEAM Initiative, Kean University**

### NISHA DHAR, MARINA NESSIM, PRESNIR SENAT, LATEEF ADEKOLAPO AND BRIAN YAO

**Faculty Advisor: Jing-Chiou Liou**

#### Patient Record System (PRS)

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This is a web-based application with a repository that allow authorize stack holder to access to on different levels and update specific sections of the records. With this web application and its database, paper prescriptions will be eliminated completely and prescription and Medicaid fraud will be a thing of the past. The project has a web application that is being designed using PHP and the database repository using MySQL, for this seek of this project, but the application and database are going to be running from a laptop. The application web base will be simulated from the laptop with an internet connection, and the database will use XAMPP engine install on the laptop to run the database engine.

### SANIORA DUCLERVIL

**Faculty Advisor: Jing-Chiou Liou**

#### The Effectiveness of the Secure Software Development Life-Cycle Model in IT Project Management

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Software security is an important and prevalent element in today's society. The System Development Life-Cycle (SDLC) process that is currently used for most of software development does not address any security components until after the software is developed. The Secure Software Development Life-Cycle (SSDLC) is similar to the SDLC but includes security components into the phases. There have been many models proposed that are primarily modified from preexisting SSDLC models. A study was conducted to survey different SSDLC models and their effectiveness. The authors first identified four popular SSDLC models in the IT industry, and then analyzed their common characteristics to derive four sets of Criteria for comparison. These criteria are: Focus Areas of Application, Implementation of Model, Security Implementations and Enhancements, and Security training and Staff. The comparison results demonstrate that the Rastogi and Jones model is an effective one for being used for many IT projects. However, it is worth while to mentioned that one specific model cannot be used for all types of IT projects because IT projects are different.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780; U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### PRINCE FLOMO

**Faculty Advisor: Kai Wang**

#### Toward Computational Assessment of Idea Novelty

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In crowdsourcing ideation websites, companies can easily collect large amount of ideas. Screening through such volume of ideas is very challenging and costly, necessitating automatic approaches. It would be particularly useful to automatically evaluate idea novelty since companies commonly seek novel ideas. In this study, the topic of ideas was assessed using Latent Dirichlet Allocation (LDA). Then the topic distribution of ideas was used to do k-means clustering. The cluster size was used to represent how novel the ideas are. Overall, this method of evaluation tends to correlate with human judgment of novelty, but the correlation is relatively small. The approach shows some promise but does not match human judgment well enough to replace it.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**



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### WILLIAM FRANCISCO, WILMOND VANO AND HAROLD BAEZ

*Faculty Advisor: Mira Franke*

#### DrEam Scape VR: A Horror Web VR Experience

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Web VR is the most direct way a user can experience Virtual Reality without having to download any additional software. Typically, one would use high-end consumer products such as an Oculus Rift or HTC Vibe to consume VR content. However, our team explores the lowest-cost barrier to entry, the Google Cardboard, to create a multi-platform experience on the web. The goal of this project is to inspire developers to create affordable VR content, demonstrating that it isn't necessary to have a computer with high-end specifications or expensive VR hardware. To this end, we use A-frame, a web-based framework, to create a Web VR experience that can work on the Chrome Browser on various mobile devices.

### MOUSHUME HAI

*Faculty Advisor: Mira Franke*

#### Raspberry Pi — Cluster Computing System

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Cluster computing is used to improve upon the computing performance of an individual node, and for this project I built and analyzed a Raspberry Pi (RPi) Cluster Computing System by connecting four RPi's with a switch. RPi's are powerful, credit card-sized single-board computers that were originally developed in the United Kingdom by the Raspberry Pi Foundation. These small, affordable devices have made supercomputing practical for all. In our distributed system, a cluster of three connected RPi computers acts as server (or "worker" nodes) and a fourth RPi acts as a client (or "master" node). The final configuration was the size of a handheld device. Using the Maclaurin series Arctan formula in conjunction with parallel programming techniques in Python I used this system to compute the value of the mathematical constant  $\pi$  to twelve digits.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### PETER HANNON, NICHOLAS ALVINO AND ANDREW FLOYD

*Faculty Advisor: Daehan Kwak*

#### The Quality of Routing Services: Comparison of Observed and Estimated Travel Times

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GPS-based real-time navigation apps via smartphones have become ubiquitous and used in our everyday commutes. This has led to the exponential growth of real-time traffic data utilized by several popular routing service providers such as Google Maps, HERE, BingMaps, Waze and MapQuest, which all aim to provide the fastest route for travelers. Such map providers

use historic and real-time crowdsourced traffic information to calculate the Estimated Travel Times (ETA) and construct the fastest route. However, there is little information on whether map providers are truly providing accurate information. The first objective is to collect traffic data from all the different map providers by developing and deploying a web mining system to collect travel time estimates. We also deploy our web mining system to crawl the ground truth traffic data from physical loop detectors and electronic toll tag readers that is publicly available provided by the New York DOT. The second objective of this study is to conduct a case study for the Manhattan, area with the observed and estimated traffic information to present a descriptive and statistical analysis. The purpose of this study is to gain insight and assess the quality of traffic information these popular online maps provide in terms of ETA.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### DANIEL HENRIQUES, PHILIP KENNY AND MAXIMILIANO ACOSTA

*Faculty Advisor: Daehan Kwak*

#### Smart Transportation: Bridging the Gap in Traffic Information Systems

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During recent years, most users have transitioned to online (or mobile) maps, such as Google Maps, HERE (Nokia), or Waze. It is essential for route recommendations and travel time estimations (ETA) to be reliable as they are major factors in route choice. In this study, we develop a web mining system running on the Amazon EC2 cloud to crawl and scrape traffic data to conduct a comparative analysis for four popular online maps. We select the origin and destination (O-D) coordinates from two cities with the worst traffic in the U.S. provided by INRIX. We conduct a descriptive analysis for four popular online maps and we identify that online maps can potentially introduce uncertainty in route-choice decisions. We also develop a website for individual users and researchers to query and collect traffic data for routes that are of interest via our web mining system. For future work, on a macro level, by continually collecting data, we build a base for future development that will benefit interdisciplinary research in the domains of computer science, data science, and transportation. On a micro level, we aim to provide additional solutions to reduce the users' uncertainty in route choice.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### JOANEM JEAN BAPTISTE, ALEXANDRA PEREZ AND BRUNO GOMEZ

*Faculty Advisor: Mira Franke*

#### Arduino-based LIDAR Technology

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LIDAR stands for Light Detection and Ranging. The goal of this project is to build an Arduino-based LIDAR scanner to make 3D images, or maps, of a region, such as a room, the inside of

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a building, or a region of land with significant vegetation and/or geologic features. Building this scanner will require connecting and integrating components (including an Arduino microcontroller, a LIDAR laser range finder and a pan and tilt kit) into a working unit. These 3D images may then be used to analyze important and/or interesting features of a region that may not be distinguishable to the naked eye.

**Research Supported by: STEMpact, a cooperative project between Union County College and Kean University, U.S. Department of Education Title V grant**

### ARIOS JULES

*Faculty Advisor: Jean Chu*

#### Software Defined Network (SDN) with OpenDaylight

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Network Management (NM) is complex due to the large variety of network equipment manufacturers, propriety software and closed programming associated with those devices. Therefore, it is difficult to remotely deploy configurations, policies, and firmware updates across different platforms, and hardware. However, a new approach called Software Defined Network (SDN) tackles the problem. As part of the presentation, I will give an overview of SDN, how it's being implemented via emulation using OpenDaylight, its benefits and limitations, and the challenges to its application in NM.

### PHILIP KENNY

*Faculty Advisor: Juan J. Li*

#### LifeLine: Autonomous Detection of Dangerous Situations

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The goal of this research is to find the best solution for the problem of real-time dangerous situation detection and then reporting this danger using AI/ML technologies. Our invention is an autonomous life-saving device/application that classifies anomalies in data patterns and initializes operations autonomously without requiring any input from the user. This idea is represented within our mobile application, or standalone device, called LifeLine. LifeLine is a monitoring system that collects real-time data from native on-board sensors, cameras and sound recorders to automatically detect pattern anomalies as life-endangering situations, then autonomously performs a call for immediate assistance from an emergency service number. LifeLine achieves the epithet of "lifesaving" by rapidly and effectively detecting multiple scenarios of emergency situations, ranging from falls, car accidents, to even gunshots, consequently contacting a help number for immediate assistance. LifeLine is an essential autonomous personal-health device, invented, designed and implemented with the intention to save lives.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### ROBERT KULESZA

*Faculty Advisor: Juan J. Li*

#### Investigation of a New Machine Learning Algorithm

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In this study, we are investigating a new machine learning algorithm. Previous work in deep learning involved scanning images in chunks and feeding the chunks into a neural network in order to train the network to recognize the images. In doing this, the neural network is loaded with chunks from one file at a time. After a file runs out of data to load into the neural network, the next input data begins to be processed. Instead of processing data one file at a time, it may be better to process the corresponding chunks of each input file. This may improve the accuracy of image recognition because the corresponding areas of an image are more likely to be similar. As the corresponding regions of several input images are scanned, new neural networks could be created to represent those areas. In this study, we will implement this new method and compare its results with that of the original method. If this method proves itself to be better than the original, then it could have a large impact on the development of technologies such as autonomous cars that depend so heavily on fast, accurate image recognition capabilities.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### ARIANA LACUE

*Faculty Advisor: Ching-yu Huang*

#### Visualization and Web Design and Development

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The purpose of web design has been identified as a key factor for the acceptance and success of websites and electronic commerce. The purpose of this is to analyze, from a marketing point of view the main aspects that could influence online users' perceptions and behaviors, in order to achieve a successful e-commerce website. The design/methodology approach is an extensive literature review that was developed emphasizing the special role that web design could play in the interaction user-interface. Besides, the methodology related to benchmarking allows firms to know the best practices and to learn some key lessons for developing their businesses online. Findings that affirm that the web design is a key factor for getting positive outcomes as it influences users and online consumers' perceptions and behaviors. A website design focused on simplicity and freedom of navigation provides clear, timely and accurate information in all its contents and an appearance that calls for the users' attention.

**Research Supported by: U.S. Department of Education, First in the World, Research Active Mentor (RAM) program, P116F150028**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### CHRISTINE LAYGO

*Faculty Advisor: Jing-Chiou Liou*

#### An Analysis of Normative Multi-Agent Application for the CyberSecurity Domain

Using agent application techniques is a new trend in cybersecurity for combatting cyber attacks. Agents represent autonomous entities that obey external commands that benefit the user. Our study surveyed several normative agent strategies, concepts and structures for the system to work efficiently. Normative multi-agent systems regulate and secure interactions between the individual users from a technical standpoint. On account of this idea, we first analyzed three different normative models proposed for enhancing cybersecurity. Each model has a different concept and implementation. The initial goal is to maintain security policies between the users and their environments. Through the analysis of the models, we were able to establish common criteria between the three models. These criteria led to produce measurements for comparison of strength and the frequencies of their interaction between norms and agents. For the latter, the comparison results concluded that one model develops a stronger system of norm detection and active and passive mediums to transmit norms. These findings will determine which areas of the system can improve the system efficiently, and it will provide further investigations of other normative systems.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### RACHEL MATZEL

*Faculty Advisor: Kung-Kuen Tse*

#### Using Simulations to Study Stock Movements

Stock movement has been studied by theorists for many years. They use mathematics and computer programs to predict the next stock crash. In this project, we use one-dimensional and two-dimensional random walks, stochastic differential equations and Geometric Brownian motion to simulate the stock movement. The data is then presented by using Java graphics.

### NICHOLAS MITCHELL

*Faculty Advisor: Kazi Zunnurhain*

#### Cloud Computing Security

This research project aimed to determine if Google Cloud Platform (GCP) is secure from inside attackers. Knowing this would reaffirm that GCP is safe from Distributed Denial of Service (DDoS) attacks against its virtual machines (VMs). The scope of this research was to prove that GCP isn't vulnerable to inside attacks from other internal hosts. This project's method was launching DDoS

attacks from GCP VM. The attack launching application was Low Orbit Ion Canon (LOIC). The attack was generated with TCP (Transmission Control Protocol) and UDP (User Datagram Protocol) packets. The Packet activity between the attack and victim VM was recorded using a network monitoring tool (Wireshark) at different time intervals. From there, the performance was checked using an intelligent SNMP (Simple Network Managing Protocol) tool (Manage Engine OP Manager). It was observed that LOIC was attacking the victim VM but no packet loss was detected, even with disabling all safety features on the GCP VM's operating system. Hence, in the poster we have consistently highlighted the aftereffect of a DDoS attack through several experiments on GCP virtual machines and strongly advise the use of these public VMs without any hesitation.

### ISABEL MORAIS, KINGBERLI CAPELLAN AND MANUEL CONDADO

*Faculty Advisor: Patricia Morreale*

#### Using a Brain Computer Interface to Measure Student Engagement

This paper investigates high school students' grasp of cybersecurity concepts while analyzing them with a Brain Computer Interface (BCI). A BCI acts as a link that allows a non invasive headset to communicate with an external device to show the brain's electrical activity. The BCI captures the students' excitement, engagement, focus, interest, and stress levels while taking a test. This allows us to see how the student feels when answering questions. Without using a BCI, we can measure the student's understanding of topics, but with a BCI we can see where the student really struggles or excels. Assessments were given to ninth and tenth grade students, who were taught by lectures or activities, before and after the semester to gauge what they knew and how much they learned. Select students were tested with the BCI and their results show that certain topics were not understood clearly, as the students' stress levels were high while their focus and other emotions were low. Future work should be done with a longer study and class times for the students, as this was the main limitation of the study.

### ISABEL MORAIS, MANUEL CONDADO, RYAN QUINN AND SAHIL PATEL

*Faculty Advisors: Patricia Morreale and Edward Johnston*

#### Design of a Contextual Digital Wayfinding Environment

Abstract: The user experience research presented here illustrates how a digital wayfinding experience was developed for a museum website, using both natural and historical context engagement. A general website tour is supported for visitors to the museum website. In addition to this standard experience, a botanical and historical tour can be taken. For the botanical and historical layers depicted, the layered maps support differentiated experiences in a digital wayfinding environment, which is particularly important for users not able to be physically present at the site. Historical documents supporting the grounds, layout, such as documents

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regarding the original plant orders, are presented alongside the landscape at that time. Both the physical and virtual experience of the site is enhanced, depending on the pathway selected by the user through the digital material presented. Contributions of this research include a methodology for digital wayfinding design at other physical locations and lessons learned regarding best practices in developing discrete information layers for traversal by differentiated user communities. Overall, interest in visiting the actual museum increased by 15 percent after users completed the digital wayfinding experience.

**Research Supported by: Students Partnering with Faculty STEAM Initiative, Kean University**

### LAURA MOREJON, VALENTINE HONUTSE AND BRIANA ROSADO

**Faculty Advisor: Juan J. Li**

#### Convolutional Neural Networks for Molecular Structure Recognition

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In this project, we will study convolutional neural networks and their implementation in python and TensorFlow. We also collect images of different molecular structures and train the AI agent to recognize them. If successful, we will be able to use this AI agent to recognize new molecular structures and put them into various categories. This is the first step towards automating chemistry experiments. Currently, automatic molecular structure recognition will help with the teaching and learning of chemistry experiments. Our project is in the proposing stage and we expect more work to be done by the time of presentation.

**Research Supported by: STEMpact, a cooperative project between Union County College and Kean University, U.S. Department of Education Title V grant**

### SYED NADEEM

**Faculty Advisor: Ching-yu Huang**

#### Data Analytics and Visualization in Cybersecurity

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Cybersecurity is receiving more attention these days because an increasing amount of hackings are being reported. One way we can show this is through visualizations. Log files on servers keep track of all the users that have accessed the server by logging information such as an IP address, timestamp, and protocols used to access. Charts and graphs can help get a better understanding of the security log files better than attempting to read the raw data. The IP addresses can be used to track the location of the machines that are trying to connect to the servers. A third-party geo-locating API is available to use to match IP addresses to identify location such as city, region, country, latitude and longitude. Then, Google Maps API can be used to locate the IP addresses on the map based on the location given. This research is to study how to visualize the unauthorized access attempts on the servers by extracting the user data from the log files that were collected from three servers over nearly two months.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### AMBER OWENS

**Faculty Advisor: Juan J. Li**

#### Artificial Intelligence and Related Concepts and Algorithms

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This paper presents a comprehensive interpretation of Artificial Intelligence (AI) related research on neural networks. By definition, AI is a general term that implies the use of a computer to model intelligent behavior with minimal human intervention. The main goal is to reach human level intelligence. Some AI researchers such as Nick Bostrom, believe that AI may never reach this goal. However, other researchers believe that there has been successful progress in the development of AI, and it may reach human intelligence sooner than we think. Artificial intelligence is more than just the prevalent image of human-like robots. It can be seen in the progression of medicine and the reduction of crime. For example, researcher Philip Kenny designed an app Lifeline device that detects life-threatening conditions. AI isn't a single term in itself however, it can be broken down into multiple terms such as neural networks of machine learning and theorem proof of logic. AI is not a basic interpretation, but a variety of actions ranging from game playing to machine learning and theorem proving.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### MITAL PATEL

**Faculty Advisor: Kazi Zunnurhain**

#### Fog Computing

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Our research investigation in this project was on fog computing: About what is fog computing, its application and architecture. Fog computing is the middle layer between cloud computing (server end) and IoT devices located at the edge of network. We also highlight the major differences between cloud computing and fog computing in relation to data access and security. In our research endeavor we also observed the importance and benefits of fog computing in daily activities such as smartphones, cars, traffic signal cameras, health care data monitoring and more. Cloud computing has been serving us as an efficient and economical way to process and store data but there are several challenges that need to be addressed immediately. Some of those challenges are scarcity network bandwidth and real-time data processing without any delay, high cost of data access and data backup. Since fog computing is comparatively closer to the end user than cloud, those issues can easily be addressed and minimized with private or local data processing unit and storage units in the fog layer. Hence using fog layer, access control and encryption we have proposed a solution for data processing and accessing between IoT devices and cloud with privacy and security with minimal latency and optimum usage of bandwidth.



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### **VAIBHAV PATEL AND PRESNIR J. SENAT**

**Faculty Advisor:** *Daehan Kwak*

#### **User Interface for Mobile Navigation Apps**

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In today's world, we need reliable navigation systems that lead us to our destination quickly and efficiently. Using mobile navigation applications, the Estimated Arrival Time (ETA) is the most important factor considered while traveling. In addition, the most important thing in the navigation apps is its user interface (UI). The UI features of the navigation apps must be organized in a user-friendly way, as safety is vital. Those features may include steps in adding addresses, selecting between multiple routes, avoiding tolls and switching between routes during the travel. In this study, a comparison of the UI for different apps with their features such as route switching during travel, statistical data visible onscreen, number of steps until navigation starts, traffic alerts, and toll alerts are analyzed. Currently, the main deciding factor to decide on a route are based on ETA or distance. Therefore, in addition, we propose a new UI to supplement ETA by showing the range of the ETA on routes (i.e., variation). A user study was conducted in which 25 participants completed a questionnaire. The purpose of this questionnaire was to gain demographic information about the users' see their navigation app preferences; and to see if the proposed UI using the ETA range was useful.

### **VICTOR RAMOS**

**Faculty Advisor:** *Ching-yu Huang*

#### **Interactive Data Visualizations in Tableau**

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Data visualization is considered one of the most promising trends in the field of computer science. It delivers abstracted and integrated data in real time from different sources to multiple platforms and users. Tableau, a high-demand tool that has a very intuitive user interface will be adopted to emphasize on the usage and benefit of data visualization. This tool is very useful in drilling down data, creating insightful reports and garnering actionable business insights. This study will spotlight the importance of data visualization and several examples will be used to demonstrate why this discipline has become a standard for modern business intelligence. This study also will examine various data visualization techniques and integrate them for data mining on social networking data.

### **AAMIR RASHID**

**Faculty Advisor:** *Ching-yu Huang*

#### **Sentiment Analysis on Consumer Reviews of Amazon Products Data Sets**

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Our main goal here is to do sentiment analysis on consumer reviews of Amazon Products using different machine learning techniques by using Python programming language

and APIs, and also analyze these data sets using the Tableau data visualization tool used in the Business Intelligence Industry. This will help in simplifying raw data into a very easily understandable format. Data analysis is very fast with Tableau and the visualizations created are in the form of dashboards and worksheets. Our research also focus on finding a method to visualize this Amazon Product Data Sets because Tableau provides many different ways to visualize data and discover insights into consumer reviews and assist with machine learning models.

### **AAMIR RASHID AND VAIBHAVKUMAR PATEL**

**Faculty Advisor:** *Jing-Chiou Liou*

#### **Small-Business Customer Relationship Management (CRM)**

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This is our graduate capstone project. Our goal here is to design and implement a customer relationship management (CRM) system that help and supports small businesses to manage their relationship with customers since there are many CRM systems available that are very good for large businesses (also called Enterprise CRM) that's why we focus on developing a small-business CRM that will be easy to use and maintain and fit into a small business budget unlike a large-business CRM that contains more detail and complexity and costs a lot for maintenance and requires proper training to use it. Large organizations always have IT departments that train employees how to use the system and do maintenance, while small businesses can't afford to have an IT department due to having an insufficient budget. So we propose a small business CRM system to solve all these problems for small-businesses, which will increase business revenue and also maintain a strong relationship with their customers. Technologies that we will use for this project are PHP/MYSQL for back end and HTML, CSS and JAVASCRIPT for front end development. All our databases will be on imc.kean.edu and will be running on eve.kean.edu. There will be three main users for our system.

### **JOSE RODRIGUEZ, EVELYN MORAN AND HENRY PIEDRA**

**Faculty Advisor:** *Daehan Kwak*

#### **A Novel Web-based Interactive Visualization Flow Chart for Academic Course Planning**

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Course planning and registration to fulfill all the necessary requirements for graduation without encountering delays and ensuring courses are taken in correct order is vital to student success. It is a challenging task for both the student and the academic advisor as there are numerous factors to consider: selecting too many or few courses, taking unnecessary courses, failing to meet minimum requirements, receiving academic warnings, unsatisfying prerequisites, not being familiar with alternate semester course offerings and advising errors are a few. There are existing solutions such as web-based course planners, paper-based graphical charts and recommended course sequence plans to make course planning easier. In addition, more



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complex systems using AI to automate advising are also attractive solutions; yet the problem arises due to student lack of knowledge on why and what courses are important. In this research, we develop a novel web-based interactive visualization flow chart for course planning in which students can easily plan courses by moving shapes that represents courses that are connected by arrows that represent prerequisites. The connected arrows ensure courses are taken in order.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780; Research Recruits program, Quality First Initiatives (QFI), Kean University**

### LUIS SANCHEZ

*Faculty Advisor: Mira Franke*

#### Robot PI

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This project involves combining hardware and programming skills to build a Raspberry Pi-controlled robot. We built the robot body from plastic, and used common electronic and hardware parts for the main robotic components. The code to control the robot is written in Python. The outcome is a wireless computer-controlled robot vehicle that contains a working ultrasonic distance detector.

### MATTHEW SEESSELBERG AND ISABEL MORAIS

*Faculty Advisor: Daehan Kwak*

#### Do People Take the Fastest Route? An Empirical Study

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Public and private sectors continue to massively invest in Intelligent Transportation Systems to reduce traffic congestion and provide sustainable environments. Numerous solutions exist to mitigate traffic congestion and among them, the most prominent is real-time GPS navigation apps that recommend the fastest route. The pervasiveness and effectiveness to reduce traffic for such services dominantly rely on the users' compliance (i.e, decision to follow the recommendation). However, transportation behavior literature reported that commuters tend to neglect such recommendations. The reliability of traffic information, irrational decision-making, drivers' habit, and perception that drivers believe they are better route planners are some reasons of low-compliance behavior. Few studies on compliance with route recommendations have been reported; thus, in this research, we conduct an empirical study to assess the compliance and behavior of real users' route choices. To reveal the users' chosen route, we developed an Android tracking application using Google Maps API for participants to input their desired destination. The actual driven route is segmented into an array of waypoints and polylines, which is compared segment-by-segment to the recommended fastest route.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### THAYSSA SILVA

*Faculty Advisor: Juan J. Li*

#### Investigation of AI Generative Adversarial Nets for Automatic Report Generation

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In this study, we will investigate and build an AI agent using Generative Adversarial Neural Network (GAN). We will try to train the AI agent with prior reports and have it generate new reports autonomously. I will evaluate the generated reports by comparing them with human written reports.

### HEMA SIVARAMAN

*Faculty Advisor: Daehan Kwak*

#### Traffic Data Analysis and Visualization

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The number of people using smartphone navigation apps has increased consistently over the last decade making, them one of the most commonly used apps. The Manifest survey found that "77 percent of smartphone owners regularly use Navigation apps." People use navigation apps more when compared to in-car GPS navigation systems. Information stored in such systems may be inaccurate and outdated as they do not continually update themselves. As a result, people are switching to smartphone navigation apps. Thus, in this study we analyze and visualize different smartphone navigation apps in terms of recommended routes and Estimated Time of Arrival (ETA). Traffic data collected for 71 days on four online maps from two major cities in United States (New York City and Los Angeles) were used. We analyze and visualize the different recommended routes and ETAs, in terms of weekdays, weekends and time of day given by the four different online maps. The data set indicates that ETA is most variable during peak hours among the online maps. The findings in our case study for New York City and Los Angeles are helpful to shed light among the differences in smartphone online maps and to get an understanding on travel time variability and different routes that are recommended.

### KEVIN TAPIA

*Faculty Advisor: Juan J. Li*

#### Visualizing Neural Networks for Pattern Recognition

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Understanding how a machine learns is a pressing topic as machine learning becomes more complex enabled by more powerful computers. This paper presents a visualization of neural networks to make them trackable during the operation of learning for pattern recognition, as well as testing for patterns. Specifically, our implementation includes fully connected neural networks, convolutional neural networks, and networks with memories. This will help us

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understand the insight of neural networks for pattern recognition to ensure full human control of the machines and to eliminate the public's concern of the recent leap in AI and machine learning. The visualization also helps to measure and identify performance bottleneck for future improvement.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### KEVIN TAPIA, REUBEN HERNANDEZ AND AMRITA SHELAR

**Faculty Advisor: Ching-yu Huang**

#### A Web-based System for Mining Images and Classification

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This research focuses on developing an online system to mine, classify and manage images. The system being improved on has a web-based Graphic User Interface for users to upload images under our login system. The functions that are being developed and improved on are: our facial recognition algorithms that utilize a framework called TensorFlow that allows such implementation. The goal is to have these functions perform in real-time. Thus, if the uploaded image can be recognized and classified, the system will display the image information. If the uploaded image cannot be classified, the user can enter and save image information to the collection in the back-end database server. Data mining is becoming more important, not only in computer-related fields but also in many other industries. Data mining can be grouped into two categories – texts or binaries such as images, audio, and video. Mining images is much more challenging than mining text because an image is formatted in a 2-dimensional binary format and could be easily distorted by the resolution, quality, and colors. However, for the computer to mimic and visualize human daily life, automated image classification and management are very important.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### DIEGO VALERIO

**Faculty Advisor: Mira Franke**

#### IP Radio Project Management Case Analysis

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I will present a case study analysis from my experience as an IT project manager for an IP radio system I worked on for the NBA (National Basketball Association). In the context of both successes and failures, I will discuss the process of managing the plan, as well as organization and accountability, to achieve the NBA's information technology goals during both 2017-2018 and 2018-2019 seasons. My analysis will include the management process, as well as comparing and contrasting two different seasons of managerial work experience. I will describe my discovery of what it means to manage an IT project, common challenges faced in two different seasons, tips I learned to make the next IT project a success, and things to avoid for preventing future failures.

### JOSE VARELA

**Faculty Advisor: Ching-yu Huang**

#### Interactive Security System

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The expense—in cost and man hours—that modern security solutions require for deployment presents a challenging scenario for IT professionals. For this project, a lightweight, expandable and easily configurable security solution was developed. The security visualization system created is equally usable for analysis or gathering supporting information for a bigger security project. The interactive front end periodically refreshes with the latest information from system-generated logs gathered by the back end about the security position of monitored systems. Software dependencies of the system are included in the package managers of all common GNU/Linux distributions, simplifying deployment. The software developed consists of three main separate components: parsers, a database and a dashboard. The PHP parsers are triggered by inotify to add information to the database. D3.js and Vue.js are used for the dashboard to create a single page application capable of generating appropriately sized visualizations from data in the database. Users can also directly query the database from the application. The tool is capable of indicating anomalies in network traffic, allowing IT professionals to respond in a timely manner to an incident while providing documentation of requirements to management.

### TAO YAO

**Faculty Advisor: Kazi Zunnurhain**

#### iOS Mobile Application on School Field Management for Student

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Nowadays, with the popularity of mobile phones and various smart devices, users are no longer satisfied with making reservations for sports venues in the clubhouse or in the municipality office. Our app can be used to check the available venues for a school, college, university or even a park. An interested party can register, book, and also cancel a reservation on this phone app. Our goals are easy access and better management of the school and municipal park playing fields. As an example, a school's basketball court can be available from 9.am to 6.pm, and interested students can register for an account and reserve a basketball court. Once the venue is reserved, no one else can use the court. But they can wait in the queue until the court is available again.

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### YUNHAO ZHANG AND YANXIN ZHOU

*Faculty Advisor: Ching-yu Huang*

#### Generating a Group Pictures with Specific Theme via Generative Adversary Nets

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The primary goal of this project is to utilize the concept of GAN (Generative Adversary Network) to generate a group of artificial images, which are expected to give the realistic view to human eyes as the final goal. The fundamental concept of GAN is to make a pair of rival-like neural networks, Generator as G and Discriminator as D: G generates artificial pictures and passes the detection of D. Meanwhile, D tries to distinguish those pictures from real ones and then makes G to refine them. The whole process will be stopped when the D cannot determine that pictures made G are different from real pictures. Our methodology is to collect images with the same theme (human portrait, photos of dog, etc.) and develop a primitive structure of GAN as our first phase. Second, the collected images will be used to train the GAN. The third-part support tools (Tensorflow, Numpy or Keras) will be adopted to do the training at this point. Finally, different final images with different training rounds will be used for comparing the quality. In addition, other methods will be explored to improve the quality of final images.

#### COUNSELING

### JENNIFER KELLY

*Faculty Advisor: Adrienne D. White*

#### The Real Happy Meal: Nutrition Is Key to Mental Health!

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Proper nutrition is vital to living a happier and healthier life. However, despite the significant research surrounding the link between nutrition and health, little attention has been given to the connection between nutrition and mental wellness. This literature review aims to show the combined benefits of foods, herbs, and supplements on decreasing the symptoms of mental health conditions such as depression, anxiety, and ADHD. The results highlight the need for collaborative care between mental health and physical health providers.

### YESSE PUELLO

*Faculty Advisor: Robert Kitzinger*

#### Barriers to Seeking Mental Health Services Within the United States Hispanic/Latino population

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The underutilization of mental health services by members of the Hispanic/Latino community has been a growing concern in the United States. The rapidly growing the Hispanic/Latino population calls for appropriate multicultural counseling services. This research examines the barriers to seeking mental health services within the Hispanic/Latino population and methods on reducing these limitations. Areas such as socio economic and cultural considerations and accessibility are delved into through previously conducted research. A review of existing research found that increasing accessibility in terms of language and socio-economic factors and providing culturally appropriate practices increases the acceptability to seek counseling within the Hispanic/Latino population.

#### COUNSELING AND SUPERVISION (PHD)

### JENNIFER DIXON

*Faculty Advisor: Jane M. Webber*

#### The Efficacy of Yoga as a Complementary Mental Health Treatment

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Can yoga be used as an effective mental health treatment modality? Though multiple empirically validated mental health treatments incorporate mindfulness, only recently has yoga emerged as a treatment of interest in the West, showing preliminary efficacy for various psychological disorders. In a preliminary systematic review of the research, several studies were examined. Common characteristics and outcomes were identified, such as using breath and movement to regulate emotional and physiological responses and integrating yoga into a number of sessions, providing an opportunity for physiological and psychological changes to take place. In addition, this nontraditional approach has shown positive results for social connection in clients suffering from trauma and other mental health disorders. As both the medical and mental health fields have recently begun to look at the research on complementary therapeutic treatments, it is important to continue to conduct empirical research studies to validate yoga as a treatment modality with larger sample sizes and greater adherence to scientific theory.

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### JOSE LOWE

*Faculty Advisor: Jane M. Webber*

#### Counseling Modalities to Treat College Students with Post traumatic Stress Disorder

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Attending an institution of higher learning can be a life-changing experience for all types of students, especially students in urban areas with post traumatic stress disorder (PTSD). A preliminary systematic review of the literature was conducted to identify effective counseling approaches with students experiencing PTSD. According to the research, there is a correlation between PTSD and violent behaviors in people living in urban areas. Furthermore, a need to apply different treatment modalities to assist individuals who have PTSD and who reside in urban neighborhoods. Colleges need to be cognizant of urban students who demonstrate signs of PTSD by providing through their Counseling Center different counseling modalities that can assist in the transition into a higher education experience. Such counseling modalities like cognitive behavior therapy, mindfulness, forgiveness therapy, and various coping mechanisms have been empirically demonstrated to be beneficial in reducing PTSD symptoms. Also, the review uncovered new research on the lack of mental health services offered to veterans enrolled at community colleges.

### KAREEM MCKENZIE

*Faculty Advisor: Jane M. Webber*

#### Adolescent Substance Use and Maltreatment: Are All Contributing Factors Addressed?

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Adolescent substance use has emerged as an issue affecting youth in the United States irrespective of socioeconomic status, gender, ethnicity, or environment. However, the identified contributing factors, specifically maltreatment, have yet to be prioritized in the comprehensive assessment of adolescents. In a preliminary systematic literature review, the research on adolescent substance use was examined through the lens of maltreatment and other contextual factors contributing to this issue. Adolescent minorities have been underrepresented in prior research samples; therefore, future research should include an examination of contextual factors relevant to minorities in the United States, such as limited access to treatment, increased risk of experiencing trauma, and fewer resources. The exploration of maltreatment as a contributing factor among minorities may help those tasked with treating adolescent substance use in the United States increase prevention, retention and efficacy in those most likely affected by this childhood and youth trauma.

### ASHLEY MORRIS-DIAS

*Faculty Advisor: Jane M. Webber*

#### Coping Among African-American Women Who Have Experienced Trauma: Cultural Considerations in Treatment

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This review examined the literature to explore reasons why African-American women have been more reluctant than other cultural groups to enter therapy. While it was found that the numbers of African-Americans who enter therapy continue to rise, there are still persistent stigmas that make therapy an unthinkable option for women in resolving mental health concerns. The steps of this review were to (1) identify reluctance in treatment seeking among African-American women, (2) understand the reasons for reluctance in the African-American community, (3) explore how African-American women deal with their mental health, and (4) understand cultural factors in order to help break the barriers to professional help seeking and treatment. An important theme surrounding African-American women and their reluctance to enter therapy includes cultural norms that have been instilled into African American thinking for generations. While much of the literature suggested an increase in cultural awareness and competencies, research lacked recommendations on making treatment seeking more appealing and methods for instilling cultural practices and rituals into treatment.

### WILSON WAI BONG NG

*Faculty Advisor: Jane M. Webber*

#### Emergency Medical Services: How Does the Job Affect Mental Health of EMS Providers?

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Emergency Medical Services (EMS) providers, including Emergency Medical Technicians (EMT), paramedics, and other first responders, have significant rates of mental health issues compared to the general population. While providing essential services to public safety, quantitative research indicated the presence of a number of mental health issues in the EMS community, including post traumatic stress disorder, critical stress, depression, and anxiety. This study explored factors that affect mental health issues among EMTs and paramedics, such as responsibilities and expectations of EMS providers, the stressors of the job and the culture of the profession. This exploratory study was conducted using phenomenological methods with collected stories, lived experiences, observations and personal reflections. The goal was to raise awareness of mental health issues among EMS providers, and to address factors that affect their well being as well as the essential work they do.

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### **CAMILLE PARKER**

*Faculty Advisor: Jane M. Webber*

#### **A Preliminary Exploration of Trauma, PTSD and Substance Abuse**

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A preliminary systematic literature review suggests a strong association among trauma, PTSD and substance abuse. Furthermore, relationships between types of trauma and types of substances abused were found in research studies. The results of a 1995 epidemiological study indicated that individuals are as much as six times more likely to develop substance use disorders based on a PTSD diagnosis. Researchers exploring the efficacy of integrated treatment found positive outcomes. While some studies suggest programs providing integrated treatment options to be effective in reducing PTSD symptoms, substance use cravings, and substance use, a 2012 meta-analysis study found integrated treatment and non-integrated treatment equally effective in reducing trauma and substance abuse. Overall, future randomized controlled trials and other research are needed to identify best practices to address trauma symptoms and substance abuse.

### **EURICA PINTHIEVE**

*Faculty Advisor: Jane M. Webber*

#### **A Problem with a Name: Adverse Childhood Experiences and their Implications on Sexual Aggression**

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This literature review examined the existing literature of the relationship between adverse childhood experiences and one's propensity for sexual aggression. This author investigated the application of developmental theories, such as social learning theory and attachment theory, as it relates to the sexually abused-sexual abuser hypothesis that posits that male sexual offenders may have a higher propensity to sexually abuse as a result of their own victimization during childhood. Additionally, evidence suggests that male sexual offenders who have been sexually victimized may maladaptively cope with their trauma through imitative behaviors of their abusers. However, contradictory research questioned the validity and reliability of this hypothesis due to over-reporting of sexual offenders and polygraph testing results. Literature supports that male sexual offenders experience adverse childhood experiences through emotional abuse, physical abuse, sexual abuse, child maltreatment and abandonment deficits in comparison to their non-sexual offending counterparts.

### **CYNTHIA POVALL**

*Faculty Advisor: Jane M. Webber*

#### **How Trauma Affects Student Learning and What Schools Can Do to Help**

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In order to understand trauma and its impact on learning, clear definitions of constructs are needed including trauma, childhood trauma, protective factors, resiliency and adverse childhood experiences. It is important to understand how these factors affect student learning, as well as what prevention and intervention approaches schools can implement to assist students affected by trauma. A review of professional literature, websites, and reports by government agencies and nongovernmental organizations was conducted to determine common elements of definitions of the above terms, how trauma impacts student learning and what schools can do to assist these students. Analysis of recent literature showed that trauma-informed schools provide environments that allow for more effective learning for those students affected by trauma.

### **MAXIMINA RIVERA**

*Faculty Advisor: Jane M. Webber*

#### **Effects of College Interventions on Academic Progress of Students After Attempted Suicide**

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Do college resources and interventions reduce the impact of attempted suicide on students' academic progress? A preliminary systematic review of literature and related research was conducted to determine the impact of attempted suicide on college students' academic progress, and to identify interventions that assist students after attempted suicide. Also reviewed were possible causes of attempted suicide, resources, and recommended strategies/protocols that support students after an attempted suicide. The review found that college students who experienced a trauma, specifically an attempted suicide, were more likely to demonstrate lower academic performance in college. Accommodations such as extended assignment and exam deadlines, flexibility with the absence policy, and grade adjustment reduced stressors for the student and provided the support necessary for successful academic progress. Collaborative initiatives with various college offices and case management, provided direct assistance and oversight to ensure the student's progress in the classroom. This preliminary systematic review is important because it found available resources for college students who had attempted suicide and returned to the classroom, identified faculty roles, and established needs for training.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### DESIGN

#### DEANA ABDOU

*Faculty Advisor: Denise Anderson*

##### Healthlete: Educating Student-Athletes on the Benefits of Healthy Living

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Student-athletes struggle to maintain a healthy lifestyle. Juggling school, athletics, work and the pressures to succeed makes it challenging to stay balanced. Research shows that student-athletes dedicate an average of 50 hours per week to their sport during a season. This time commitment affects them mentally and physically, which can result in a lack of sleep, mental fatigue, and poor eating. To combat this problem, “Healthlete,” an app focused on tracking aspects of healthy living, was created to reduce the potential health risks associated with overworked student-athletes, off and on the field.

#### ALLYSON ADAMS

*Faculty Advisor: Efecem Kutuk*

##### Portable Water Pack

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Agio is a sports vest meant for the average runner. It features a retractable hose to make sure it is out of the way while on a run. For women the head of the hose would be hidden with a picture of a rose, while for men it would be hidden with a company logo. Agio also features a water pack in the back that can hold up to 1.5 L. The interior of the product will have cooling pads along the back, sides and front. Pockets are also available to hold the rest of the runners necessities such as keys, phone, ID, etc..

#### JACOBO ARISTIZABAL

*Faculty Advisor: Denise Anderson*

##### Stinky Words: Educate Adults on How Words Affect Others.

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Studies show that 7.4 million children were abused in 2016, with many of them victims of verbal abuse. Of these children, 30 percent of them will go on to abuse their own children. How can we stop the cycle and spark healthier relationships between adults and children? Negative words “stink” and can destroy relationships, while positive words empower, equip and elevate stronger connections. “Stinky Words” was created to increase social awareness about verbal abuse toward children and educate adults about the negative impact of words.

#### AMANDA ATSMA, LAKEISHA HUMPHREY, ARIEL JACK AND JULIA ROMEO

*Faculty Advisor: Saglinda H. Roberts*

##### Designing Public Spaces: RVR/WRT - Roselle Park

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Designing Public Spaces is a Michael Graves College joint project between its two campuses; in Union in Kean USA and Wenzhou-Kean University in China. It aims to mobilize Michael Graves College multidisciplinary expertise in Architecture, Graphic Design, Interior Design and Industrial Design in order to improve the living environment of the community. The projects are organized around two main infrastructures: the Raritan Valley train line in New Jersey that links Kean University to New York, and the centuries-old Wenrui Tang River network that links Wenzhou-Kean University to both Wenzhou and Ruian. For the Raritan Valley line, the sites are chosen around the train stations. The projects for each site will try to improve the quality of the public space through a specific design intervention (architecture, landscape, urban design, public signage system and so on). The poster will examine the Roselle Park station from a performative, experiential and cultural way to discern a holistic solution that improves the public space, encouraging more reliance on public transportation and making the train station a landmark and culturally important structure within the neighborhood.

#### AMANDA ATSMA

*Faculty Advisor: Saglinda H. Roberts*

##### Blue Water Correctional Facility: Women’s Prison Rehabilitation

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Prisons should be a place of rehabilitation and improvement, and by applying this idea to design, we can reduce recidivism, improve the mental well-being of prisoners and reduce the stigma of prison life. Blue Water Correctional Facility in Ionia, Michigan, is a campus women’s prison focused on the rehabilitation of its prisoners to reduce its recidivism rate. The recidivism rate will be reduced by creating a place that uses aesthetics, expanded education, and emotional support to fix deeply rooted problems of inmates and improve behavior. By researching and studying behavioral health, current prisons and biophilia, the increased access to nature, daylight and dignified spaces will help inmates have a positive psychological environment. The education facilities, both vocational and classrooms, will prepare prisoners for career and employment readiness upon their release. I learned how to design for those in an impaired psychological state, what parts of design affect our psychological state, and effective and interesting ways to design with biophilia.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **RYAN AZAR**

**Faculty Advisor:** *Jobeth Ian Bobee*

#### **Jet: the Water Bottle That Keeps Going**

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How do you make a better water bottle for short-distance running? Jet is a sports water bottle made of a lightweight material that can be recycled, is ergonomic and is convenient for those who enjoy exercising. This product was developed through interviews with a triathlete and 3D software. The research showed size, ergonomics and materials as design opportunities for this product. The water bottle got smaller and a squeezing feature was added for more convenient drinking on the run.

### **MICHELLE BARRUETO**

**Faculty Advisor:** *Denise Anderson*

#### **Hero Tales: Little Hands, Big Voices, Super Stories**

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Research shows that when children enter a hospital to manage an illness, they can experience emotional, behavioral, or mental health changes. Hero Tales is an organization created to give hospitalized children a voice through creativity. Through the use of art, therapists translate each child's story into a comic book where they can feel like a superhero!

### **MICHELLE BARRUETO, ALYSSA LEANO AND JACOBO ARISTIZABAL**

**Faculty Advisor:** *Christopher Navetta*

#### **Paper Mill Playhouse**

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The Design Studio Practicum (DSP) was challenged with visually communicating an eight-decade legacy of the performing arts in a single experiential exhibit. During the Fall 2018 semester, Paper Mill Playhouse (PMP) in Milburn, NJ, sought out the DSP's creative services for their new, in-house exhibit celebrating their 80th anniversary. The project gave the DSP students the opportunity to conceive and realize a large-scale design project for a real client, providing valuable professional experience not often afforded in a regular classroom setting.

During the Fall 2018 semester, the students pitched two design concepts to their executive team, both extremely well-received. After the winter break, the Director of Communications reported that a design direction was chosen, and that they would seek funding for it to become a reality. The research process included meeting with our client on location, experiencing the space under different circumstances (populated/unpopulated), listening to the director/staff speak about the theatre and all they have to offer, and being audience members for performances. But it was the extensive research into the storied history of the PMP that was the guiding force in the design solutions. Visually communicating the legacy of all that had come before, and how the past continues to influence the PMP was paramount. Once the

design was approved, we began to work closely with vendors to consider production and the best economic and environmental solutions. As this is an ongoing project, we look forward to seeing our vision come alive each phase at a time.

### **LUKE BERGAMASCO**

**Faculty Advisor:** *Denise Anderson*

#### **Detach: Reducing Social Media Addiction in Millennials**

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Studies show there is a direct correlation between an increase in social media usage and depression and anxiety in Millennials. Addiction to social media channels such as Instagram, Twitter, and Facebook has proven to lower self-esteem and increase anxiety in 18-22-year olds. Detach is a website that introduces "skill-based toys" that are objects used for dexterity play and for having fun. Research endorses that skill-based toys increase focus, enhance self-esteem and improve hand-eye coordination. With a distraction away from social media, Millennials will occupy their time perfecting a new skill that will improve their self-esteem and limit their screen time on social media.

### **SAMANTHA BEURER**

**Faculty Advisor:** *Denise Anderson*

#### **Travel in Pink: Providing Comfort to Breast Cancer Patients and Their Caregivers**

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Even with all the advancements in breast care, there were over 300,000 new cases of breast cancer diagnosed in 2018. Along with the diagnoses, people suffer from additional side effects that make them uncomfortable, such as body temperature changes, lack of energy, ability to be independent, and being stuck at home. Many patients and their caregivers have a hard time coping with treatment and recovery, which can lead to depression and anxiety about how to take care of their daily lives and the medical changes that come from surgeries, chemotherapy, and radiation. Travel In Pink was created to support breast cancer patients and their caregivers by providing daily life necessities and support in their healing process.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **MICHELLE BOTELHO, NICHOLAS KEATING, BRIAN LARNEY, ADAM OATES, ANJALI PARMAR, JESSICA SWINGLE, SABRINA TAN AND ALEJANDRA VIDAL**

*Faculty Advisors: Christopher Navetta and Dawnmarie McDermid*

#### **story in a Bottle**

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To design an exhibit that showcases a recent discovery of a wine collection from the 18th century, containing bottles dating back to 1796. Discovery of one of the largest collections of early Madeira has gained worldwide attention and brings visibility to Kean University. The method that is being used begins with brainstorming, researching, designing, editing and finally, production. We as designers have the rare opportunity to collaborate with our client, Liberty Hall and the chosen PR firm Colangelo & Partners. This real-life project is something we would never get to work on within a normal classroom setting.

### **JOSEPH BROOKS**

*Faculty Advisor: Jobeth Ian Bobee*

#### **The Redesign of a Modular Flower Pot**

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The project examines and compares the material properties of concrete to that of ceramic for the design of modular flower pots. The research was conducted by looking at material data, by prototyping and testing designs through hand sketching and 3D software. The results of the research indicated that ceramic is a better material to use for the manufacturing of modular flower pots.

### **CARLOS CARRILLO**

*Faculty Advisor: Jobeth Ian Bobee*

#### **Using Generative Design Technology to Explore Weight Reduction of a Product Component**

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This project looked to reduce the weight of a service dog's equipment and explored the benefits of Generative design software. This software is often used to reduce material and keep structural integrity within a high-performance product. Using the software, many materials could be simulated and tested for strength, while generating shapes with reduced mass.

### **EDUARDO CARTAGENA**

*Faculty Advisor: Jobeth Ian Bobee*

#### **Exploration into the Portable Kettle**

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This research project consists of a dive into what makes the best portable kettle/thermos. Primary and secondary research was conducted on users to find common pain points and ways to improve the kettle or thermos. This led to a list of features later implemented in an original design at the end. This encompasses the main ideals behind product design and development and industrial design as a whole.

### **ANTHONY CULLINGTON**

*Faculty Advisor: Jobeth Ian Bobee*

#### **Kitchen-Krew Utensil Set**

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The average round kitchen table is around 36" to 44" inches in diameter, and in many cases seats four or more people. Overly sized cooking and serving utensils can become an inconvenience in these situations due to the amount of free space available. This utensil set uses the idea of "active rest" to be conveniently placed while in or out of use. The design of the neck and handle of the utensil allows for placement on average cookware while waiting for use or in-between use. This design features three different detachable handles to allow the user to change sizes based on the current need. A storage base is also included in the unit to aid in easy access to handle and head attachments.

### **MICHAEL DANIEL**

*Faculty Advisor: Jobeth Ian Bobee*

#### **Dual Pan**

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How to save space in the kitchen and reduce household dishes. By researching the kitchen goods market, an opportunity was found for a new product. The Dual Pan is a pan that allows the consumer to cook two things at once because of its mid divider and has a multiuse lid. All of this allows for space saving when cooking and avoiding extra dinnerware cleanup.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### ALEXANDRIA DOMINICK

**Faculty Advisor:** Denise Anderson

#### Project Athena: Conducting a Colorful Future

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Due to budget cuts, many public schools have lost or experienced declines in funding to provide K-12 art classes. Project Athena was created to partner college students with low-income public schools to provide art, music, theater, dance, and other arts-related classes or activities for the students.

### LIAM ELIAS

**Faculty Advisor:** Edward Johnston

#### LIBERTY HALL 360

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*Liberty Hall 360* is an immersive experience of the historic marriage of John Jay and Sarah Livingston at Liberty Hall Museum on Kean University's campus. The film uses 360-degree virtual reality technology to immerse audiences in the 18th-century world of colonial New Jersey. To bring the story to life, our creative research team assembled a team of actors, historians, designers and filmmakers. The cast includes Kean University students, members of the local community, and reenactors from the Third New Jersey Regiment, Brigade of the American Revolution. The character of William Livingston is played by Danny Schoch, a professional stuntman and actor in the TV shows *Gotham* and *Law and Order*. We successfully tested SVU. 360-degree video footage on Oculus Go VR headsets for both the Samsung VR and YouTube VR platforms. Also, we tested the widescreen version of the production on the new multi-projection system in the North Avenue Academic Building auditorium. The *Liberty Hall 360* project now supports the MakeHISTORY@Kean Grant, externally funded by the National Endowment for the Humanities.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### LIAM ELIAS AND MICHAEL RATTI

**Faculty Advisor:** Edward Johnston

#### Usability Testing on the NJ Transit App-Designing Public Spaces: RVR / WRT Project

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Designing Public Spaces (DPS) is a Michael Graves College joint project between its two campuses: in Union in Kean USA and Wenzhou-Kean University in China. It aims to mobilize Michael Graves College multidisciplinary expertise in Architecture, Graphic Design, Interior Design and Industrial Design in order to improve the living environment of the community. The projects are organized around two main infrastructures: the Raritan Valley train line in New

Jersey that links Kean University to New York, and the centuries-old Wenrui Tang River network that links Wenzhou-Kean University to both Wenzhou and Ruian. For the Raritan Valley line, the sites are chosen around the train stations, for the Wenrui Tang River they are chosen along the river, depending on the needs and the interest of the environment. The projects for each site will try to improve the quality of the public space through a specific design intervention (architecture, landscape, urban design, Public signage system). As part of this project, our student research team under the direction of Professor Ed Johnston has organized a survey and usability test on the current NJ Transit app, specifically related to the user experience on the Raritan Valley Line. This poster presentation will share the results.

### LAUREN FERRARO

**Faculty Advisor:** Saglinda H. Roberts

#### Japanese-Inspired Eco Hotel-Tokimasu

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Thesis Statement: Redefine sustainable design by creating a property capitalizing on South Florida's historical Japanese origins to exemplify beauty, tranquility, simplicity, and biophilic influence along with energy efficiency and sustainable materials. Project Goal: To understand client and occupants needs and explore health safety, physical function, sustainability, well being, and behavioral changes. Methods: Researched case studies and previous projects using evidence based design and sustainable strategies Project Narrative: The Art of Traveling Green My project exemplifies Japanese form by reflecting the traditional Zen philosophy inspired by the simple, natural essence found in minimalist architecture and design. This form has a direct attention to nature, the sea, and gardens. To add to the beauty of Japanese design, Tokimasu incorporates sustainable features such as passive ventilation to reduce AC use. It also features natural materials, a rooftop garden for views and storm water management, and the hotel is solar powered to reduce dependence on a grid. By enhancing sustainability in South Florida, others can be inspired to decrease their carbon footprint and travel green.

### JAMES FERRETTI

**Faculty Advisor:** Jobeth Ian Bobee

#### On-Campus Point of Interest for Information

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Experts believe depression among college students is on the rise. There are many contributing factors and campus resources are a necessity. However, most students are unable to locate the information they require. There are predetermined locations where information can be found, but they are not known. A system has been designed to display the locations where information can be found. This will enable students to feel more comfortable.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### MONDA GERGES, MONICA MORALES AND AMANDA HAUSER

*Faculty Advisor: Manuel Divino*

#### The Seven Seas Autism Center

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The Seven Seas Autism Center based in Clearwater, Florida, is a center for young adults with autism to learn, grow, and develop important life skill sets. We got much of our design inspiration from the concept of fish. Fish do not have external ears that we can see, although they are able to pick up sounds in the water through their bodies. Therefore, fish can sense movement in the water by the transmission of sound waves and vibrations. Just like fish, people with autism have a much higher sensitivity to certain senses than someone who does not have autism. At The Seven Seas autism Center, we make sure that our specially designed rooms are made for these young individuals to be able to engage their senses through lighting, material, texture, color and sound in a safe manner.

### MICHAEL GIOVANNUCCI

*Faculty Advisor: Efecem Kutuk*

#### P.L.E.D (LED planter)

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Many people enjoy plants for cooking or for decoration in the comfort of their own home. In some areas that have inadequate sunlight, plants have trouble growing. LED lights are a substitute for the light source and plants grow more efficiently because of the LED's low infrared heat lights with blue and red UV rays, which are important in the vegetation stage of plant growth. As a result, plants grow better in LED lighting than traditional lighting and they are more rich in nutrients.

### ANGIE GOMEZ

*Faculty Advisor: Jobeth Ian Bobee*

#### GEO-Bottles

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What can we do to help reverse consuming so many plastic bottles and at the same time stay hydrated with clean and purified water? A multifunctional bottle can be filled daily and reused with filtered water. This is the best option when it comes to environmental protection and sustainability, but it is also a healthier option for your body and your life. While helping the earth's serious pollution problems, this product promotes cleansing and detoxification of your body.

### BRENDAN HALL

*Faculty Advisor: Denise Anderson*

#### Raise: Creating Awareness of Unfair Workplace Practices

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Research shows that employees from a variety of industries and company types feel they are not being treated with respect, and some are afraid to speak up in fear of getting fired. The solution was to create "Raise," an organization that brings awareness of unfair workplace practices and provides a voice for those who are experiencing problems at work. Through a poster campaign and a website, Raise provides education and resources to encourage employees to speak out to their supervisors about workplace conditions and a safe place where employees can anonymously report concerns.

### AMANDA HERNANDEZ

*Faculty Advisor: Edward Johnston*

#### Creating a Meaningful Story Through Animation

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This research project serves to provide insight regarding the design process of creating meaningful stories through animation. This case study accomplishes this goal by actually implementing fundamental design principles to create a short animated composition and documenting that process. The concept of the animated composition is centered around the theme that "hard work pays off." The project's research draws upon several inspirational and informative resources including animated collections, published graphic design authors, and online educational tutorials. While developing the case study's research, detailed records were taken to supply an inside look at the design process behind animating a meaningful story. The literature review selections provide support to this student's animation as well as the implemented design process. This case study provides the reader with an informed account of the creative development of an animated composition.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### LUTHER JEAN-BAPTISTE

*Faculty Advisor: Efecem Kutuk*

#### Injecting Conscious Design and Excitement into Mundane Tools

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I was tasked with finding a tool in need of a redesign. This led me to discovering the inefficient tape dispensers used by "Packer" at fulfillment centers. After some market research, ideation, and prototyping I developed a concept that could possibly increase workflow and the tool's lifespan through a minimal and ergonomic approach.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### ALYSIA KANE

*Faculty Advisor: Denise Anderson*

#### Forget Me Not: Connecting People with Victims of Genocide

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Genocide is defined as the deliberate killing of a large group of people, especially those of a particular ethnic group or nation. Surveys have shown that individuals commonly associate the word genocide with incidents of the past. Current studies show that individuals in today's society have learned only minimal details concerning genocide, with one of the most staggering statistics being that 7 out of 10 people were unable to identify what Auschwitz was. "Forget Me Not" was designed to prevent these events from fading into history and becoming just another event glossed over in classrooms. This organization was designed to connect students with victims of genocide to form personal connections because the impact of one survivor's story can completely change the way an individual looks at the world.

### NICHOLAS KEATING

*Faculty Advisor: Denise Anderson*

#### ReClaim: Recycling Water Bottles to Earn Rewards

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The environment has become littered with human-made waste. One of the most significant contributors to this existence is the \$100+ billion worldwide industry of bottled water. Of the 30 billion bottles purchased in the United States in 2017 alone, 77 percent have landed in landfills, water streams, and the ocean. "ReClaim" is a program created to motivate individuals to recycle water bottles for a cleaner future. The ReClaim program collects water bottles from schools and universities that are transformed into reward points to redeem school supplies. The objective of this program is to move institutions toward the waste-free use of plastic bottles.

### BRIAN LARNEY, MICHELLE BOTELHO, NICHOLAS KEATING, ADAM OATES, ANJALI PARMAR, JESSICA SWINGLE, SABRINA TAN AND ALEJANDRA VIDAL

*Faculty Advisor: Christopher Navetta*

#### Designing Public Spaces [NJ Transit/KeanUSA and Wenrui Tang River Network/WKU]

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Designing Public Spaces (DPS) is a Michael Graves College joint project between its two campuses; Kean USA and Wenzhou-Kean University in China. It aims to mobilize Michael Graves College multidisciplinary expertise in Architecture, Graphic Design, Interior Design, and Industrial Design in order to improve the living environment of the community.

The projects are organized around two main infrastructures: the Raritan Valley train line in NJ that links Kean University to NY, and the centuries-old Wenrui Tang River network that links

WKU to both Wenzhou and Ruian. For the Raritan Valley line, the sites are chosen around the train stations, for the Wenrui Tang River they are chosen along the river depending on the needs and the interest of the environment. The projects for each site will try to improve the quality of the public space through a specific design intervention (architecture, landscape, urban design, public signage, experiential design). Each site will have a faculty member to lead the project and a team of three to five students.

The Design Studio Practicum students have chosen the Borough of High Bridge, NJ for their contribution. The history of High Bridge is an integral part of the borough's personality. Through careful exploration and research into the historical events, architecture and ongoing culture of the borough, we seek to find the ways that design can both enhance and beautify the location and serve to make the railway experience a more pleasant and educational one, all while honoring the history and traditions that make High Bridge unique.

### ALYSSA LEANO

*Faculty Advisor: Denise Anderson*

#### Vote4U: To inform Millennials on voting

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As today's youth grows into responsible adults, it is important that they stay informed of the political climate that surrounds them. Despite being able to influence at least 80 electoral votes, however, statistics consistently show that 18 to 29 year-olds are the age group with the lowest voter turnout rates for every type of election. In order to inspire engagement in the matters that affect them, Vote4U is an app that will provide easily-accessible and unbiased information to the inquisitive voter.

### ADAM LOEFFLER

*Faculty Advisor: Efecem Kutuk*

#### The IMM-OB

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The IMM-OB targets a key point for first responders: keeping a door open. A simple thought, but one that is highly important for their safety. As a field, Industrial Design helps maintain an important flow for product development, plus it allows for free creative thinking that gifts many people the ability to express themselves to the whole world and/or a small part of it. The method used for this project was one of initial partnership with a veteran. This project tackled the specific want of a veteran in an area that they deemed to need improvement. The outcome of this project leaned towards the need for more research with the reason being that the product that was developed through research did not finish testing. However, the IMM-OB did struck true to the need and want of the overall problem and is the perfect solution based off of current test results.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### ALEXA MARTINEZ

**Faculty Advisor:** *Saglinda H. Roberts*

#### Union Design Library

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Building and creating a design library will provide art and design students a place to work professionally on their school projects and feel welcomed in a creative supportive space. By providing the adequate technology, use of natural lighting, materials/finishes library, and professional open studios, students will improve their educational performance in a professional manor in a more adequate space. UDL (Union Design Library) is a project inspired by those students who are design and art majors who don't have a place to work on their project and feel as supported as an English major student feels in a library full of books and all the resources they need. UDL wants to offer the opportunity of an art library to provide all design students the materials, and technological resources to successfully complete their projects in a professional and supportive place. The research included the needs of various design students and the best practices for learning along with creating social connections. I learned how the functional requirements could be combined with beauty to create a space that would attract design students from all majors with the space and facilities to produce the best work possible.

### CHRIS MITCHELL

**Faculty Advisor:** *Robin Landa*

#### VaccineNation

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This is a campaign about the importance of getting vaccinated. Every year, roughly 3 million people die from diseases and illnesses that are proven preventable by vaccines. The majority of parents are undereducated on the subject, leading to an Anti-Vaxx movement that needs to be stopped. Using statistics and facts from the nations, top medical teams, we can inform the public on just how crucial getting vaccinated and being up-to-date on your vaccinations can be. I was able to use facts and graphic design to communicate my message.

### JESSICA MURRAY

**Faculty Advisor:** *Denise Anderson*

#### Pawfessor: When Life Gets Rough

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With all the obligations that college students manage, such as school projects, exams, and relationships, how can they navigate them more effectively? Studies show that stress results from being overwhelmed and is one of the top three health concerns facing college students along with depression and anxiety. Stress can take a negative toll on the physical and mental health of a person and manifest in the form of a lack of motivation and social

withdrawal. Research shows that exercising, sleep and interacting with animals reduces stress. Caring for animals, specifically dogs, gives purpose, involves physical activity and provides companionship. "Pawfessor" was created to alleviate stress in students by giving them an outlet to interact with therapy dogs at their school.

### ROB NALESNIK

**Faculty Advisor:** *Manuel Divino*

#### The Hired Hand: Sustainable Hotel and Urban Farm in Detroit, MI

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The Hired Hand Hotel in Detroit, Michigan is located on Custer Street in the middle of the city's self-proclaimed "Agri-Hood," where there has been a blossoming urban farming movement. Detroit is located in the most food-insecure area in Michigan — Wayne County—where many community members do not have access to fresh fruit and vegetables. The hotel's namesake is inspired by one-off workers who are hired to do manual labor. Embracing that practice, the Hired Hand strives to work for its community. The mission of the hotel is to provide resources and exposure to their associated urban farm located on a connecting plot of land, along with becoming the authority for educating the community on proper nutrition, farming techniques and healthy cooking strategies, all while setting the standard for sustainable design in a developing region.

### CHRISTOPHER NERVEGNA

**Faculty Advisor:** *Denise Anderson*

#### Without A Debt: Educating Students About Financial Alternatives to College Loans

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Research shows that the average college debt of graduates for the Class of 2017 was almost \$40,000. "Without A Debt" was created to advise students on how to graduate debt-free, as well as the long term consequences of student loans. Without A Debt is a program which high school students can access resources to inform them about financial alternatives to attend and pay for college.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### MICHAEL PASCALE

**Faculty Advisor:** *Efecem Kutuk*

#### Convect Cover 5

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I researched the problem with the current splash guards on the market. None of them help cooking; they just block the oils from the food. In coordination with my discipline, it showcases the research, product knowledge and design studies. It is important to my major due to the fact it shows the skills I have learned over the years in Industrial Design. A method I used was researching the methods of cooking along with the current product market for pan covers. I concluded that the cover I made achieves innovation, safety and faster cooking.

### SARAH PETERSON

**Faculty Advisor:** *Saglinda H. Roberts*

#### Tea Tree Shop: Bookstore & Cafe

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Tea Tree Shop is a book/tea shop that will reflect the historic architecture and culture of England and create a gathering point for the community. The research is to better understand the physical function of a space as well as the health, safety and well being. Designers also need to do research on behavioral changes and sustainability. Methods of research used in this project are case studies, evidence-based design, and psychological effects in the space. I learned how to design a historical building but also giving it a modern feel.

### MICHAEL RATTI

**Faculty Advisor:** *Denise Anderson*

#### Popstop: Bringing Awareness to the Negative Effects of Soda

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In 2018, studies showed that over 12 million households in the United States were consumers of soda. Soda causes numerous adverse health effects on the body, and it is essential that people know what these risks are. "Popstop" is a social campaign designed to expose the harmful health effects of soda and to propose alternatives for healthier living.

### MICHELLE REYER

**Faculty Advisor:** *Denise Anderson*

#### Love Bug: Love and Care in a Package

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Being sick is never fun, but research affirms that staying home is the best decision to give the body proper rest to get well. If staying home is the best option, how does one get the adequate necessities to get better? "Love Bug" is a one-stop service that delivers personalized

care packages and supports people who are sick at home. Services include pharmacy delivery, doctor consultations via video chat, and a driving service to pick up food or take you to the doctor if needed.

### ERIKA REYES, ALLYSON ADAMS, RYAN AZAR, JOSEPH BROOKS, CARLOS CARRILLO, EDUARDO CARTAGENA, CARLY CIARDULLO, ANTHONY CULLINGTON, MICHAEL DANIEL, JAMES FERRETTI, KYLE GAEB, MICHAEL GIOVANNUCCI, ANGEE GOMEZ, LUTHERSON JEAN-BAPTISTE, ADAM LOEFFLER, DALLAS MESSINA, MICHAEL PASCALE, RYAN STEVENS

**Faculty Advisor:** *Jobeth Ian Bobee*

#### RVR / WRT Project

How can design add value to a commuter's time spent waiting for the train? Students generated hundreds of ideas through a process that included a site visit, basic research, mind mapping, and an ideation phase. Teams went on to organize and identify opportunities that could benefit riders on the Raritan Valley train line.

### ALYSSA SHAPLLO

**Faculty Advisor:** *Saglinda H. Roberts*

#### Stillwater Harmony Spa: - Luxury Spa

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A luxury spa, to provide a variety of services that improves health, beauty, and stress reduction through personal care treatments. Stillwater Harmony Spa is located in the city of Nashville, Tennessee. It is designed to welcome clients with appealing spaces, treatments, and friendly staff. The spaces have calm, cool colors in the treatment rooms along with the materials and finishes to best live a healthier lifestyle. The spa also houses a manicure and pedicure area and a retail store to purchase spa products. The overall goal is to help people escape their daily mental, physical, and emotional stress. Research is important because it teaches us as designers the understanding of the client's physical function, health safety and well-being. The methods constructed for this project were case studies, evidence base design, sustainability strategies, and neuroscience research. In conclusion, I learned how to design a luxury spa while considering sustainable strategies and how to accommodate the clients.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### RYAN STEVENS

*Faculty Advisor: Jobeth Ian Bobee*

#### A Frying Pan That Works to Prevent the Strain of Arthritis in the Adults of America

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How to design kitchen products for people suffering from arthritis. Designing products for people suffering from a disability can help them maintain daily routines and reduce discomfort. This frying pan was designed with a larger sized-handle. The pan helps fight against the flare up and pain that comes with arthritis.

### KELSEY STRYDIO

*Faculty Advisor: Denise Anderson*

#### Safe and Sound: Bringing LGBTQ+ Youth Together

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LGBTQ+ youth are five times more likely to attempt suicide compared to their heterosexual peers. Research shows that this is attributed to a lack of support from peers and adults, feelings of isolation, and the belief that they are unsafe in their environment. How can we help to reduce LGBTQ+ youth suicide? "Safe and Sound" is an event that brings LGBTQ+ youth together to promote self-assurance and to connect them with other people in the community for support. The event would include performances and panels of successful LGBTQ+ individuals who would demonstrate that sexual/gender identity is something to be proud of.

### SABRINA TAN

*Faculty Advisor: Denise Anderson*

#### Jotter: Developing Self-Confidence Beyond the Classroom

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Jotter is an app that provides a safe forum for students and teachers to communicate with each other to build trust and in turn, create more meaningful relationships. The goal is to establish a solid foundation of self-confidence inside the classroom and to provide strategies for students to carry into and use in the real world.

### MICHAEL THUNBERG

*Faculty Advisor: Robin Landa*

#### Vote America Back

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It seems that America is currently more divided than ever, and with another election coming up, now is the time to rouse the citizens of this country to stand up for what they believe in. How do

we get people to live up to their civic responsibility and vote? Each side of the political system has its beliefs and platform that it's basing its moral stance on, but something all political parties have in common is a fear of their idealized version of America being compromised by the opposing platform's "warped" version of their truths. Imagery combined with text creates a powerful message: A black band wrapping an upside-down flag symbolizes the mourning of a nation in jeopardy. The text offers a glimmer of hope and a purposely vague promise to the viewer: "It's not too late." No matter what political affiliation you identify with, the message appeals to a person's common sense of decency and patriotism, hopefully spurring a call to action. The imagery is a powerful reminder of every citizen of this country's right and duty to go out and vote.

### GABRIELA ULLOA

*Faculty Advisor: Denise Anderson*

#### Lonerisms: A Card Game for Lonely People

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Being lonely stinks because by nature humans are a social species. Research shows that loneliness can affect your physical and mental health, which results in headaches, sleep problems, and depression. Studies show that 18 to 22-year-olds (Generation Z) suffer from loneliness more than any other generation. To alleviate this social challenge, "Lonerisms: A card game for lonely people" was created to connect people to have fun with each other, develop more meaningful connections, and feel less lonely.

### ALISON WOJCIECHOWSKI

*Faculty Advisor: Saglinda H. Roberts*

#### Apartment Building for the Disabled

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To create a dedicated mixed-use property for physical and developmental disabilities that fosters a community in an aesthetically pleasing built environment where the barriers typically associated with a built environment have been removed. Sea Isla Apartment Community is located in Apollo Beach, Florida, right on the bay. The apartment complex will have a restaurant, pool, fitness center and stores. The building is going to be for people ages 18-40, and focus on using the universal design principals to provide an inclusive community for disabled people where they can live, work and play. The Well being standards will be used to create a healthy environment to drive the design and create a safe place to live and where everyone will feel at home. The importance of research with this project was so we could understand the client and occupant by learning about Wellbeing, health/safety and the special requirements for disabled people. For my research I did case studies and evidence-based design, studied best practices, visited the OT room and consulted with the professors there. I also researched the Well being standards. I have learned about the special requirements to accommodate a variety of disabilities with a universal design.

### EARTH SCIENCE

#### DANIELLE JUNIO AND JESSICA HATCHER

*Faculty Advisor: Feng Qi*

##### Mapping Wildfire Impacts on Agriculture in California using GIS

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This research project looks to study how the recent outbreak of wildfires has affected California's farmland. It has been estimated that 150,000 acres of land was destroyed in the recent fires. Agriculture makes up a large component of the economy in the affected counties. For example in Sonoma County alone, farms house tens of thousands of livestock, which account for \$178 million of its agricultural value. There are also crop farms and vegetable farms bringing the total value of the county's agriculture to nearly \$900 million. With this project we hope to utilize GIS, public data sources including satellite imageries to make maps of the farmlands before and after the disaster. The goal is to correlate with the reported impacts for a visual analysis. We will start off by using a data set from the U.S. Department of Agriculture that depicts all the land used for farms in California in 2012. Then we will use current satellite images from after the fires to help us depict where the wildfires have destroyed/impacted the farmland so we would be able to analyze changes.

#### ALEXANDER KONG

*Faculty Advisor: Juyoung Ha*

##### Protecting the Leatherback Sea Turtle

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This study was conducted to observe the impact humans are having on the leatherback sea turtle located along the shoreline in Gandoca, Costa Rica. One of the main factors affecting this species is the erosion of the beaches that are vital for the female to lay her eggs on. To combat this, efforts were taken to rebuild the monument at the beach entrance, the trash was cleaned up and removal of the fallen tree trunks were removed. Future conservation efforts are necessary to protect this species because Costa Rica is the nesting ground for a large portion of turtle species. Quantitative and qualitative data analysis on human impacts on natural ecosystems will be presented. Results from this study can be further used to understand how to continue preserving the nature and integrity of biodiversity.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

#### JAKE NAPPA

*Faculty Advisor: William Heyniger*

##### Air Quality Study of a Suburban Residential Neighborhood in Burlington, NJ; in Reference to Weekday vs Weekend Traffic Air Pollution

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"Is there a pattern of pollution of weekday and weekend traffic in Suburban NJ." Air quality degradation due to anthropogenic influences is a growing concern. This independent study will quantify the presence of particulate matter using a backyard capturing device, to determine if there is an increase of pollution due to vehicular transportation. The student's scope of this research project is assessing the amount of air pollution passing through the residential neighborhood of suburban, west-central New Jersey, during the winter season. In the experiment, the student designed and built an air quality recording instrument. This active response device, constructed of PVC piping, draws in ambient air in the front section (nose), through a filter (middle section) and is ejected through the exhaust (tail) by a battery-powered PC fan. Analysis of the filters include opacity (dirtiness) and length of exposure interval (time filtering and day of week) to reveal patterns of primarily anthropogenic-influenced pollution particulates.

#### KAROLINA SAWICKA AND MAURIZIA DE PALMA

*Faculty Advisor: Joseph Sarnoski*

##### Monthly Water and Soil Analysis on Trotter's Creek in Elizabeth, New Jersey and Kean University in the Spring 2019 Semester

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This research project will focus on the water quality of Trotter's Creek, which runs through part of Elizabeth, New Jersey and the Kean University campus. Various procedures will be tested, including the flow rate; nitrogen, phosphorous, and potassium levels; temperature; and the pH of the stream. The flow rate will be measured to see if it is strong enough for nutrient transport in the stream. Nitrogen, phosphorus, and potassium levels will be tested in the water to determine how much biota it can support. Temperature will also be monitored to see if there is any thermal pollution from the surrounding urban environment, while pH will be measured to check the neutrality of the stream. Additionally, salinity levels will be monitored in the water throughout the winter going into spring to see if there are any effects on the aquatic organisms. Lastly, the nearby soil will also be tested for nitrogen, phosphorous, and potassium levels to see if the soil and water quality have any correlation. Points of measurement will be taken upstream in Elizabeth, midstream on Kean University's campus, and downstream at the Phil Rizzuto Park and will be taken every month for three months. Overall, the analysis will determine the impacts the local urban environment has on the aquatic and soil system.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### RAZIYA WAZID

*Faculty Advisors: Cailin O'Connor Fitzpatrick and Daniela Shebitz*

#### The Importance of Distribution and Food Habit

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The purpose of this research is to document the extent to which human development is impacting the health and abundance of raptors in New Jersey. Birds of prey hold invaluable ecological roles in our wild ecosystems and occur on nearly every continent. Many birds of prey are in decline in the state of New Jersey and major threats include deforestation, large infrastructure, power lines and being struck by vehicles. Eagles, owls, and hawks need large wild places to thrive and are particularly sensitive to urban development. This study is conducted at the Raptor Trust, a bird rehabilitation center. An assessment of the number of birds from each species that was injured and needing care was conducted from January through April, 2019 at the Raptor Trust. The most common cause of injury to the birds of prey was trauma due to flying into windows and moving vehicles.

**Research Supported by: STEMpact, a cooperative project between Union County College and Kean University, U.S. Department of Education Title V grant**

### ECONOMICS

### BIQI ZHOU, XIANGUO ZHANG

*Faculty Advisor: Fa-Hsiang Chang*

#### The Analysis of Original Equipment Manufacturers, (OEM) Manufacturing Strategies and Innovative Performances — A Case Study of Footwear Manufacturing in Wenzhou

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The paper focuses on the manufacturing strategies and innovative performances for OEM company. We use the industrial competitiveness evaluation model to analyze and compare the positions of the OEM footwear manufacturing in Wenzhou (China), Vietnam, Guangdong (China), and Italy, by using qualitative and quantitative standards and index. Porter's Diamond Model and Five Forces Model are used to identify the positions and competitiveness of Wenzhou OEM footwear manufacturing. This analysis reveals the most significant trends happening in the industry and their implications, namely, technology innovation, automation, and digital transformation. The results of the study understand how the competitiveness of the OEM company shapes its manufacturing strategies in times of stressful industrial upgrading. We take Gold Emperor Group as an example of a Wenzhou OEM footwear manufacturer to analyze the cooperative strategies that the business holds for the coming five years.

### ENGLISH STUDIES

### RILEY ROSE POND

*Faculty Advisor: Joshua Burnett*

#### What Subject Area(s) do Non-English Majors at Kean University Struggle to Write Essays for the Most?

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This research study analyzes how study habits of non-English majors at Kean University vary on their previous education. To answer the question, "What subject area(s) do non-English majors at Kean University struggle to write essays for the most?" the researcher conducted one-on-one interviews with non-English majors at Kean University. The results showed how each individual's study habits varied by their previous education, their interest in writing overall, and gender. This study emphasizes that while students do have control over their academic careers, they have limited control over what is and is not taught to them before arriving at college.

### ENVIRONMENTAL AND SUSTAINABILITY SCIENCES

### JOHANE BIEN-AIME, SAMANTHA DIX

*Faculty Advisor: Juyoung Ha*

#### Evaluation of Effectiveness of Academic Programs in New Jersey

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Recently, several New Jersey state and private academic institutions have initiated and launched a degree program named General Science. The intents of the program are to provide the opportunity to take many laboratory courses in chemistry, physics and biology. Field studies in geology, anthropology, and marine biology. Students in this major are generally encouraged to seek out research opportunities as well. However, there are also critiques on redundancy of the program over minor programs and not being specialized enough so the graduates from this program will not be as competitive as other majors for the job market. It is critical to evaluate the benefit of the program and how it serves and supports students at Kean University if it is launched. In this study, our research team identified the institutions in New Jersey that are currently offering the General Science degree programs and evaluate the program contents and graduation rates. Results from this study will provide a milestone for future research in search for development of new academic programs for future students at Kean University.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### CHRISTINA BRECKMAN

*Faculty Advisor: Daniela Shebitz*

#### Ecotherapy in Urban and Suburban Parks

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This study provides insight on the benefits of ecotherapy to an individual's social, emotional and physical well-being and encourages people to visit urban and suburban parks to increase their overall well-being. The research in this poster attempts to promote beneficial behaviors that people in New Jersey can incorporate into their everyday recreational activities while in an outdoor environment. Utilizing surveys, we collected data from people at parks of varying sizes: small, medium and large. In the summer of 2018, a total of 45 people were surveyed, with 15 at each of the parks. For the small-size park, Oak Ridge Park in Clark, NJ was used to collect data and Rahway River Park in Rahway, NJ was used as the medium-size park (both of which are classified as suburban). Liberty State Park in Jersey City, NJ was utilized for the large-size park, within an urban area. Questions focused on how being in the park affected their level of stress and anxiety, what activities they most commonly performed in the park, how often they utilized the park, basic demography and familiarity with the activities associated with ecotherapy. The majority of participants fell within the age range of 18-44. The study found that regardless of park size, the majority of respondents agreed that parks lowered their levels of anxiety and stress.

### PRAYIE CARBONE

*Faculty Advisor: Juyoung Ha*

#### Measuring Climate Change Through Seasonal Variation in Stomata

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Stomatal pores are microscopic structures on epidermis of leaves formed by two specialized guard cells that control change of water vapor and CO<sup>2</sup> between plants and the atmosphere. This study will be based on collection samples of local trees around Kean University's Union, New Jersey, campus. The target of the research will be focused on three species of trees: *Betula lenta* (cherry birch), *Liquidambar styraciflua* (sweet gum) and *Betula populifolia* (grey birch), while collecting three samples of each tree before the fall semester of 2018 comes to an end. Three samples of each tree will be stored in sealed plastic Ziploc bags and analyzed by a stomata gathering process and examined under a microscope until warmer weather returns to campus in spring of 2019. The results from these two events will be compared to data collected from experiments done on at the Wenzhou-Kean campus in China. Since stomata are hypothesized to reside in a tree's buds and bark, the research method will include observing the samples during different seasons and collecting their foliage to understand the full perspective of the species.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### ATENAS CASTILLO AND DEBORAH RAMOS

*Faculty Advisor: Juyoung Ha*

#### Anti-bacterial Effects of Costa Rican Medicinal Plants on *E. Coli*

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Traditional medicine is practiced by a large proportion of the Costa Ricans for their physical and psychological health needs. Medicinal plants have become the focus of intense study recently in terms of conservation and as to whether their traditional uses are supported by actual pharmacological effects or merely based on folklore. With the increasing acceptance of traditional medicine as an alternative form of health care, the screening of medicinal plants for active compounds is very important. The purpose of this study was to investigate Costa Rican plants for potential antibiotic activity by preliminary bioassay screening. The selection of plants for evaluation was based on traditional use. We used *E. Coli* as a model microbial community to evaluate the antibacterial effects of the tested medicinal plants. Results from this study will provide a milestone in analyzing the different kinds of medicinal plants in more quantitative approaches.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### NICOLE FALCETANO

*Faculty Advisor: Daniela Shebitz*

#### Sustainability at L'Oréal

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L'Oréal is one of the largest cosmetic companies in the world. When trying to be sustainable, beauty products bring a whole new set of challenges. Between reformulating products, and making packaging more sustainable, it can be difficult to keep the quality and expectations of the product intact. Through an internship and research project, I document L'Oréal's attempts to find environmentally friendly ingredients and assesses their ongoing sensory testing that evaluates customer satisfaction. L'Oréal is continuously setting and achieving goals to become a greener company. This poster illustrates how, by 2020, L'Oréal is planning on reducing their environmental footprint by 60 percent at their plants and distribution centers. The transparency of this corporation when it comes to sustainability can be observed on their multiple web pages showing current progress and future objectives. Their high reputation in the makeup industry makes it that much more important to be environmentally conscious and set the bar for other companies to follow.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### BRUCE GALDOS

*Faculty Advisor: Juyoung Ha*

#### Agricultural Sustainability in the Limon Province of Costa Rica

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Costa Rica has been one of the primary examples of supporting biodiversity through conservation and investing in renewable resources of energy. This research analyzes how the community of the Limon Province has adopted sustainability through the distribution of local and agricultural resources. A survey was conducted with 21 people of the community to determine the level of use of raw materials harvested from the rainforest, in comparison to food and resources that were imported from other countries. The goal was to summarize the restrictions and preferences of where the local community decides to get their agricultural resources from and how does that affect their daily lives. Questions on the survey also included where did they get their ingredients from? Is it locally sourced or bought from another company? How expensive it is? The quality and freshness of food? And how well do they have access to it via transportation of the item? Based on the survey results, a quantitative indexing scale will be developed to assess the sustainability of their agricultural resources and how it affects the community of the town and the country of Costa Rica.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### JOSEPH GARRASTAZU

*Faculty Advisor: Dongyan Mu*

#### Life Cycle Assessment of Pyrolysis and Hydrothermal Liquefaction

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As the biosolids from wastewater treatment facilities keep on challenging the current waste management infrastructure across the US, technologies such as pyrolysis and hydrothermal liquefaction have been proposed to convert biosolids into transportation fuels, which could create another source of renewable energy. The goal of this research was to assess and compare environmental impacts of two technologies in terms of producing bio-oil from biosolids by conducting a life cycle assessment. The environment impact of each technology was determined by a number of measurements, including the ozone depletion, global warming potential, smog, acidification, eutrophication, carcinogens produced, non-carcinogens produced, respiratory effects, eco toxicity, and fossil fuel depletion. Except for the smog formation, non-carcinogens, and eco-toxicity, the impacts of pyrolysis were lower than liquefaction, although the energy intensive drying process was applied in pyrolysis. This was due to the bio-oil yields in liquefaction being much lower than the pyrolysis, which lead to higher impacts assigned to per MJ of bio-oil produced in liquefaction. Were it not for the inclusion of wastewater in liquefaction, pyrolysis would have been more impactful in a number of more aspects.

### JOSEPH GARRASTAZU AND SHIVANI SANKAR

*Faculty Advisors: Daniela Shebitz and Laretta Farrell*

#### The Importance of Community Gardens as Observed in Gandoca, Costa Rica

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Kean University's Quality First Initiative (QFI), the Human Rights Institute (HRI) and School of Environmental and Sustainability Sciences (SESS) worked in unison to provide an opportunity for Kean University students to take part in a humanitarian trip to Costa Rica during the winter break of 2018. The trip's key themes of humanitarianism and sustainability were strongly highlighted throughout the trip. Students who embarked on the trip were engaged in a variety of educational and influential experiences that not only contributed to their majors but to their personal lives as well. This poster focuses on one particular study that provided the students with a an overview of sustainable practices: An evaluation of a 73-acre community garden in Gandoca, Costa Rica which serves and supports the 112 families residing in the village. The main organic crops observed in the community garden were documented and included plantains, pineapple, yuca, and palm trees. Through this research, the garden in Gandoca is compared in structure and diversity to similar community gardens in New Jersey.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### ANASTASIA GIORDANO

*Faculty Advisor: Sylvio G. Codella*

#### Photomicrography of Adult Mosquitoes Collected in Warren County, New Jersey (Diptera: Culicidae)

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Mosquitoes, often trivialized as "annoying" or "pesky," pose a serious threat to public health because of their vectoring and transmission of dangerous diseases on a global scale, such as malaria, dengue fever and chikungunya virus. Within the United States, mosquito control agencies actively work to control West Nile virus, eastern equine encephalitis and Zika virus. In Warren County, 45 mosquito species are known. This project involved the collection, mounting and identification of adult specimens from the major species for photomicrography. A Nikon SMZ1000 stereomicroscope equipped with a SPOT RT3 camera was used in each case to capture a series of images at different focal points. The image series was stacked with Auto-Montage Essentials v5.04; image post-processing was done with GIMP v2.10.8. Photographs of 12 species from six genera were produced to serve as an aid to adult mosquito identification.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### MARYUM HINDI, JANE NEWCOMER, MARLEN PAREDES, MICHAEL URBAN, CHRISTIAN PETERS, NICOLE FALCETANO, LOIS KRAUS, SHIVANI SANKAR, EDWARD EHRINGER, JOSEPH GARRASTAZU AND O'DARIUS ROBINSON

**Faculty Advisor:** Daniela Shebitz

#### Union County Deer Management Capstone: A GIS Study

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The plant diversity and abundance of Watchung Reservation in Union County, NJ has changed dramatically between 1957 and 2019. A large cause of this variance may be due to the population growth of *Odocoileus virginianus* (white-tailed deer). Through this senior capstone project, our team conducted field and literature research to examine the relationship between white-tailed deer, herbaceous plants and trees in Watchung Reservation through four sub-teams: literature review, field research, education campaign and Geographical Information Systems (GIS). Here, the GIS work is examined in depth. The GIS-based methodology is used to display the correlation between tree species, tree abundance and white-tailed deer population. Rubber sheeting techniques will be used to layer scanned, historical maps with present day maps. Historical maps will be configured to contain the coordinate system of the most recent map. We predict these maps will portray significant, adverse effects on Union County's species richness and evenness based on the increased population growth of white-tailed deer.

### JEREMY JOHNSON

**Faculty Advisor:** Sylvio Codella

#### Biodiversity Assessment of Ants in the Northern Lowlands of Costa Rica

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Ants (Hymenoptera: Formicidae) are among the most abundant insects in the world and are of great importance to species interactions, nutrient cycling and other ecological processes. Epigeic (surface-dwelling) ants were studied on the grounds of Laguna del Lagarto Lodge in the Maquenque Ecoregion (Alajuela Province, Costa Rica). The ant fauna was sampled using baited, pitfall and pan traps, in addition to hand collecting and Winkler funnel litter sampling. Forty-five species, distributed among six subfamilies, were collected. This is the first detailed assessment of any component of the Maquenque ant fauna.

### DANIELLE JUNIO

**Faculty Advisor:** Juyoung Ha

#### Developing a Successful Sustainable Business Model for Construction Companies

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Sustainability is an emerging and highly demanding field of science and practices in this modern world with ever increasing climate changes and endangered environmental conditions.

In this project, we have worked with the Rains Energy company to support how to market and combine academics with business practices in the field of sustainable development. Over the years, Rains Energy has worked on many well-known buildings and infra structures such as Hilton, Sheraton Hotels & Resorts, Archcare, the New Jersey Youth Symphony, and Planet Fitness. Processing energy calculations and performing basics on energy auditing have been extensively done to review the process. Potential analysis on Kean University to apply similar business model will be presented during this poster session. The goal of the project is to educate the community and apply the academic practices to business models to turn buildings eco-friendly while making financially sounding plans.

### MEGAN KLUTTS AND JOE AFFINITO

**Faculty Advisor:** Dongyan Mu

#### The Impact of Food Waste Compost on the Community Gardens

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The fertility and quality of soil are important to provide a healthy and sustainable environment for growing plants in farms. The widely used synthetic fertilizers in agriculture leads to problems on soil quality, human health and environment sustainability and therefore raises increasing concerns in food production. In order to reduce synthetic fertilizer uses, compost from natural organics is highly recommended to treat soil which can improve the soil conditions and promote plant growth. This study aims to fill these knowledge gaps by using food waste compost in a vegetable farm over a two-year span. The studies were conducted at the Liberty Hall Farm at Kean University in Union, New Jersey. Five compost mixtures (0 percent, 10 percent, 30 percent, 50 percent and 70 percent) and one fertilizer treatment were tested for both studies for their effect on plant growth and nitrate concentration in radish and arugula vegetables. The study in the first year yielded the results that the 50% compost mixture had the best results. The results for the second year's study showed that the compost mixtures of 30%-50% showed the most growth in terms of mass and length. The project results are expected to guide farmers to apply compost in gardens for vegetables.

**Research Supported by:** U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003

### DIANA LONDONO, JASON WANG, ANA PALACIO AND JEREMY JOHNSON

**Faculty Advisor:** Mark W. Yuschak

#### LEED - A Step Towards the Future

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High performance buildings are characterized by specific attributes such as energy efficiency, indoor comfort, human well-being, productivity of its occupants, decline in the building's carbon performance, and contributing to economic savings. We will be analyzing and evaluating one such high performance building, focusing on only a few credits that are listed

## STUDENT POSTER PRESENTATION ABSTRACTS

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by the US Green Building Council (USGBC). The project aims to determine if the building earns these points towards the LEED (Leadership in Energy and Environmental Design) certification as an existing building. This certification will show that the building is contributing to reducing its environmental impacts by addressing the materials being used, the electrical and water consumption, and waste generated.

### **YHULIEANNA MARQUEZ AND DAREINIS MEDRANO**

**Faculty Advisor: Toby Michelena**

#### **Removing Organic Waste through water filtration of the Wen-Rui Tang River at Wenzhou-Kean University**

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Our research problem targeted finding an eco friendly and inexpensive method to filter organic material out of water from the local Wen-Rui Tang River. This research was significantly important to both our majors (Environmental Biology and Sustainability Science) since it explores the conservation of water through a sustainable process. The goal of the research was to see if this method of gravel over sand and vice versa could remove a substantial amount of total suspended solids, total dissolved solids, total organic carbon, and tested for changes in phosphorus levels. Through a series of filtering and total phosphorus tests we noted that the numbers for the filtering process were incredibly consistent and displayed potential in this filtering method. So the removal of Total Suspended Solids, Dissolved Solids and total Organic Carbon display a potential, beneficial way of removing organic waste from river water. However, the numbers we have recorded and calculated from Total Phosphorus are relatively low and inconsistent. Overall, the filtration has shown positive outcomes to be used on a larger scale for the Wen-Rui Tang River.

### **JANE NEWCOMER, MARYUM HINDI, CHRISTIAN PETERS, JOSEPH GARRASTAZU, MARLEN PAREDES, NICOLE FALCETANO, LOIS KRAUS, SHIVANI SANKAR, EDWARD EHRINGER, MICHAEL URBAN AND O'DARIUS ROBINSON**

**Faculty Advisor: Daniela Shebitz**

#### **Union County Deer Management Capstone: Field and Literature Research**

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Our research is designed to: 1) determine the impacts of *Odocoileus virginianus* (white tailed deer) on plant diversity in Watchung Reservation, 2) determine best practice management solutions and 3) educate citizens of Union County about the necessity of management hunting. To accomplish these objectives, we have developed four sub-teams: literature review, field research, GIS and education campaign. The field research team will assess tree saplings and younger trees from February through April 2019 in plots that will be established in Watchung Reservation. Our team works with Dr. Jay Kelly of Raritan Valley Community College to conduct a biodiversity assessment as part of his larger state-wide study to assess deer impacts on

vegetation. Assessments of new and old growth forests will be compared to historical data and Dr. Kelly's data. We predict our results will portray adverse effects on Union County's species richness and evenness that have occurred since the sites were originally sampled based on the increased population growth of white-tailed deer. The education campaign will create educational materials that will inform the public of our findings and why management hunting is necessary to protect biodiversity. A literature review of deer management strategies in surrounding areas will be provided to Union County with management suggestions to improve the existing program.

### **MARLEN PAREDES, MARYUM HINDI AND JANE NEWCOMER**

**Faculty Advisor: Feng Qi**

#### **Hunger Maps: Food Accessibility within the Navajo Nation**

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Native Americans are the original settlers of the United States. Their population has been, however, historically oppressed and their settlements confined to a limited number of reservations in the West. The Navajo Nation Reservation sits in the southwest region in the states of Arizona, New Mexico, and Utah covering approximately 27,000 square miles of land. There are, however, less than 15 supermarkets within the entire region. This project looks to examine the food production and supply in the region by integrating data of agriculture, economics, as well as natural resources using GIS. GIS mapping will be utilized to visualize the spatial distribution of these data layers. A specific goal of this project is to use the consideration of demographics in the area to draw conclusions about food wastelands or food deserts, which are defined as geographic areas where access to affordable, healthy food options are limited or nonexistent because of the lack of proximity to grocery stores.

### **CHRISTIAN PETERS, JEREMY JOHNSON AND JEREMY GUSSET**

**Faculty Advisor: Dongyan Mu**

#### **Wenzhou-Kean University Summer Science Adventure**

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Water resource scarcity and degradation challenges many areas in China, especially in the Southeast where the water demands keep on increasing by industries and population. The purpose of this project was to analyze the water quality at three different points on the campus of Wenzhou Kean University in Wenzhou, Zhejiang, China, along with teaching local Chinese high school students introductory research techniques. Over a period of 10 days, we analyzed the pH, Total Suspended Solids (TSS), Total Phosphorus (TP), Dissolved Oxygen (DO), Chlorophyll, and Conductivity at each of the three sites. We then analyzed the data and compared all three sites to see if there are statistically significant differences between all three sites. The results showed that there was no statistical significance in the difference in values at all three sites. This indicated that there was no change in overall water quality throughout the WKU campus. If continued, the project will better the understanding of water quality at WKU campus which could lead to a smarter water resource management plan.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### DIONIS RAMIREZ AND CHRISTIAN PETER

*Faculty Advisor: Dongyan Mu*

#### Metal Bottle vs Plastic Bottle

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Life-cycle assessment is one of the most useful management tools for evaluating all products and processes and the impacts they have on the environment and human health. The purpose of this study is to develop a comparative analysis between Polyethylene Terephthalate (PET) water bottles and reusable 18/8 stainless steel water bottles. With millions of plastic PET beverage bottles being produced each year, it's imperative to assess the environmental consequences brought forth by PET production. Using LCA methodology and following the International Organization for Standardization (ISO) framework, we were able to determine that stainless steel water bottles have significantly less of an impact on the environment, from raw material extraction to disposal and recycling. LCA framework including goal and scope definition, inventory analysis and interpretation allowed for the concluded assumptions in this study. The use of Simapro TRACI 2.1 USA 2008 software was crucial in providing reliable data for both products. After this results, it was clear that the process of manufacturing the PET bottle had the highest individual impact in each impact category analyzed by SimaPro.

### SHIVANI SANKAR

*Faculty Advisor: Daniela Shebitz*

#### A Comparison of Plant diversity in the Fire-Adapted, Sandy Pine Forests of the New Jersey Pine Barrens (Southern NJ) and Red Hill (Central NJ)

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The Red Hill section of Ash Brook Reservation is a glacial outwash delta that has plants that are commonly found in the southern NJ Pine Barrens. However, whereas the NJ Pine Barrens experiences frequent, low severity fires, this remnant patch of forest in the urbanized Union County has not had the same level of disturbance. The suppression of natural fires and lack of prescribed, controlled burning in Red Hill has shifted the plant diversity so that it is only somewhat representative of what would typically survive in this unique habitat. For this project, we established five 5m x 5m plots in both the Southern NJ Pine Barrens (burned over a year ago) and the Central NJ Red Hill pine forest (has not burned in decades). We collected percent cover data for all plant species within the plots. In addition, abiotic variables such as soil pH, texture, moisture and nutrients, canopy cover, and tree height were measured both in the field and in the laboratory.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

## EXERCISE SCIENCE

### DUKENSON ALVERNA

*Faculty Advisor: Walter Andzel*

#### The Relationships Between Different Types of Exercise Training and Balance

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The purpose of this study was to determine the relationship between two different types of exercise training courses and balance levels. Balance can be defined as the maintenance of postural control. It is considered to have two components, static and dynamic balance. Static balance can be referenced as postural orientation, and dynamic balance can be referred to as postural stabilization. Balance affects everyday life and it becomes more of an issue as an individual advance in age or gets older. Thirty students were recruited and completed all the trials: Fifteen males and fifteen females. There was a total of 10 participants from each group, the strength training class, personal fitness class and a control group. This study used the Star Excursion Balance Test to test the participants. There are several balance tests that can be used to measure an individual's balance. The Star Excursion Balance Test (SEBT) is one of the most accurate tests that can assess balance. This test can be used to assist balance training. The SEBT is an established outcomes measure of dynamic postural stability that assesses a combination of range of motion, flexibility, neuromuscular control, and strength. An analysis of variance was performed in order to determine if there was a difference in reach distance in gender in the SEBT. Table 11 shows the p-values have a significant difference ( $p < .05$ ) in the following variables left lateral .020, left posterolateral .013, right posteromedial .029, and left posteromedial with a .046. In addition, the data suggests that males balance had a significant difference compared to females in the SEBT. It was interesting to see there are no differences between the participant dominant and non-dominant leg reach distance.

### RICHARD OSOLINSKI

*Faculty Advisor: Walter Andzel*

#### The Effects of Rest Interval on Neuromuscular Activation

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The purpose of this study is to investigate the effects of 1-minute rest interval on neuromuscular activation, the rate of perceived exertion (RPE), and fatigue during the chest press exercise. Methods: The study consisted of 2 experimental sessions in a 1-week period. The first session consisted of a completing necessary paper work, anthropometric measurements, and a one repetition bench (1RM) test for bench press. The subsequent session consisted of a strength training protocol which included 5 sets of 8 repetitions, using 40% of 1RM for the bench-press exercise, and subjected to a 1-minute rest interval. The variables investigated during the study were level of neuromuscular activity, rating of perceived exertion (RPE), and fatigue.

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Results: A repeated-measures ANOVA was used for statistical analysis with a confidence level of  $p < .05$  to determine if there was significant difference in neuromuscular activation or RPE found during the study. Conclusion: A repeated-measures ANOVA showed that 1-minute rest interval caused a significantly lower mean neuromuscular activity in the right triceps between sets 2 and 5,  $p = .003$ . No other differences in mean of max neuromuscular activity were found. This study provides evidence that the decreases in power observed during 1-min rest.

### WILLIAM SMITH

*Faculty Advisor: Walter Andzel*

#### Anaerobic Field Tests and 1600 m Run Performance

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The purpose of this study was to determine if anaerobic field tests such as the three jump test, and the 300 m sprint, are positively correlated to 1600 m running performance in competitive male distance runners. A total of nine ( $n = 9$ ) male competitive distance runners were used for the study. All participants performed the 300 m sprint and three jump test, and lifetime best 1600 m run was recorded. Pearson's correlation coefficient was used for statistical analysis to determine the relationship between each of the anaerobic field tests and 1600 m run performance. No statistically significant relationship was found between the three jump test and 1600 m run performance ( $r=0.02$ ). No statistically significant relationship was found between the 300 m sprint test and 1600 m run performance ( $r=0.36$ ). Although the results are not statistically significant, the study suggests that jumping or sprinting ability may not be an accurate way for coaches and runners to predict 1600 m run performance.

### GENERAL STUDIES

### HAYYA ALI

*Faculty Advisor: Lydia Kaplan*

#### Women Social Interaction in Coed Groups and Same-gender Groups

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We have all heard the stereotype, 'Women talk way more than Men', however, is it entirely true? There have been numerous studies done to tackle this big question. If women do talk more, what distinguishes their conversations from the other gender. What factors are there that contribute to altering the social interaction? Many psychologists and authors have attempted to examine the mind and the behavior patterns of one's social ability. Through a demographic survey sent to the undergraduates of Kean University, it was evident that people agreed with the stereotype. This study conducted has shed light on this question on a university level. As the study proved 57.7% of the agreed with the statement, 'Women talk more than Men.'

### SARAH FEDAK

*Faculty Advisor: Lydia Kaplan*

#### News Media and Kean University Students

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This research project focuses on news media and Kean University undergraduate students. The study's main purpose was to see where Kean University students receive their news. The study explored how Kean students interact with news sources and how informed they are as Kean University students as well as citizens of the United States. Additionally, this study investigates how Kean students interpret news, specifically if students believe the first headline they see or if they actively seek out other sources to be more informed about current events. The study can contribute to Kean University's existing knowledge on preferred campus news outlets, especially about where and how Kean students receive news about events on campus or other important information from Kean University. For further research, the researcher would ask more targeted and detailed questions in regards to what types of new stories did students find to be the most false. Overall, the research project is very eye opening about how Kean University undergraduate students absorb the world around them, especially through different news media platforms in the twenty-first century.

### ERIN O'DONNELL

*Faculty Advisor: Lydia Kaplan*

#### Biophilic Design: The Effects it Can Have on Health and Well-being

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I conducted a literature review to investigate how nature and biophilic design can affect a person's health and overall well-being. This topic is very important to the field of interior design because it can not only improve a person's health, but it provides solutions to environmental issues related to design. I researched academic journals that studied buildings that were built with biophilia and nature in mind. In addition, I conducted a survey in a professional office with questions regarding nature in their work space. After careful research, I found that there are many ways to incorporate nature into a design. I concluded that each method offers different benefits to a person's overall health and well-being, both physical and mental.

### ROSANA OLIVEIRA

*Faculty Advisor: Eunice Nkansah*

#### Parents' Expectations and Their Effects on Mathematics Performance among High School Girls in the United States

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In the past, many researchers have sought to investigate the reasons for the scarcity of women in many STEM fields. Considerable number of findings have emphasized that gender inequality

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in STEM education is a major cause of gender employment inequality in this career field. It is The purpose of this study was to evaluate the role of parents' expectations in girls' motivation to take high-level Mathematics classes in the high school. This study examines the effects of Parents' expectations, Parents' self-concept, Gender stereotype beliefs, daughters' self-concept, and Girls' competence beliefs as predictors Mathematics performance among girls in High school. A single case study accompanied by an in-depth interview (High school student and parents) was used for the study. The findings of the study revealed that, parents' expectations have no significant influence on mathematics class choices for the High school student. However, the findings also demonstrated that Mathematics identity is the most significant predictor of Mathematics classes for high-school female students, followed by self-concept, mathematics interest, and mathematics identity. The conclusion of the study is consistent to findings from past research, which explored the causes of women underrepresentation in STEM. Implications of this study to STEM and Mathematics research contents are discussed.

### JHULIANA MICHELLE AVILA ROJAS

*Faculty Advisor: Nina Gjoci*

#### **The Impact of Intellectual Developmental Disorder (IDD) on Adolescent's Sexual and Emotional Life**

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The purpose of this study is to explore perceptions of university students toward socializing with individuals diagnosed with Intellectual Development Disorder (IDD). Grounded on previous research on socialization issues related to IDD, I aim to find out the extent to which socialization with teenagers with IDD is perceived as acceptable. Participants in the study are students at Kean University, who declared that they knew adolescents with IDD during their time in High School. A semi-structured questionnaire was sent to the participants and the analysis consists of simple descriptive statistics and qualitative content analysis. The results suggest that students would consider socializing to some extent, but they would not consider dating or having an intimate relationship with people with IDD. These results show the need for more research on relationship intimacy issues to better assist adolescents with IDD.

### LAUREN VENTRIGLIA

*Faculty Advisor: Joshua Burnett*

#### **Social Media and Smart Device Use and Their Effects on the Mental Health of College Students**

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The dramatic increase in use of social media platforms and smart devices is linked with a positive correlation to increased mental health issues among young adults. A mixed-methods approach with an after-only study design, questioned individuals with a Likert-type questionnaire through dispersal via email. Questions were on the topic of personal reflective social media use as well as the opinions on the affects social media may or may not have on the

mental health of their peers. In the conducted study, 48% of respondents reported browsing a social media platform between one and three hours a day, adding up to 1,000 hours per year. Although 54% of respondents were unsure if social media had a positive or negative impact on mental health, 57% answered that it does play "a great deal" of a role in the lives of their peers. Social media and smart device use is quickly taking over the lives of the younger generations, with the questionable effect on mental health needing to be studied further.

### ALEXUS WHEELER

*Faculty Advisor: Nina Gjoci*

#### **Race Suffering in Silence: The Journey of Mental Health in the African-American Community.**

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The purpose of this research is to explore perceptions of the African-American community seeking mental health services. Grounded in previous research on the topic, I investigated the role that religious beliefs, family status, and history have on the decision to seek mental health services. The results are based on 25 in-person semi-structured interviews conducted in November 2018 in an African-American community in New Jersey. The results show that the participants refrain from seeking mental health services for three reasons: 1) The traumatic memory of such treatments and abuse during slavery diminishes the trust in seeking professional mental health. 2) The family's economic and social status often prevents those in need to seek or to be aware of available mental health services. And 3) relying on religious services and community is perceived as more trustworthy than mental health services.

## GLOBAL STUDIES

### NATALIE HERNANDEZ AND TITILOLA PRICE

*Faculty Advisors: Bok G. Jeong and Sara Compion*

#### **Models of Women-led Social Enterprises in Africa**

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This study examines the role of women's leadership in building sustainable social enterprise models in southern and eastern Africa. While much research has focused on business and economic factors for ensuring sustainability of social enterprises, scant research has focused on the effect of women's leadership on these entities. Our research asks what are the models of women-led social enterprises in Africa in terms of social, economic, and governance dimensions? It contributes to the discipline by applying an existing three-dimensional Social Enterprise Theory to examine previously under-studied women-led social enterprises in Africa. We qualitatively compare five women-led social enterprises from South Africa, Zambia, and Uganda and examine them according to three dimensions: Social, economic, and governance. We used case studies, field observations, interviews and secondary document analysis:

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websites, organizational profiles, financial statements, annual reports of social enterprises, etc. The findings suggest that women-led social enterprises in Africa develop around a model that privileges the social, rather than the economic and/or governance dimensions, which has the advantage of strengthening community resilience and building bonding and bridging capital.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### NATALIE HERNANDEZ AND TITILOLA PRICE

**Faculty Advisor: Bok G. Jeong and Sara Compion**

#### Mandela Day Volunteering in South Africa: is this the Future of Civic Engagement?

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Every year, Mandela Day of service attracts thousands of South Africans who volunteer time for their communities to promote social justice, take action against poverty, and address inequality. To learn more about this civic activity, our study focused on the kinds of people who volunteer on Mandela Day, and the potential of once-off volunteering to lead to more sustained civic involvement. We used a mixed method research approach, combining quantitative surveys and qualitative field observations. A 40-question survey was completed, in person and electronically, by volunteers who participated in 90 different Mandela Day events across Gauteng Province, South Africa throughout July 2018. A total of 398 completed surveys were collected and used for the statistical analysis. The findings show that Mandela Day attracts three kinds of people: novice, occasional and regular volunteers. Novice volunteers tend to be young, professionals who prefer once-off activities. In comparison, regular volunteers are mostly older, wealthier, more educated and eager to volunteer again in the future. This research contributes to a growing field that explores how short-term, public service events not only encourage episodic volunteering but can also open new avenues for sustained civic engagement.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

## HISTORY

### ANGEL BALSECA

**Faculty Advisor: Elizabeth Hyde**

#### Livingston and Washington: Great Men?

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Historians and political scientists have debated the indispensability of George Washington and his leadership to the success of the American Revolution, and many have held him up as an exemplar of American political leadership. While obviously not as important as Washington, Livingston is similarly held up as a vital figure in the Revolution. My research examines the role of William Livingston in much the same way. This comparison of Livingston and Washington is most noticeable due to the fact that they both had military leadership experiences and political as well, due to being the first men to be elected by the newly formed citizens of the United States, to their respective political offices. This paper will explore how Brigadier General and first elected Governor of New Jersey William Livingston compares to General of the Continental Army and first President of the United States George Washington in their application of their enlightened education, beliefs and life experiences in making leadership decisions during and after the American Revolution. Primary source documents such as private letters, journals, literature and other secondary sources will be examined. The media that will be used to present these findings will be through paper format.

### VICTOR BRETONES

**Faculty Advisor: Christopher Bellitto**

#### Joan of Arc History and Legend

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This project explores the historical significance of Joan of Arc in late medieval France. It also explores the historiography of what later historians and popularizers have made of Joan's legends. I will explore primary source materials and other later popular images of Joan of Arc. I expect to find why she is such a significant symbol for both the left and right wing today.

### JACQUELINE CALLE

**Faculty Advisor: Elizabeth Hyde**

#### William Livingston's Moral Ambiguity and the Correlation with the Quest for Abolition in NJ

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William Livingston, the first elected governor of New Jersey, was a significant contributor to what became a successful rebellion of the masses against an oppressor, or Great Britain. His role in the Continental Congress, the American Revolution, the Constitutional Convention, and his work with John Jay all paint him as a person who took opportunities as they came in creating

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America. But William Livingston was also a slave owner who would become an abolitionist. Using the Papers of William Livingston, I will document references to slavery, slaves, and the possibility of a black continental army in order to understand what slaves meant to men in positions of power at that time. This research therefore sheds light on the moral ambiguity of William Livingston, and how it may have contributed to the process of New Jersey's road to abolition.

### JOHNNY COLON

**Faculty Advisor:** *Elizabeth Hyde*

#### 1775-1776: William Livingston as Brigadier General

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After relations between the American colonies and Great Britain turned to violence in 1775, New Jersey turned into a hotly contested area by both the Continental and British armies. As a result, William Livingston, a rather politically moderate individual, became a pivotal figure in his efforts to maintain order and control of New Jersey for the Patriot cause. In 1775 he was commissioned to be brigadier general to lead the defense of New Jersey in the face of a possible British invasion. He was put in charge alongside Continental army officer Hugh Mercer to raise militias as well as Continental soldiers across the Eastern portions and Atlantic coast of New Jersey. Urgent as it was to raise adequate defenses in various counties and cities across the various Eastern counties, accomplishing the task was a rather difficult one for Livingston. Despite his anxieties about being a horrible military leader, Livingston became the contrary. My poster highlights my website, which illustrates and details the logistics, organization, recruitment and troop movement that William Livingston had to manage as brigadier general of New Jersey's military units.

### ANNA FRANCISCO

**Faculty Advisor:** *Erin Alghandoor*

#### What Happened to Allen's Tavern?

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This exploration will investigate the property known as "Allen's Tavern" that was located on the Kean University Main Campus, near the North Avenue Academic building. This 17th century property included a house, an orchard, and some other buildings that were erect during the time. The estate allegedly burned down on Christmas Day within the 1860s but has not been able to establish a concrete date or supporting documentation that has happened. The speculation of the fire was inspired from a small piece of information found through second hand research, written by Robert Winthrop Kean. The goal is to find evidence through primary sources such as newspapers on microfilm, land records, and maps, to find that this fire occurred.

### ALYSSA HOLMES

**Faculty Advisor:** *Elizabeth Hyde*

#### William Livingston and the Legacy of His Views on Education

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My research project focuses on the life of William Livingston, American Revolutionary leader and first elected governor of New Jersey, and the lasting legacy of his ideas on education. Livingston and his brothers would be considered the elite of their time due to their level of education. Livingston believed that education was "integral to social and economic mobility, and advocates it as necessary to support good citizenship and membership in civil society." Through the analysis Livingston's writing on education in *Philosophic Solitude* and *The Independent Reflector*, as well as Livingston's published and unpublished works, local newspapers, letters, primary sources and scholarly articles I will explore Livingston's views on higher education and the importance of education within his own life and those of his family. I will also analyze and compare Livingston's 18th century views and beliefs about education to the views and beliefs of education that many people have today.

### MATEUSZ KOS

**Faculty Advisor:** *Elizabeth Hyde*

#### Governor William Livingston and the American Revolution

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This unit explores the historical events and the role of William Livingston as the first governor of New Jersey during the American Revolution. Following his resignation from the military commission in August of 1776, he continued to support the Continental Army as Governor. Livingston used his position as governor to help the Continental Army fight Great Britain even though many citizens of New Jersey were loyalists to the Crown. During 1776-1779 Livingston and much of his family had to relocate from his home, Liberty Hall. This was due to British soldiers frequently coming by the home to put a stop to all Livingston was doing for the Continental Army. There was a bounty out for him which they Loyalist set up. Livingston provided vital support for New Jersey's contingent of regulars. As governor he made many unpopular political decisions at the time which will be explored in this unit using primary sources. Livingston had several dangerous close personal encounters with during the war because of the bounty on him. Students will examine Livingston's life as governor during the early years of the American Revolutionary War between 1776-1779, with him and his family in hiding.



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### SPENCER MARTIN

*Faculty Advisor: Dr. Adara Goldberg*

#### **The New Jersey Community's Reaction to Genocide: Responses During the Holocaust and Cambodian Genocide**

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I investigated the response of different communities around the state of New Jersey to United States' governmental responses to the Holocaust (1940s) and Cambodian Genocide (1970s). This issue relates to the field of Holocaust and Genocide Studies as it details how we study reactions to genocide, scale of atrocity, and recovery. As an intern at the Kean University Archives, I am reviewing letters and documents from Congresswoman Florence Dwyer and Congressman Robert Winthrop Kean. These documents reflect differing opinions on how to respond to the genocides, and they reveal that New Jerseyans were divided in their reactions. My poster will highlight these divisions and the official responses by local communities to these genocides.

### JOSEPH MATLOSZ

*Faculty Advisor: Elizabeth Hyde*

#### **The Battles of Trenton and Princeton**

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During the Revolutionary War each colony played a significant role, but New Jersey was one of the most important colonies because a lot of battles were fought within the colony especially the important battles of Trenton which was fought on December 26, 1776 and Princeton which was fought on January 3, 1777. The man leading these men on the front lines during these battles was George Washington. But another man who played an important role-William Livingston. William Livingston was a brigadier general for the New Jersey Militia in 1775 and was eventually elected to Governor of New Jersey in 1776. The battles of Trenton and Princeton were very important battles that played a significant outcome in the war. During these battles, William Livingston's whereabouts were unknown, but using his papers and letters, including correspondence with George Washington, it is possible to reconstruction how he reacted to the battles and led New Jersey accordingly.

### EMMANUEL PAGAN

*Faculty Advisor: Elizabeth Hyde*

#### **Governing New Jersey in the American Revolution**

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William Livingston was very involved with the American Revolution. When New Jersey began organizing its defenses in late 1775, he was named Brigadier General. Livingston, however, insisted that the first regiments raised for Washington's Continental Army be commanded by more experienced men, while he concentrated on the tasks of raising, organizing, and

training the state's citizen soldiers. These efforts contributed significantly to the later combat effectiveness of New Jersey's units. In 1776, however, Livingston was elected governor and from then through the end of the war, he led New Jersey as New Jerseyans struggled with the economy. Livingston tried his hardest to solve the issues for his fellow citizens. Using the papers of William Livingston, this poster analyzes how Livingston responded as governor during the final years of the war. Specifically, it examines his economic policies as New Jerseyans lived in an increasingly unsound economic environment that was aggravated by the Continental Congress's dependence on larger sums of paper money. This rampant printing of paper destroyed the value of money in circulation and presented already apathetic patriots with yet another reason.

### ETHAN REISS

*Faculty Advisor: Elizabeth Hyde*

#### **William Livingston and the Battles of Connecticut Farms and Springfield**

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The American Revolutionary War included not only military battles in the field, but also political ones. William Livingston, (1723-1790) who was arguably the most important man in New Jersey, was vital in both: he was writer, philosopher, politician, brigadier general of the state militia, and New Jersey's first elected governor. This poster demonstrates how Livingston filled those roles in 1780, one of the most difficult years in Livingston's career as governor. He was a constant target for the British who would make several attempts to capture such a well-known colonial figure, including several raids and skirmishes with rebel militia two of which happened near his home at Liberty Hall. His wife and family would be a constant worry on his mind as he would constantly be fighting to recruit more men in the New Jersey militia as the Continental Army was facing problems of its own with enlistments among other things. Using official and personal correspondence from that year, my poster explores his life and leadership in context of where the Battles of Connecticut Farms and Springfield occurred right in front of Liberty Hall as well as the outcome of those battles.

### TYLER ROBERTO

*Faculty Advisor: Elizabeth Hyde*

#### **William Livingston: New Jersey's Hero During the American Revolution**

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As tensions between Great Britain and the American colonies grew, war eventually became inevitable. When violence broke out in 1775, New Jersey was a dangerous place to be. During this time, New Jersey turned to a well-known lawyer from New York, William Livingston, for leadership. A combination of his status, wealth, and intelligence made him the perfect candidate to lead New Jersey. Livingston was appointed as a brigadier general in 1775 and was elected to command the East Jersey military. He infused discipline and urgency into the civilians who

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volunteered to serve in the militia, which was needed because his troops were poorly trained. Although his military career was rather short, Livingston proved to be a proficient military general who often sought out support and guidance from George Washington. Throughout the war, Livingston would have a price on his head. Livingston along with other America's elites who served during the war effort acknowledged that their support to the American cause could be fatal. With the help of primary sources, this poster examines William Livingston's decisive role in the wartime effort as a military general from 1775 to 1776.

### MIOANDRYS RODRIGUEZ

*Faculty Advisor: Elizabeth Hyde*

#### Education and the Mohawk Nation in William Livingston's Life

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In 1737, as part of his education, William Livingston was sent to spend a year among the Mohawks as a missionary. My poster examines Livingston's experience as a missionary on the Mohawks nation and how this experience might have impacted his personal and professional life. I will examine his missionary work in context of his formal education at the hands of a tutor and later at Yale University through the analysis of William Livingston's published and unpublished works, local newspapers, letters, primary sources and scholarly articles about the Mohawk nation during the 18th century.

### ELIZABETH THORSEN

*Faculty Advisor: Christopher Bellitto*

#### King Arthur: History and Legend

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While the Middle Ages are often depicted as a time of great turmoil and chaos, the famous legend of King Arthur and his Round Table paints a different picture. At its peak, Camelot was a glorious kingdom, filled with honorable knights, who went on mystical adventures and who were the epitome of chivalry. Arthur's court, his knights, and his adventures contradict the common misconception that the entirety of the Middle Ages were really what many refer to as the Dark Ages, a time of barbarians, plague, and immorality. How could chivalry, order, and early forms of democracy coexist with such chaos? Though the tales of King Arthur have been proven untrue, they are rooted in historical events of the Middle Ages and have been passed down and elaborated on by many authors. An analysis of the 12th-century British chronicles of Geoffrey of Monmouth, the adaptations that followed his initial telling of Arthur's story, and the events they may have been based on may be used to debunk the popular assumptions about the Middle Ages and to determine which of the opposing narratives more accurately represents the time period.

### LUCAS VNECHAK

*Faculty Advisor: Elizabeth Hyde*

#### How William Livingston's Views on Religion, Nature, and Humanity Shaped Colonial New Jersey

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The purpose of this research is to explore how William Livingston's personal views on religion, humanity, and the natural world influenced his political opinions. Understanding these aspects of William Livingston's worldview can offer an insight into the personal motivations that drove Livingston's policy while serving as the first Governor of New Jersey. Through the analysis of his literary works, opinion pieces, personal correspondence between his friends and political contemporaries, and other assorted published works accredited to William Livingston, it is possible to determine the extent to which Livingston allowed his individual beliefs to inform his decision making while in office during some of the most pivotal years of American history.

### GABRIELLE ZURKA

*Faculty Advisor: Elizabeth Hyde*

#### William Livingston and His Education

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William Livingston received a very diverse education. He received his early education from tutors and local schools, but when he was 13 years old, he was sent away to spend a year with the Mohawk Indians and to prepare for college with the Anglican missionary. There, he studied their language, and had the opportunity to learn the manners of the natives. Livingston and his brothers were among the few men who, at the time, had received a college education. Livingston writes letters in which it shows how devoted to his studies he is and how at an early age he proved how being in school had impacted his life. After the American Revolution, education in New Jersey had changed. Women who had the correct property qualifications could vote, however, married women were not able to. I want to research William Livingston and the education that he received. Using primary source material, I will investigate the time Livingston spent with the Mohawk Indians, the education his children received, how the education he received impacted his legacy, and how education developed in New Jersey after the American Revolution.

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### MATHEMATICAL SCIENCES

#### ARELY CRUZ

*Faculty Advisor: Raymond Vigilione*

#### Discrete Continuity

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The concept of continuity is a staple of real analysis, and involves quantities that range over a continuum of real numbers. Indeed, continuity has many important applications within calculus; for example, the Intermediate Value Theorem (IVT). However, discrete quantities can also change in ways that are strikingly reminiscent of their continuous analogues, like IVT. Here we examine the little-known and counter-intuitive notion of discrete continuity, and how it might be applied in the surprising context of combinatorial geometry.

#### FATIMA DERROUICH, LAHCEN ER-RICH

*Faculty Advisor: Mahmoud Affouf*

#### Analysis of U.S. Campuses' Crime

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In this research, we analyze data sets on various crimes committed on colleges and universities across the United States between 2014 and 2017. We provide classifications and comparisons of various crimes committed in New Jersey Institutions to the rest of USA institutions and we also highlight Kean University placement. We also provide visualization graphs to our results.

#### CLAUDIA FORTES

*Faculty Advisor: Edward Farnum*

#### Mechanical Wave Model

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This research was conducted to better understand the importance of nonlinear partial differential equations (PDEs) and their solutions, with a focus in soliton solutions. PDEs are objects of study in engineering, physics and mathematics because they describe the evolution of bodies that change shape over time. Non-linear PDEs are interesting because they can relate seemingly unpredictable changes in a solution to small changes within the system. The equations we analyze are the Nonlinear Schrodinger Equation and the Sine Gordon Equation, as they both admit soliton solutions. Solitons are solitary waves that develop only under special circumstances, when the medium's non-linearity and dispersion are in balance. Therefore, solitons are a constant subject of study. To visualize this phenomenon, a mechanical structure is built to exhibit wave propagation. We investigate if its behavior could be manipulated to resemble that of a soliton. Based on studies from the University of Colorado, the mechanical wave is described by the Sine Gordon Equation. By analyzing the data generated from the

structure in motion and by applying the correct transformation to it, we propose that a soliton solution can be achieved. We compare the physical model with numerical simulations as well theoretically predicted solitons.

#### KELLY MARKLE

*Faculty Advisor: Raymond Vigilione*

#### Fibonacci Identities Through Honeycomb Arguments

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Equations involving Fibonacci numbers are often derived using mathematical induction. However, there are other, more elegant, ways to prove such identities. One method uses combinatorial argument, which involves enumerating combinatorial objects in two different ways. We demonstrate that Fibonacci identities can be thusly derived by considering the motion of a bee through an idealized honeycomb.

#### TAYLOR MARTINEZ

*Faculty Advisor: Raymond Vigilione*

#### On the Nature of 0 to the 0

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The real number system is surprisingly agnostic about the value of 0 raised to the power 0. We explore possible values for this expression from a variety of standpoints, from basic arithmetic to calculus. Unfortunately, these varied approaches tend to create a certain amount of confusion among non-mathematicians. We demystify the unnecessary controversy behind 0 to the 0, show how one can sensibly define it, and demonstrate how it is vital for a complete understanding of sigma notation for polynomials.

#### NICHOLAS NORCIA

*Faculty Advisor: Mahmoud Affouf*

#### Noise Complaints in the NYC Area

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In this research, we analyze the 2016 noise complaints from the NYC Open Data portal. We study the noise distribution in NYC and identify loud locations. We use geomapping software to project and visualize our results.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **JULIUS OTERO, YAO WANG**

*Faculty Advisor: Mahmoud Affouf*

#### **Visualizing Causes of Death in the U.S.**

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We are summarizing the leading causes of death in the United States and predicting the causes based on a large data set provided by Federal Organizations. We are also analyzing and presenting several risk factors these causes of death bring and as well as how to prevent these accidents occurring repeatedly. Visualizations of our findings are presented.

### **JINQIAN PAN, RUI GONG**

*Faculty Advisor: Wolde Woubneh*

#### **Mathematical Model for Describing the Financial Cost of Drug abuse in the State of Connecticut, 2012-2017**

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Beginning October 17, 2018 recreational marijuana is officially legal in Canada. After the midterm election Michigan passed proposition 1 becoming the 10th state to legalize both medical and recreational marijuana in United States. With the legalization of marijuana in more and more States of the United States, drug abuse would become more prevalent causing more problems in neighborhoods. This research uses data of accidental deaths due to drug overdose 2012 - 2017 from the State of Connecticut Government website. Starting at the macro level, the data has counts of the total drug overdose deaths and related expenditures of the whole state. The research describes plots by year and cities of the number of accidental deaths of drug overdose and associated costs in Connecticut. A mathematical regression models is used for predicting number of deaths and associated cost to the city where death occurred. This research model can be repeated using State data of drug abuse from New Jersey and other states of United States.

### **CHARLES SERGEANT, CARLEY GARLASCO AND RAYMOND NAVIR**

*Faculty Advisor: David Joiner*

#### **N-Body Modeling: Accelerating the Validation of Planet Detection and Updating a Widely Used Education Tool**

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GalaxSee is a teaching simulations created originally in 1993 by the Shodor Education Foundation, Inc. to run on remote (by the standard of the time) supercomputers. Our current project is to build an updated version of GalaxSee using a combination of Unity and C/C++ based dynamic link libraries. The Unity interface will allow us to create a cross platform code that incorporates the numerical techniques developed for the parallel version of GalaxSee along with an updated version of the interfaces designed circa 1997-2001 for MacOS and Windows, allowing them to run on more modern computers. The detection and characterization of planets around other stars is largely done using one of two methods. The Radial Velocity technique uses small velocity

changes in a central star to predict the planetary companions creating that velocity change. RV determined planetary systems benefit from additional testing using N-Body models to rule out false positives. Each validation includes a large number of nearly identical runs, and benefits greatly from parallelization. We are developing a code to perform this validation accelerated using GPUs via integration using Runge Kutta and Symplectic integrators. This code will be run on local hardware and on the Blue Waters supercomputer.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### **ALEXANDRA VASCONEZ-MONCAYO**

*Faculty Advisor: Kung-Kuen Tse*

#### **Can You Form a Donut into a Coffee Cup?**

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This presentation details the conversion of a donut shape into a coffee cup without breaking the edges, using the principles of Topology. It demonstrates the ability to shape materials into "topological states" in order to try to apply this to practical applications in Physics and Computer Science. An easy way of seeing this is using rubber materials in order to bend the objects without breaking. In topology, the point is to be able to apply a general method of "shaping" objects to fit the needs of its applications, such as in quantum computers.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

**NJCSTM**

### **ZACHARY ACOSTA**

*Faculty Advisor: Marshall Hayes*

#### **Inactivating Mersacidin Biosynthesis in *Bacillus Amylolyquefaciens* PB6**

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Microbial resistance to antibiotics is a rapidly growing issue. PB6 is a strain of *Bacillus amyloliquefaciens* produces secondary metabolites that function as antibiotics. PB6 is currently a patented strain owned by Kemin Industries and being used as a poultry and livestock probiotic known as Clostat. Pathogens like Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin-resistant *Enterococci* (VRE), and *Clostridium perfringens* have developed a way to overcome some of our most widely used antibiotics. PB6 has been found to be antagonistic towards their growth and proliferation. One of the known secondary metabolites produced by PB6 is mersacidin, the end-product of a multi-gene biosynthetic pathway. The goal of this research is to produce a *mrsA* knockout mutant of PB6 that will inactivate the biosynthetic pathway of mersacidin. Generating this knockout will be followed by subsequent screening of the mutant's antagonistic activity associated with the mersacidin biosynthetic pathway. This testing will be performed by a streak plating assay with bacteria known to be inhibited by PB6.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### JOSEPH ALAMO

**Faculty Advisor:** Edward Farnum

#### Ultrashort Laser Pulses in Waveguide Arrays

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The demand for laser pulses in ultra-short timescales is prevalent in high-speed fiber-optic communications systems and interconnection networks. A recent approach in this field uses a waveguide array (WGA) to accomplish mode-locking, whereby a system of four partial differential equations (PDEs) models the dynamics of the pulses. The current model's gain saturation mechanism is flawed, allowing for negative diffusion in the system, which is physically unrealistic. A modification to this system has been proposed that corrects this problem. The goal of this research project is to identify ultra-short laser pulse solutions to this model and their associated stabilities.

### ANTOINETTE ANTONUCCI, ARIELLA ASKEW AND PETER MATHUS

**Faculty Advisor:** James Merritt

#### Synthesis of Dual CCR1/CCR2 Antagonists for Potential Treatment of Glioblastoma.

Glioblastoma is a brain cancer caused by the presence of a rapidly growing, malignant tumor in the brain. C-C Chemokine receptors 1 and 2, CCR1/CCR2 are G-protein coupled receptors that controls chemotaxis, the movement of cells in response to chemical stimuli. Inhibiting these receptors could slow the growth of the malignant tumor by inhibiting chemotaxis. CCR2 has recently been crystalized with orthosteric and allosteric inhibitors docked in the receptor pockets. The structure of the allosteric inhibitor is similar to that of CCR1 inhibitors that have been synthesized. Using molecular modelling and docking software, we proposed structures for potential dual antagonists and synthesized these compounds for biological testing.

**Research Supported by:** Students Partnering with Faculty (SpF) summer research program, Kean University

### LINDSEY BODNAR

**Faculty Advisor:** Dil Ramanathan

#### Bombax Malabarica Analysis

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Antibiotic resistance is becoming an issue globally with the stronger prescription drugs being used. These microbes are developing resistance causing therapies to become limited and expensive. With this crisis, medicinally important plants are well-known for possible therapeutic potential and drug leads. Bombax malabarica, an ancient Indian plant, has been used for different purposes including but not limited to inflammation reduction and acne. This

plant was tested using mass spectrometry and antimicrobial techniques. Bombax malabarica was analyzed using two extractions via the GC-MS and using resazurin as a color indicator for the presence and absence of E. coli. With the color change, the MIC is able to be observed. The control for this experiment was gentamycin sulfate and chlorhexidine. Chlorhexidine served as the control for the plant extracts. Further testing on resazurin will be analyzed through the LC-MS, where the presence of resazurin and resorufin were confirmed by its mass. Additionally, a normal-phase column was utilized to obtain a concentrated plant sample to analyze the MIC of Bombax malabarica specifically methanol through the GC-MS and LC-MS. This work will lead up to the analysis and identification of molecules that can be used for possible drug discoveries.

### AYANNA BURROWES, JOHN MCEVOY, AMANDA EHRHART, NICK MARINO AND KRISTEN FONTANILLA

**Faculty Advisor:** David A. Joiner

#### World of Data: The VisObject

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The World of Data team has worked over the last two years on the development and testing of the Unity Visualization Toolkit (UVT), a set of Unity objects designed to simplify the creation and design of visual reality scenes built from scientific data. Some of our students' most recent projects have been on the VisObject; which connects to a DataObject and visualizes it on the screen in the forms of Volumetric, Isocontour, and Threshold Renderings.

**Research Supported by:** Students Partnering with Faculty (SpF) summer research program, Kean University

### PAULA ENGLISH

**Faculty Advisor:** Marshall Hayes

#### Extracting and Evaluating Bacteriophages to Combat Antibiotic Resistance

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Bacteriophages are viruses that exclusively infect bacteria, and they are central contributors to the evolution of their host organisms. Once the bacteriophages are isolated of a local soil and sewage sample, they will be identified using the process of PCR and gel electrophoresis. The successfully extracted bacteriophages will then be tested for their ability to combat available reference strains of *Staphylococcus aureus*, *Enterococcus faecalis*, *Klebsiella spp.*, *Acinetobacter baumannii*, *Escherichia coli* and/or *Pseudomonas aeruginosa*. The overuse of antibiotics encourages resistance among microbial species, directly impacting the health of humans. Rather than using antibiotics to treat bacteria-relevant illnesses, lytic bacteriophages destroy the pathogenic bacterium regardless of the factor of resistance. This research may ultimately contribute to the discovery of a new therapy for bacterial illnesses.



### ADELINE FINKLER

*Faculty Advisor: Edward Farnum*

#### Breathers and Dissipative Radiation in Nonlinear Schrodinger Equation – A Variational Approach

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The Non-linear Schrodinger Equation (NLS) is a well-known partial differential equation (PDE), which describes the propagation of light in fiber. An important property of the NLS is that it admits exact soliton solutions, if given appropriate initial conditions. For imperfect initial conditions, we sometimes observe breather solutions, which are periodic in time, or see the soliton shed dispersive radiation. In general, it can be difficult to hypothesize the behavior of a PDE; numerical simulations can be computationally expensive. In contrast, ordinary differential equations (ODEs) are much easier to look at and understand. The computational time required is negligible compared to PDEs, and for low-dimensional systems, the stability analysis is straight-forward. The variational method described by D. Anderson describes an approximation to the full PDE in terms of ODEs. Once an ODE system is determined for a solution type, we will compute stationary solutions and apply a standard linear stability analysis to each. This should give an indication as to how robust the various solution types are, and may help determine the primary sources of instability in the full system.

### XAVIER GIRON-UMANZOR

*Faculty Advisor: Edward Farnum*

#### Stable Soliton Solutions for Short Pulses Using a Dynamic Gain Model

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The propagation of optical pulses is typically modeled using modifications to the Nonlinear Schrodinger Equation (NLS). In contrast, we consider the Short Pulse Master-Mode Locking Equation (SPMMLLE) to accurately model ultra-fast pulse propagation on the pico-second to femto-second scale. Using the SPMMLLE instead of the NLS accounts for each and every light oscillation, rather than assuming that waves are modulated by an envelope, as is implicit with the NLS. Successfully modeling and observing these pulses will enable progress towards the underdeveloped fields of attosecond, picosecond, and femtosecond physics. We will use an alternate gain model that saturates according to an ordinary differential equation, rather than algebraically. If I can successfully model the behaviour of these wave functions then we can have a stronger understanding of interactions between light and matter.

### SARAH GONCALVES

*Faculty Advisor: Salvatore Coniglio*

#### Reproducible Method of Modeling Glioblastoma in 3D Spheroid Culture

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Fluorescent protein Glioblastoma cell line (GL261) with microglia was observed in three dimensional spheroids. The three dimensional spheroid demonstrate a similar microenvironment as a glioblastoma tumor in a human. Spheroids were treated with DMSO, Temozolomide (TMZ), and Iressa through a period 168 hours. It was then observed through immunofluorescence microscopy by analyzing cell viability using Sytox Blue. The fluorescence was determined through Tecan scanning.

**Research Supported by: STEMpact, a cooperative project between Union County College and Kean University, U.S. Department of Education Title V grant**

### DANIELLE HAMILTON, GREGORY MARSHALL, GABRIEL SEPULVEDA AND RUSLAN DZHATDOYEV

*Faculty Advisor: Salvatore Coniglio*

#### CCR1 Effects on Glioblastoma-Associated Microglia

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Glioblastoma tumor growth and invasion can be influenced by microglia/glioblastoma communications via the interactions between signaling molecules such as chemokines. Interfering with these pathways has been associated with a change in developmental and metastatic ability of the tumor. By comparing cDNA from microglia grown with and without glioma conditioned media, we will be able investigate the connection between the CCR1 (C-C chemokine receptor type 1) pathway and tumor progression. We have observed that CCR1 and its ligand CCL3 are both upregulated at the gene expression level in treated microglia. Using small pharmacological inhibitors generated in the Merritt lab, we were able to show that blockade of CCR1 interferes with microglia-stimulated invasion in-vitro. Interestingly another chemokine system CCL2/CCR2 also feeds into this system as pharmacological inhibition of CCR2 using a commercially available compound prevents CCL3 induction. Finally, we demonstrate the development of a reliable method for screening CCR1 antagonists using a downstream signaling assay for JNK.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **BRYAN JABLONSKY, JULIA SALADINO AND JULIA SAPIA**

**Faculty Advisor: Brian Baldwin**

#### **Race and Ethnicity Differences in Third Grade PARCC Data in New Jersey**

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Our research group has been collecting and analyzing PARCC [Partnership for Assessment of Readiness for College and Careers] scores and data from multiple districts from several different District Factor Groups (DFGs). Within each of those districts we collect and analyze the PARCC data from the 3rd grade level. We compared the scores of students from different DFGs, races and ethnicities. The importance to analyzing PARCC scores is to get people to question why certain districts do better than others beginning in third grade. It is important to find out what high performing districts are doing, that low performing districts are not. Methods we used include analyzing PARCC Testing Data from the New Jersey Department of Education Website, and reaching out to district superintendents. Having analyzed the data, it was found that financial stability of the family plays a role, but cultural standards has the biggest impact. Within nearly all eight DFGs, the order of highest to lowest percent of performing students is Asian, White, Hispanic, then African American.

### **TODD KACZOR**

**Faculty Advisor: Marshall Hayes**

#### **A Study of Alcohol-resistant *Enterococcus Faecium* and the *rpoB* Gene**

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*Enterococcus faecium* is emerging as a major cause of nosocomial bacterial infections. For example, in North America and Europe, respectively, *E. faecium* is the fourth and fifth leading cause of sepsis. Moreover, these hospital-acquired *Enterococcus* infections are difficult to treat because of their intrinsic and acquired resistance to many classes of antibiotics, including alcohol-based disinfectants. The initial objectives of this research on *E. faecium* are to identify, grow and harvest culture for DNA extraction and purification. This will be followed by an analysis of the *rpoB* gene of interest with Polymerase Chain Reaction (PCR) for subsequent genomic sequencing. *E. faecium* will then be tested in cell assay using a 96-well plate analysis. Using inoculated media culture of *E. faecium* in alcohol concentrations ranging from 0 to 100 percent, an established baseline will determine the highest level of innate alcohol survivability. Bacteria displaying the highest levels of resistance will then be passed through daily attempting to force an evolutionary response, the aim of which is to determine if tolerance can be pushed into increasing exposures of alcohol concentration levels. At the end of the study, a subsequent PCR of *rpoB* and genomic analysis will then be performed to determine if the gene of interest mutated in response to testing. Understanding at the genomic level the mechanisms conferring resistance may help scientists design and develop effective strategies and treatments.

### **ROBERT KIDD**

**Faculty Advisor: Marshall Hayes**

#### **Cloning and Analysis of a Bacilysin Biosynthesis Pathway in *Bacillus amyloliquefaciens* PB6**

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*Bacillus amyloliquefaciens* PB6 is a strain of bacteria isolated from the intestinal tracts of healthy chickens. Predictive bioinformatics tools have identified six biosynthetic gene clusters in PB6 which encode for a variety of secondary metabolites known to be active against a range of pathogens affecting both plants and animals. These secondary metabolites include bacilysin, macrolactin, mersacidin, amylocyclin, bacillibactin, and bacillaene. The goal of the project is to clone the multi-gene pathway involved in the synthesis of bacilysin. A plasmid vector containing the cloned genes will be expressed in *Escherichia coli*. Affinity chromatography will be used to purify the bacilysin metabolite, and the Minimum Inhibitory Concentration (MIC) will be measured. Future research will include cloning, expression, and purification of pathways responsible for other secondary metabolites found in PB6. Libraries of mutants with impaired ability to produce bacilysin will also be constructed via site-directed mutagenesis. This research will be of use to Kemin Industries, the holder of the patent for the PB6 strain, and will advance understanding of how this bacterial isolate may be used to solve problems related to human and animal health.

### **NICHOLAS MARINO, AYANNA BURROWES, AMANDA EHRHART, JOHN MCEVOY, KRISTEN FONTANILLA AND ANTHONY UGAORU**

**Faculty Advisor: David Joiner**

#### **World of Data (2018 Updates)**

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The World of Data project provides a multipurpose, 3-Dimensional data-visualization tool for use with virtual reality and group-research settings. This project allows us to link computer-science with data from all other STEM disciplines to create a visualizing software with a broad scope. We utilize the Unity engine, often used for video game development, to create this 3D environment. Our most recent work has been to optimize the user-interface for a comfortable VR experience, as well as introduce new forms of data and visualization-types to accompany them.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

## STUDENT POSTER PRESENTATION ABSTRACTS

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### NICOLE OCCHIOGROSSO

*Faculty Advisor: David Joiner*

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Scientific modeling allows for trial and error with minimal risk and time. A scientist can use a virtual model to predict events that may happen in the future by analyzing predicted equations for the real world event. The importance of modeling pollen data is to better understand how pollen levels change throughout the country and help those with plant and grass allergies better prepare. With the rate of seasonal allergies rising more and more people will be reliant on knowing the pollen level in their particular area. Collected pollen data from different pollen trackers throughout the country was analyzed to find patterns based on date, tracker location and pollen type. The goal was to create a working three-dimensional model that will help better visualize when and where the highest levels of pollen will be.

### SPANDAN PANDYA, GINA MORETTI, HAMSHIKA TAUNK AND KASEY SAMARO

*Faculty Advisor: Salvatore Coniglio*

#### Role of EphB2 in Microglia-Stimulated Glioblastoma Invasion

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Glioblastoma is one of the deadliest human cancers in large part due to its ability to rapidly invade the healthy brain. Microglia (brain macrophages) play a central role in stimulating glioblastoma invasion. Our laboratory has observed that the receptor tyrosine kinase EphB2 plays a role in mediating interaction with tumor-associated microglia during cell invasion. We hypothesize that EphB2 is controlling key signaling pathways and genes that promote glioblastoma invasion. In this proposal, we will investigate the role of EphB2/EphrinB signaling in the control of Focal Adhesion Kinase (FAK) a key regulatory protein in cell motility and invasion. It is known that EphB2 controls FAK in glioblastoma cells however the physiological source of Ephrin ligand is unclear. Here we seek to measure the effects of microglia/macrophages on this pathway. The ability of glioblastoma to induce Ephrin B1 ligand in macrophages and microglia will also be assessed using qrtPCR and SDS/PAGE western blotting.

**Research Supported by: Foundation Faculty Research Award, Kean University Foundation**

### SHANE PASTORI

*Faculty Advisor: Brian Baldwin*

#### Analyzing Percentages of Spending Within School Districts and Progress of Math Scores

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In this study, we analyzed specific New Jersey school districts' budgets to find how the 'per-pupil spending' effects students' PARCC math scores, from 3rd grade to Algebra 1. Billions of dollars are being provided to schools; parents and teachers want these funds to improve students' education. All the data in this study allows for comparing school districts' math scores, utilizing DFG and percentage of spending. With the information we gathered and analyzed, we can make assumptions on the districts' percentage of spending within each category. Overall, the percentage of spending has more effect on PARCC math scores than the total amount of spending.

### KATIE PILEGGI

*Faculty Advisor: Marshall Hayes*

#### *Staphylococcus aureus* in a University Athletic Facility

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Methicillin-resistant *Staphylococcus aureus* (MRSA) is most commonly found in hospital-associated (HA-MRSA) and community-associated (CA-MRSA) settings. The purpose of this project is to test for the presence of *Staphylococcus aureus* in athletic facilities on the Kean University campus in Union, NJ. Microbes are generally acquired from the environment through the Cs of transmission including crowded living, skin to skin contact, compromised skin, contaminated personal items, and lack of cleanliness. Rehabilitation tables and hot tubs will be swabbed, and the swabs will be used for inoculation on mannitol salt agar. Then *S. aureus* will be screened using an antibiotic disk diffusion assay on Mueller Hinton or a differential chromogenic medium such as BBL CHROMagar *Staph aureus*. These results will represent the ability to identify CA-MRSA in rooms throughout the athletic department (e.g. Harwood Arena, Athletic Training Rehab Center, Carol Hynes Field House). This research may ultimately characterize the risk athletes run acquiring the environmentally exposed MRSA.

### EMILY RIVERA

*Faculty Advisor: Edward Farnum*

#### Time-Dependent Gain for Ginzburg Landau Equation for Laser Mode Locking

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The Ginzburg Landau Equation is a well studied wave model which converges to stable solid state solutions. We have previously performed a linear analysis which can predict the stability of a laser pulse, without running a simulation of the equation. We recently proposed a modification to the standard model, wherein time-dependent gain saturates dynamically, better reflecting

## STUDENT POSTER PRESENTATION ABSTRACTS

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the underlying physics. Preliminary simulations indicated that our model generates soliton solutions for certain parameters values. Upon closer inspection, the apparent solitons do not reach steady state, but oscillate with a small amplitude of about 10<sup>-4</sup>. Several parameter fits were performed on this new solution. We conjecture that a steady state solution does exist, but that its linearization has an unstable eigenvalue pair, giving rise to a limit cycle. We attempt to identify this limit cycle by measuring its amplitude and frequency as a function of system parameters. We hope to effectively characterize the limit cycle in an effort to determine the (unstable) fixed point at its center. Doing so is complicated, given the dimensions of the problem. Once a steady state solution is identified, the linear stability analysis can then be performed.

### **MICHAEL SANTINO, KHANJAN PATEL, CARLIER HERNANDEZ AND XAVIER GIRON**

**Faculty Advisor: Edward Farnum**

#### **Stabilizing Pulses with Gain and Loss**

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The Nonlinear Schrodinger Equation describes the propagation of optical pulses in a fiber. The Master Mode Locking equation is a modification of the NLS. Numerical solutions are studied to test if the simulated pulses can stay stable. One of the main uses of this research is that Wifi speed can be increased and be more efficient. Analyzing a mathematical model has advantages over conducting many experiments. One is we can cheaply and quickly run the simulated program to determine outcomes so resources and time wont be wasted. We consider a the set of possible outcomes based on a window in parameter space. We hope more efficiently determine solutions type as a functon of these system parameter.

### **ETHAN SHEPHERD**

**Faculty Advisor: James Merritt**

#### **Brain Penetrant CCR1 Antagonists for Glioblastoma**

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C-C Chemokine receptor 1, CCR1, is a G-protein coupled cell surface receptor involved in the chemotaxis of leukocytes via ligand receptor binding. Prior research has shown that CCR1 is expressed in the invasion of glioblastoma, a highly aggressive, terminal brain cancer. Inhibiting CCR1 could possibly reduce metastasis and disease progression. This research aims to synthesize novel CCR1 antagonists for treatment of glioblastoma. Calculated properties including molecular weight, polar surface area, clogP, and logBB were utilized to design compounds with improved predicted brain penetration. These compounds were synthesized by coupling various synthons to a pyrrolidine-triazole core. The lab work was performed by high school students as part of the 2018 GSSRP. Confirmation of synthesis and characterization was done with 1H NMR and HPLC. Future work includes testing in a binding assay and describing the structure-activity relationship of current compounds to select prospective synthons.

### **KEIA SMITH**

**Faculty Advisor: Salvatore Coniglio**

#### **Role of CXCR5 and CXCR6 in Glioblastoma Progression**

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There is significant evidence that macrophages promote tumor cell invasion and metastasis. I researched interactions between Glioblastoma multiforme (GBM) cells and macrophages/microglia in cell culture. It is postulated that GBM and cancer cells in general have the ability to polarize microglia toward an alternative phenotype (M2 macrophages/microglia) and this render the tumor microenvironment more favorable for tumor progression (including invasion, metastasis, chemoresistance and immunoevasion). Chemokines are a large class of proteins which are secreted by a variety of cells and tissues which have the ability to communicate to cells of the immune system (including macrophages). Chemokines act through a family of G Protein Coupled Receptors (GPCRs) which when activated can induce signaling that has the potential to mediate many cellular responses. Our laboratory has shown that macrophage-expressed CCR1 is particularly relevant as blockade of this receptor with small pharmacological inhibitors prevents them from stimulating GBM cell invasion in vitro. However we are also interested in how other chemokine systems may be influenced in tumor -associated macrophages/microglia. Investigations were made into signaling pathways of the chemokines receptors CXCR5 and CXCR6 and the effect on tumor invasion and resistance to chemotherapy. Changes in gene expression will be measured by quantitative real-time PCR, immunofluorescence microscopy. I used invasion and MTT assays to test the functional relevance in the GBM cell line-macrophage cocultres.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### **MADELINE SPINELLI, RAFAEL CARULLA-APARICIO, KAYLA BARETTO, DANIELLE DAVIS, PATRICK GABRIEL AND MILTON SANABRIA**

**Faculty Advisor: James Merritt**

#### **Synthesis of Novel CCR1 Antagonists by Coupling Carboxylic Acids to a Triazole Core for Potential Treatment of Glioblastoma**

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Glioblastoma is a rare but serious form of brain cancer with an average patient survival rate of around 15 months post-diagnosis. C-C Chemokine receptor 1 (CCR1) is a G-coupled protein receptor that controls chemotaxis, or cell movement in response to chemical signaling. This research focuses on synthesizing drug-like molecules as CCR1 antagonists for future glioblastoma treatment. Creating a drug that targets CCR1 may stop cancer cell movement and prevent tumor growth. To do this, unique carboxylic acids are paired to a triazole core using a synthesis procedure previously found to be ideal for this reaction. To determine potency and biological activity, analysis of these novel compounds is done using a CCR1 binding assay. Results of this assay, as well as brain penetrability calculations, or cLogP, are used to select molecules for improvement of these characteristics in future molecule synthesis.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### ANTHONY C. TRIOLA, ELOISA FRANCO, VEDANGA AREKAR, KHEVANA PATEL AND YURIKO ROOT

**Faculty Advisor:** Dil Ramanathan

#### Evaluation of High-Resolution Mass Spectrometry for Integrated Quantitative and Qualitative Analysis of Uridine and Its Metabolites in Adipocyte, Macrophage and Glioblastoma Cells

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Metabolic diseases are abnormalities resulting from a combination of multiple medical conditions including abdominal obesity, high blood sugar, and level of low and high density lipoprotein (LDL, HDL). Adipocyte-mediated control of plasma uridine is found to be critical for insulin sensitivity and impaired in high-fat diet induced obesity in vitro study. To investigate the biological significance of uridine biosynthesis in adipocyte (macrophage and glioblastoma cells) and its potential contribution in metabolic diseases such as diabetes, a qualitative/ quantitative Ultra High-Pressure Liquid Chromatography (UHPLC) method was developed to separate and isolate the nucleoside in each cell and analyze its behavior. A LTQ-Orbitrap mass spectrometer coupled to an UHPLC system was used for all experiments. Uridine and its metabolites were eluted using a 3 min linear gradient from a Agilent Zorbax Eclipse Plus C18 analytical column (2.1mm x100mm, 1.8 Micron) with a flow rate of 200 uL/min and a gradient of 0.1% formic acid and acetonitrile. Through the full scan uridine was detected at 245.0768 m/z accompanied with a signal of 4.96 E5. Lower limit of quantification (LLOQ) for this nucleotide was 0.95 pg/mL.

**Research Supported by:** Students Partnering with Faculty (SpF) summer research program, Kean University

### BIANCA ULRICH, MARSHALL HAYES AND YURIKO ROOT

**Faculty Advisor:** Marshall Hayes

#### Extraction and Application of Antimicrobial Bacterial Pigment Prodigiosin from *Serratia Marcescens*

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The chemical composition of bacterial pigments have antimicrobial or anticancer properties that may be beneficial in developing novel antibiotics to combat the growing problem of antimicrobial resistance. Bacteria collected and isolated from the environment will be visually screened for pigmentation and identified using the 16S rRNA gene and pigment producing genes before extraction and purification of pigment. *Serratia marcescens* and its distinctive red bacterial pigment Prodigiosin will be the focus of this work. Antimicrobial activity will then be observed through minimum inhibitory concentration (MIC) bioassays to determine introduction of and concentration of Prodigiosin against various bacterial strains.

### CHRISTOPHER VARSANYI

**Faculty Advisor:** Salvatore Coniglio

#### Glioblastoma Stimulation of OPN in Macrophages/Microglia is Dependent on CSF1

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Glioblastoma (GBM) is the most severe form of brain cancer with a low survival rate and limited treatment options. The macrophage growth factor, colony stimulate factor 1 (CSF-1) released by GBM recruits microglia (brain resident macrophages) by binding to its colony stimulating factor 1 receptor (CSF-1R). Here we investigate the role of a matricellular protein called osteopontin (OPN) which has been shown to be expressed by tumor-associated microglia and macrophages. OPN is an intriguing target as there is evidence it is involved in many tumor-tropic functions and that interfering with its expression can mitigate the effects of GBM in animal models. Here we show that GBM cell conditioned media strongly stimulates OPN gene expression in murine microglia and macrophage cell lines as measured by quantitative real time PCR. Furthermore, when CSF-1R is blocked using pharmacological inhibitors, the effect on OPN is abrogated. Recombinant CSF-1 also stimulates microglia expression of OPN to levels comparable to what is observed with GBM conditioned media. These data show that the CSF-1/CSF1-R pathway is both necessary and sufficient for OPN expression in microglia. Finally, we show by SDS/PAGE that OPN is induced at the protein level as well.

### KAITLYN WEILER

**Faculty Advisor:** Marshall Hayes

#### Diversity, Virulence and Antibiotic Resistance Profiling of *Pseudomonas aeruginosa* Isolated from Compost

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The opportunistic pathogen *Pseudomonas aeruginosa* has been shown to survive the critical, thermophilic phase of the composting process and can become a human health concern if spread from environmental reservoirs. This study analyzed a compost-isolated strain of *P. aeruginosa* by virulence analysis of five exotoxin sequences—exoA, exoS, exoT, exoY, and exoU. PCR results showed that the genome contained four of the five exotoxin genes. *P. aeruginosa* (ATCC 27853) was used as a positive control. The isolated genes were cloned into the commercial plasmid vector pGLO to obtain the full DNA sequences. MLST and MIC screening were also performed for diversity profiling and determination of the isolate's resistance to the antibiotics ampicillin, azithromycin, gentamicin and tetracycline. Overall, the compost-isolated strain will be compared to the clinical control strain. Future research could be conducted on how to optimize composting conditions to further prevent *P. aeruginosa* growth, and to study its biofilm phenotype in response to environmental stresses.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### EVAN WILSON

**Faculty Advisor:** Brian Baldwin

#### Assessment of New Jersey State Standards for Testing with District Factor Grouping

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The purpose of this research presentation is to bring awareness and consideration of the developing test scores amongst New Jersey school districts localized into District Factor Groups. Assessment is made by comparing other school districts within multiple others by diving into the subcategories of Ethnicity, Gender, English Language Learners, and Socio-Economic Status. Correlation and data is represented in multiple illustrations comparing 2018 with previous years over a positive/negative growth set.

### CAGDAS YANYATAN

**Faculty Advisor:** Salvatore Coniglio

#### Inhibition of Glioblastoma Cell Invasion in a Co-Culture with Macrophages Utilizing a Real Time Assay

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A real time assay utilizing the ACEA RT-DP instrument along with Corning Incorporated Transwell® Assays by the introduction of small molecule compounds were established. These assays provide an opportunity for scientists to examine novel compounds for their effects in blocking metastatic invasion of cancerous cell lines. Glioblastoma/macrophage co-culture are placed in the top chamber of the assay, while the bottom chamber contains a medium with a chemoattractant. Glioblastoma cells are expected to migrate through the membrane as they are attracted to the nutrients placed in the bottom chamber. These assays supply a robust alternative to the techniques currently available to scientists.

### NURSING

### MARIE DAMESTOIR, MYRNA PRINCE

**Faculty Advisor:** Yvonne Wesley

#### Nurses' Knowledge about Prophylaxis Treatment in Reducing DVT

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Venous thromboembolism (VTE) is potentially a life-threatening condition commonly known as deep vein thrombosis (DVT) and pulmonary embolism (PE). DVT is a prevalent but treatable disease that affects patients with high-risk factors such as sustained trauma, orthopedic and general surgery, prolonged immobilization, and injuries commonly to the long bones (Al-

Mugheed & Bayraktar, 2018). Numerous findings have indicated that 40% of at-risk surgical patients and 60% of at-risk medical patients did not receive DVT prophylaxis. The goal of the project is to assess the baccalaureate nurses' knowledge of DVT. Specifically, the project objectives are to; 1) describe the participants awareness of DVT risks, 2) define the participants level of awareness of anticoagulant treatments and prophylaxis measures and determine whether DVT knowledge varies by year of experience, work environment and/or job title. A sample of 30 participants will be recruited from Kean University's Baccalaureate Science Nursing (BSN) program. A 13-item Deep Vein Thrombosis Prevention Practices questionnaire will be utilized to collect data from the participants along with 4 demographic questions.

### CORIE FERUZAN

**Faculty Advisor:** Susan Araujo

#### Still a Work in Progress

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In 4400 I am doing a QI project regarding PEEP Rounding and how it decreases the fall rate. PEEP rounding is completed by a nursing team to provide frequent observation for the prevention of falls, decreased pressure ulcer occurrence, improvement of patient satisfaction and improved nurse/patient collaboration. PEEP is an acronym for position, elimination, environment and pain. The objective of this study is to determine the effectiveness of PEEP rounds on fall prevention. Outcome pending.

### SILVIA JIGLAU

**Faculty Advisor:** Prisca Anuforo

#### Fall Prevention in Adult/Geriatric Inpatient Medical Surgical Units

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Four Peas in a Pod Assessment Tool, a Concept in Patient Prevention Fall in Medical Surgical Units. The Four Peas in a Pod assessment tool is an intervention strategy that focuses on four principals of patient assessment, when rounding the medical surgical units. The first Pea in a Pod refers to "potty" when the nursing staff offers the patient assistance with ambulation to the bathroom; the second Pea in a Pod stands for "pain", assessing the patient pain status; the third Pea in a Pod will assess the patient's "position in bed"; the fourth Pea in a Pod will assess that patient's "possessions" items if placed within reach. Despite preventive programs in most medical environments, patient falls are a primary safety issue and the number one cause of sentinel events in hospitals. Current measures of fall prevention focus on staff and patient education but vary widely across medical institutions. Using evidence-based theories, I present an assessment tool that is design to prevent and decrease falls of adult/geriatric patients in inpatient medical surgical units.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **GUERLINE MAHOTIERE**

*Faculty Advisor: Susan Araujo*

#### **The Role of Clergy Regarding Infection Prevention and Religious Rituals**

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As the result of an observation made during the flu season of 2018, a study was conducted to understand how proper adherence to infection control practices and potential outbreaks of illness are issues that must be addressed at the level of religion and culture rituals among certain groups of people; namely, clergy visitors to healthcare facilities. Seven clergy from different backgrounds and cultures were recruited to participate in a survey to understand the adherence to infection control protocols among clergy visitors to health care facilities. The survey results revealed that there is a lack of knowledge of infection control practices in this population. Nurse educators in healthcare facilities have a great responsibility to extend teaching to clergy visitors concerning infection control, especially when the clergy is to facilitate the patients' religious and/or cultural rituals. The intent is not to stop patients and clergy from performing their rituals, it is rather to prevent the potential spread of infection.

### **SERENE SKY**

*Faculty Advisor: Susan Araujo*

#### **Childhood Obesity Prevention: Parents Perception and Schools' Strategies, a Systematic Review**

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Objective: The purpose of the study is to encourage the implementation of public health action and preventative intervention to reduce the risk factors for overweight and obesity in children as a result of unhealthy diet and physical inactivity. To increase recognition to parents and children of the implications of unhealthy diet and insufficient physical activity and knowledge of preventative actions. Data source: The following databases were searched for primary studies: MEDLINE, CINAHL®, and the Cochrane Library from 2012 through 2018. The reference list includes all relevant reviewed articles, and related systematic reviews to identify articles that the database searches resulted. Summary of findings: Findings were that many childhood obesity prevention studies have been performed in the United States, and many of these school-based interventions were conducted within the past six years. The total of 115 intervention studies were identified, (80%) which were school based. The evidence is significant that school-based diet or physical activity interventions prevent obesity or overweight in children. Parental limit setting for sedentary behavior, and parental nurturance were evaluated as predictors of children body mass index. Findings suggest the importance of firm parenting.

### **ELIZABETH STEVENSON**

*Faculty Advisor: Denise Rizzolo*

#### **Registered Nurses' Knowledge and Perception of Fecal Microbiota Transplantation**

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Fecal microbiota transplantation has been shown to be an effective treatment for patients suffering from recurrent *Clostridium difficile* infection. The unconventional nature of fecal microbial transplants, as well as the limited knowledge of the public on this therapeutic modality, present an opportunity for nurses to act as a resource in educating patients and their families. Nurses are responsible, both professionally and ethically, to keep abreast of current practice. Awareness and understanding of trends in both research and practice are crucial if nurses are to provide comprehensive, competent care. A survey was disseminated via the New Jersey State Nurses Association to registered nurses to determine if significant gaps existed in their knowledge and perception of fecal microbiota transplantation based on the independent variables of age, years of experience, level of education, and practice setting. Results of this study established that many registered nurses are unaware of the procedure, emphasizing the need to learn about fecal microbiota transplantation so they may educate and advocate for their patients. The need was also identified for faculty to become educated about fecal microbiota transplantation to more fully prepare future registered nurses.

### **MARIA GILDEGARDA TORRES**

*Faculty Advisor: Susan Araujo*

#### **What Drives Nursing Students to Join Medical Missions?**

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The research paper is about what motivates Kean nursing students join Medical Missions. Medical Missions have shown that it improves communication skills and level of cultural competency. Medical Missions have shown importance of teamwork and the value of a shared mission to reach the common goal. This research aims to obtain information through survey questions what encourages Kean nursing students to join Medical Missions and what factors inhibit the nursing students to volunteer. The research will discover reasons why other nurses do not like to join Medical Missions and the situations that block them from joining a Medical Mission. The research will also show the reasons other nurses joined Medical Missions in the past and what would motivate them to join a medical mission in the future. The research data will provide information of different Medical Missions other people have joined, their experiences and lessons gained. The research will show the importance of communication and teamwork to attain a common goal and how the experience of being a volunteer improves cultural sensitivity, cultural competency, teamwork, confidence and communication.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### TERESA WALSH

*Faculty Advisor: Denise Rizzolo*

#### Nursing Faculty Perceptions of Succession Planning: Opportunities and Barriers

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Academic nurse leaders serve a major role in the preparation of competent registered nurses to meet the needs of a complex and constantly changing healthcare environment. The academic nurse leader must possess strong managerial and interpersonal skills to collaborate with various departments within the collegiate community. Qualified candidates are essential to fill current and future nursing leadership positions within academia. Succession planning with a focus on on-the-job training to develop future leaders has been suggested as a plan to attract and retain academic nurse leaders (Mintz-Binder, 2014). The purpose of this study is to determine if succession planning opportunities are offered to nursing faculty that enhance their leadership skills and prepare them for the role of academic leader. Results of this study may indicate the number of years that faculty teach within a nursing program and, the type of institution where they teach is related the number succession planning opportunities they are offered. Outcomes will be measured utilizing the Perceived Barriers to Career Advancement Scales (Lyness & Thompson, 2000) and collection and demographic data.

### OCCUPATIONAL THERAPY

#### PENINA BRANDEIS, PAIGE GARRAMONE, MEGAN KRET, ARIELLE LEVA AND LUKASZ SLIWA

*Faculty Advisor: Laurie Knis-Matthews*

#### Exploring the Experiences of Substance-Dependent Fathers and their Views of Parenthood

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Currently, the United States is in the midst of an opioid epidemic that directly impacts family systems, yet little is known about the experiences of parents who use these substances. The existing body of literature mainly emphasizes the experiences of mothers with a substance use disorder, leaving little focus on fathers. In light of this gap in research on fathers who abuse drugs, specifically opioids, our qualitative research study seeks to uncover how these fathers view their journey of parenthood. Five to seven fathers with a substance use disorder will be recruited for this study who are over the age of 18, have at least one child (biological, foster, or stepchild, etc.) and in a mental health program. In-depth, semi-structured interviews will be conducted using the Kawa model as a conceptual framework to gain a comprehensive understanding of their parenting experiences. The Kawa model, a well established occupational therapy evaluation, uses the metaphor of a river and its surrounding elements

(rocks, driftwood, river bank, and river flow) to understand a person's life story. Following a qualitative research methodology, we will seek to answer the following question: Using the Kawa model as a guide, how do men with a substance use disorder view their journey of parenthood?

#### NICOLE FASANO, CARLY CELKOS, ERIC LINARES, GABRIELLE ROYZNER AND JOYCE MUTHEE

*Faculty Advisors: Jennifer Gardner, Robert Kitzing, Mariann Moran*

#### Exploring the Habits and Routines of Individuals in Early Recovery from Substance Use Disorders

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The purpose of the proposed study is to analyze the habits and routines of individuals in early recovery from Substance Use Disorder (SUD) through an exploratory, non-experimental mixed-methods design. The researchers identified early recovery as a time of increased risk of relapse and an area of limited research. All participants were recruited from an intensive outpatient treatment program for substance use disorders in northern New Jersey. Data collection consisted of a Demographic Survey, a Daily Occupational Questionnaire, and follow-up interviews with 5 randomly selected participants. The data was analyzed through descriptive statistics and phenomenological methodology to explore the experience of time while in early recovery. The data collected can be used for future research and in treatment of those in early recovery, as occupational therapists, and other healthcare professionals, have a vested interest in how habits and routines contribute to one's daily schedule.

#### MAUREEN GRAINGER, DANIELLE HICKS, MELISSA SCAMMACCA, ALEXIS KESSARIS AND MORIAH NESSMITH

*Faculty Advisor: Jennifer Gardner*

#### The Effectiveness of Using Pedometers to Increase Physical Activity Among Individuals with Serious Mental Illness

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Individuals with serious mental illness (SMI) are at an increased risk for comorbidities such as cardiovascular disease, diabetes, and metabolic syndromes, leading to premature mortality of up to 25 years. These individuals have also been shown to have decreased engagement in meaningful activities due to both mental and physical symptoms of their disease. This pilot and feasibility study aims to investigate the impact of a pedometer intervention on levels of physical activity and engagement in daily activities as measured by the International Physical Activity Questionnaire Short Form (IPAQ-SF) and Difficulties in Occupational Engagement Questionnaire. Ten participants will be recruited from a community mental health setting and will be provided with pedometers and weekly phone calls to encourage pedometer use and walking behaviors. Researchers predict that this pedometer intervention will increase walking

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behaviors, which will lead to increased engagement in meaningful activities and increased levels of physical activity. The findings from this research can be used by occupational therapists and other health providers to guide treatment that uses physical activity as a means to promote overall health and wellness in the SMI population.

### **ISABEL IWACHIW, TAYLOR KENNEDY, NICOLE KASPAR AND JACQUELINE ALEXANDRE**

**Faculty Advisor: Mariann Moran**

#### **The Impact on Return to Work Based on the Perceptions and Experiences of Social Supports for those with Nontraumatic Brain Injury**

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Acquired Brain Injuries are injuries to the brain, that are not hereditary, congenital, degenerative, or induced by birth trauma. Brain injuries are further defined as either traumatic or non-traumatic. As a result of the injury, individuals often experience physical, mental, and cognitive deficits that make it difficult to return to work and maintain employment. There is currently ample research focusing on individual, employer, transportation, and education barriers that impact return to work; however, there is little research on the impact of social supports related to return to work. Consequently, the purpose of this qualitative study is to explore how social supports impact return to work for individuals with non-traumatic brain injuries. Semi-structured interviews were conducted with four research participants to gain an in depth understanding of the participants perceptions and experiences of social supports and its impact on return to work.

### **KARLENE PANG, MONICA CRISTOFARO, CAITLYN SMITH AND TIRZAH RUSHING**

**Faculty Advisor: Claire Mulry**

#### **An Activity-Based Home Therapy Program for Spatial Neglect**

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This study examines the impact of an activity-based home program for people with spatial neglect. Stroke survivors who have spatial neglect require more caregiver assistance and show slower recovery rates than those without it. Meaningful activity based home exercise programs have been shown to be more effective than therapeutic exercise. This exploratory case series examines the effect of an activity-based home program on a client's occupational performance and functional upper extremity use. These results may guide best treatment practices for clients who have had a previous stroke as well as spatial neglect.

### **ALLA RODIONOV, MOLLY MAGIER, CATHERINE GILIO AND ALEXANDRA MARKS**

**Faculty Advisor: Mariann Moran**

#### **Measuring the Efficacy of a Cooking Group in Young Adults with Autism**

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This study investigates the efficacy of a therapeutic cooking group called Taste of Independence for young adults with high functioning autism spectrum disorder (HFASD). We address three overarching questions: 1) Was the Taste of Independence group effective in improving social skills? 2) Was the TOI group effective in improving cooking skills? 3) If members attended more than one Taste of Independence program, were they able to maintain skills gained from the previous session? We analyzed 3-5 cycles of the TOI program, looking retrospectively at the de-identified data collected from three assessments. Research on therapeutic activity groups could benefit the autism spectrum community. This study will help confirm that services provided to the community are effective and that gained skills are retained. As information regarding the effectiveness of the group is disseminated across the occupational therapy profession, the Taste of Independence program may be replicated, broadening the benefits to those outside of the Kean community.

### **COLLEEN SCHREIER, JUANA GUGLIELMINO, MANVEEN SINGH, JOHN ROSALIE AND JOSEPH VITULLO**

**Faculty Advisor: Jennifer Gardner, Mariann Moran**

#### **The Impact of an Occupation-Based Transition to College Program for Young Adults with Autism Spectrum Disorder**

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The purpose of this study is to explore the impact of an occupation-based Transition to College program facilitated in spring 2017 and spring 2018 by Kean University's Occupational Therapy Community Cares Clinic (KUOT-CCC). The objective of this program was to increase the perceived role competence as a future college student for adolescents and young adults with autism. A pre-experimental, pretest-posttest design will be used to retrospectively analyze survey data and follow-up interview data to determine the impact of the program on 15 young adults' perceived role competence as a potential future college student. The quantitative survey data will be analyzed for differences between pre- and post-program perceived role competence. The follow-up interview data from participants will be analyzed for common themes. Assessing the impact of the programming is a valuable step in determining how occupational therapy practitioners can best support young adults with autism who want to pursue postsecondary education.

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### **JULIE VAN BUITEN, LIZA BENOVENLI, NICOLE SELTERMAN, KATHLEEN DALY AND SVITLANA STEMUSOVA**

*Faculty Advisor: Claire Mulry*

#### **Outcomes of Caregiver-Mediated Home-Based Therapy Program for Care Recipients with Spatial Neglect**

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This study examines the outcomes of an activity-based home program for people with spatial neglect and their caregivers. Such information will contribute to the body of knowledge in the field of occupational therapy and rehabilitative treatment regarding best practice for people with spatial neglect. This exploratory case series will be conducted using qualitative and quantitative measures. Based upon the results of this study, we hope to find that this home program positively impacts a client's occupational performance and decreases the burden on their caregiver.

### **PHYSICAL THERAPY**

### **INAH ALEXA BUNALES, MELISSA WINT**

*Advisor: Thomas Koc*

#### **The Immediate Effects of Knee Flexion Range of Motion Following Manual Therapy or Self-Stretching/Active Range of Motion Following a Total Knee Arthroplasty: A Case Report**

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Osteoarthritis (OA), is the most frequent cause of disability among adults in the United States (U.S.) and is the leading indication for joint replacement procedures. A treatment option following a TKA includes manual therapy (MT). Forms of MT include joint mobilizations, myofascial releases (MFR), stretching, scar mobilizations, soft tissue mobilization (STM), and muscle energy techniques (METs). For 6 days, the authors utilized a different MT technique and 1 day of self-stretching and active range of motion for an 85 year old male who was 3 days status post right TKA. The greatest gains for AROM/PROM for knee flexion were achieved while performing typical arthrokinematic motion joint mobilizations, for AROM and PROM, resulting in a gain of 10 degrees and 10 degrees, respectfully. In our case study we will recognize that the interventions that were performed increased mechanoreceptors responses due to an increase in AROM/PROM. However, we theorize that performing typical arthrokinematic motion joint mobilizations stimulates a greater response from the mechanoreceptors and therefore a greater stimulation response to the central and peripheral nervous system.

### **PSYCHOLOGY**

### **FABIEL BATISTA**

*Faculty Advisor: Lydia Kaplan*

#### **Perception of Music Genres in Relation to Race and History**

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This study examines the relationship between perceptions of music genres and the history of their inception. It was hypothesized that the public would link musical genres to commercialism and marketing rather than the origins of their creation. An indiscriminate number of participants were selected at random, as the study relied on chance encounters for honest responses from the subjects in question. Participants would randomly walk into a campus radio station and naturally be exposed to two individual songs. Participants would then potentially comment on these songs, where their responses would then be assessed. The responses alluded to a significant difference between the perception of music genres and their accurate foundation.

### **COLLEEN COOK**

*Faculty Advisor: Verneda P. Hamm Baugh*

#### **The Influence of Visual Tattoos on the Perception of a Male Physical Therapist**

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This study examined how a male therapist's visible tattoos influences how he is perceived. A photograph of a male therapist with a small visible tattoo and a photograph of the same male therapist with numerous visible tattoos were presented to participants. Each picture had the exact same resume and the following scenario: "You were injured and needed to get surgery. How comfortable would you be having this male as your physical therapist?" Using a rating scale of 1 - 5, each participant rated their level of comfort of receiving services from the therapist. It was hypothesized that participants will be more comfortable having a male physical therapist with fewer visible tattoos.

### **ROMELAH DONAZAL, AMANDA NUNES**

*Faculty Advisor: Leslie DaCosta*

#### **Dressed and Stressed: Shopping's Effect on Emotional Stress**

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College years are a stressful time for students. As psychology majors, we are interested in studying whether certain human behaviors affect mental state. Since college students shop as a leisure activity, it is beneficial to know how this behavior may impact the already significant stress levels that students experience. A survey was designed and distributed to a



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representative sample of students from the Kean University population. The collected data was then analyzed using descriptive statistics and statistical tests. The results were examined and conclusions were drawn regarding whether shopping alleviates stress or causes it within the population of Kean students.

### DANIELLE DRUCKER

*Faculty Advisor: Lydia Kaplan*

#### The Obstacles Faced by Male Victims of Domestic Violence

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When focusing on domestic violence, society typically thinks about women as the victims of the crime. However, there are a few men who have experienced the damaging effects of domestic abuse in a relationship. While considering men as the victims, all other aspects surrounding a domestic violence case are altered and must be looked at from a new perspective. This includes the types of abuse, impact and coping for the victim, reporting issues, public reactions and credibility, interaction with law enforcement, courts and prosecuting, and health services. For my experiment, I conducted a survey with the intentions of determining the level of awareness surrounding domestic violence with males or females as the victims. I attempted to find a correlation between a person's sex and their level of knowledge about domestic violence. The survey was anonymous and was created and shared using Google Forms. The survey had seven questions with the only demographic question being about the participants' sex. Once the surveys were distributed, I was able to formulate my results. I found that while there was no significant difference between the responses of male and female participants, I did find that people generally had less knowledge about male victims of domestic violence than females.

### RYAN ELLISON

*Faculty Advisor: Lydia Kaplan*

#### How Children Cope and Navigate Through Life with Incarcerated Parents

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Parental Incarceration is something that has been undermined by the public in recent years, however it is a dramatic issue that affects thousands of children across America (Nichols, Loper & Meyer, 2015). When discussing parental incarceration, it is important to note who is affected by it, the factors and causes, and how patterns of parental incarceration have increased year to year (Johnson & Easterling, 2012). Factors of emotional, behavioral, and physical issues all relate to children and how they cope with parental incarceration (Murray, Farrington, & Sekol, 2012; Turney, 2018), and were explored in my research.

### CHRISTOPHER FRIAS

*Faculty Advisor: Verneda P. Hamm Baugh*

#### The Influence of Brand and Price on Ratings of Cologne

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This research study investigated participants' perceptions of aromas based on brand and price. Kean University students volunteered for this study. Participants were asked to smell an aroma and rate the favorability and purchase intention of the smelled aroma. Participants were randomly assigned to two groups. Both groups smelled the same aroma, although the description of the colognes was altered between groups. One group received a description of a generic brand with an inexpensive price, while the other received a description of a designer brand with an expensive price. It was hypothesized that the group reading the details of a designer, expensive brand would rate the aroma as better smelling and be more likely to purchase the cologne as a gift. On the other hand, the generic, inexpensive brand would be rated lower though it would be more likely purchased for oneself. This is important to psychology because product descriptions may influence consumers toward a purchase decision.

### ASHLEY FUENTES

*Faculty Advisor: Verneda P. Hamm Baugh*

#### Factors Influencing Ratings of Attractiveness of Symmetrical Faces

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This research project investigated the relationship between facial symmetry and perceptions of beauty. The potential goal of the study was to better understand what influences the perception of attractiveness during a first impression. Kean University students were exposed to two sets of headshot photographs. One set included three photos of a male model and the second set included three photos of a female model. Each set included one original photo of the model, one photo that was symmetrical to represent left-left features, and one photo that was symmetrical to represent right-right features. The participants in this study were not told which photo was the original and which were altered. The altered photographs were manipulated using Photoshop software. Participants were first given a survey with traits that were perceived to be associated with attractiveness and asked to rate the degree to which they agree with the statement. After participants viewed the sets of photos they were asked to rate the attractiveness of each photo. It was hypothesized that participants would give an overall positive trait rating and a higher rating of attractiveness for the modified photographs that emphasize facial symmetry as opposed to the original photo of either gender.

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### **ASHLEY FUENTES, SUSAN KUSHNER**

**Faculty Advisor: Shai Tabib**

#### **Academic Chronotype Does Not Predict Honors GPA Attainment**

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Students' Academic Chronotype, or the time of day they choose to enroll in classes, can be classified as morning- or evening-type. Previous research suggests that evening-type students display higher levels of fatigue and poorer academic achievement than morning-type students. Considering that graduating with honors is associated with greater employment opportunities, students may wish to maintain the required honors grade point average (GPA) that is set by the university. The present study explored the relationship between students' academic chronotype and achieving an honor's GPA using archival data obtained from a larger research project at Kean University. The students' GPA and class schedules were extracted from the dataset. A classification of morning- or evening-type was given if 80% or more of their classes were held before or after 4:30pm, respectively. This coding process resulted in a total of 122 morning-type students and 62 evening-type students. Using a Chi-Square Test for Independence, no significant relationship was found between Academic Chronotype and attainment of an honor's GPA (3.45 or above). Limitations and suggestions for future research are discussed.

### **SYMONE GELAY**

**Faculty Advisor: Lydia Kaplan**

#### **Love Styles and the Color Wheel Theory in Terms of College Relationships**

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Abstract: My project investigated the prominent love style in college relationships today here at Kean University. The data was gathered by short surveys sent to separate classes with permission from the professors. From the data gathered I was able to determine the predominant love style throughout the school as well as for each gender. The predominant love style was Agape for the population surveyed. The importance this has to my discipline is that I am looking to become a therapist after I complete my studies. I wish to be able to help understand couples to better assist them if I find themselves in my office one day. It will also help further my research in my graduate years since I plan on researching this topic in more depth when given the chance to do so.

### **JULIA GIAMBRONE**

**Faculty Advisor: Joshua Burnett**

#### **The Correlation Between Smartphone Use and Smartphone Addiction**

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Since the advancement in smartphone technology, society has been plagued with a wide range of individuals who are addicted to these devices by the means of their internet use. Due to this continuous upsurge of smartphone addiction, the current research is focused on pinpointing specific factors of an individual's smartphone use that can cause this inclination. Thirty-three

students who attended Kean University in Union, NJ during the fall 2018 semester, participated in an online survey composed of 15 multiple choice questions. Of the 33 participants, 10 were found to be addicted to their devices. Two of the factors that were seen to be most impactful on a person's addiction were emotional distress when being away from their device and the use of the device to escape boredom or a dysphoric emotional state. To combat the public health problem that is smartphone addiction, people need to be more educated on the signs of this psychological disorder.

### **ZARIA HARRELL, FANY HERRERA AND GIOVANNY HERNANDEZ**

**Faculty Advisor: Stephanie Gibbs-Emenaka**

#### **Broke: The Lack of Financial Education and the Impact on Kean University Students**

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College debt is at an all-time high. This issue has shown itself to be a hindrance to students during their college career and beyond. Students are enrolling into four-year institutions and accumulating debt without having an understanding of financial literacy. Thus, this correlational study seeks to examine Kean University Undergraduate students knowledge of financial literacy and projected financial standing after graduating college. The researchers will survey 200 Kean University undergraduate students regarding their understanding of financial literacy and debt. All participants will be sent an email link. Participation is voluntary, and all surveys are anonymous to keep participants information confidential and encourage full participation. After reviewing surveys, the researchers will gather and analyze data to better understand the issues specific to Kean University students. The researchers will accept or reject the null hypothesis that students who have not taken a financial literacy education course will have financial hardships in the future.

### **MARY HEGYI**

**Faculty Advisor: Jane O'Brien**

#### **Role of Music in Regulating Emotions**

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The existing literature provides evidence that music significantly influences various emotions such as fear, anger, and happiness. For instance, Funk music is positively related to regulating positive and negative emotions respectively. People undergoing sad moments prefer to listen to sad music. Music has the potential to affect heart rate variability and emotional reactions. However, personality traits significantly influence music choice and thus an emotional response to the selection. This Study focused on test two hypotheses: 1) As a stimulus, music serves as a mood regulator by inducing various emotional states and 2) Music affects mood changes including emotional states such as fear or nervousness by magnifying or reducing them. The study involved volunteers who electronically completed a questionnaire. Participants

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responded to the following questions: 1) How much time do you spend listening to music during weekdays and weekends? 2) How they are affected by sad or joyous music? 3) To list the favorite songs sing during certain times or seasons? 4) Whether they listen to music while doing certain activities. The results of the study support the hypothesis that music is an emotional regulator.

### **LAURA HIMMLER**

**Faculty Advisor: Verneda P. Hamm Baugh**

#### **Transgender Prejudice in Educational Employment**

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This research study examined transgender prejudice in educational employment. Four groups of participants took the role of a hiring committee and individually assessed one of four applicants for a position as principal in an elementary school setting. One applicant's cover letter and resume was administered to each group to review. The four applicants had identical cover letters and resumes, but had varying gender identities including male, transgender male, female, and transgender female. After reviewing the cover letter and resume, each participant in each group rated the applicant's abilities regarding competency, skill, mental health, and rated their willingness to hire this applicant for the position. It was hypothesized that transgender applicants would be given an overall lower rating on competency, skill level, and mental health compared to the cisgender applicants.

### **SUSAN KUSHNER**

**Faculty Advisor: Verneda P. Hamm Baugh**

#### **The Influence of Hearing Status on Job Hiring**

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This research project examined the willingness of college students to hire someone for a job based on their level of hearing. College students were randomly assigned to three groups. Each group was given a scenario and a resume. All the scenarios and resumes were exactly the same except the job candidates varied in their level of hearing. Group one received a resume of a fully hearing job candidate. Group two received a resume of a hard of hearing job candidate with a certain percentage of hearing loss. Group three received a resume of a fully Deaf job candidate. After reading the scenario and the resume, each group was asked to answer a series of questions on a rating scale about their willingness to hire the candidate. It was hypothesized that people would be more willing to hire a job candidate with better hearing than a deaf candidate.

### **RICHARD LATOURETTE**

**Faculty Advisor: Briana Calcagno**

#### **Crossing the Uncanny Valley: Attitudes of Digital Natives Towards Artificial Intelligence**

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The uncanny valley (UV) effect, wherein humans experience a feeling of eeriness when encountering a robot that is approaching human likeness, is a growing area of concern as robots and artificial intelligence (AI) become more prominent in human's lives (Mori, 1970). Individuals who were born after 1980, who were raised surrounded by technology and who possess technological skills different from members of the prior generation are referred to as Digital Natives (Prensky, 2001). Studies have indicated that increased information and communications technology (ICT) expertise leads to a higher means of flexible thinking and therefore ICT proficient individuals may be less susceptible to the deleterious effects of the uncanny valley (Barak, 2018). As robots and AI become more pervasive in society, it will be these ICT proficient digital natives who interact the closest with the emerging technology. The aim of this study is to establish an attitudinal baseline of digital natives towards AI and to ascertain whether AI elicits feelings of eeriness from digital natives. Participants were randomly selected undergraduates at a U.S. based university. The subjects were surveyed on whether they could be categorized as digital natives and their feelings towards AI.

### **CATHERINE LENAHAN**

**Faculty Advisor: Verneda P. Hamm Baugh**

#### **Parental Financial Investment in Extracurricular Activities**

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This research project examined how parents allocate funds to various activities in their child's lives. The importance of this study is to investigate the financial investment parents make in their children's activities. Participants received a scenario of their hypothetical 8th grade child who is interested in science, soccer, and playing the piano. Participants were given a budget of \$500 a month and were asked how they will divide the money for their child's sports coach, piano lessons, and academic tutor. It was hypothesized that adults will allot most of the \$500 for an academic tutor or a sports coach and less for music lessons.

### **KELLY MATUSZEWSKI**

**Faculty Advisor: Zandra Gratz**

#### **Civic Knowledge of College Students**

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Civic participation is a core value of American Democracy making the dwindling numbers of young Americans participation and knowledge quite alarming. The current study investigated correlations between college student's knowledge of politics, their perceived knowledge

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of politics and their news consumption. Two political knowledge tests were used (closed and open ended) to examine the psychometric differences between a multiple-choice and open-ended form. A sample of students from Kean University (n=34) and self-reported their demographics, political interest, media consumption, and their knowledge of politics. No significant correlations were found between knowledge and perceived consumption. However, alternate form reliability confirms the efficacy of the knowledge tests developed. Additional research is ongoing to further isolate the variables and their relationships.

### ISAAC NESHEIWAT

*Faculty Advisor: Verneda P. Hamm Baugh*

#### The Influence of Facial Piercings on Attractiveness

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This research study examined ratings of attractiveness of a man with various facial piercings. Photographs of the same man with the man displaying either an ear piercing, nose piercing, or lip piercing. Three groups of female college students viewed one of the pictures of the man and rated his level of attractiveness on a scale of 1 - 5. In addition, they rated him on friendliness, attractiveness, cowardliness, bravery, aggressiveness, approachability, and professionalism on the same 1 - 5 scale. It was hypothesized that the photograph of the man with the ear piercing will receive a higher overall rating compared to when he had a nose or lip piercing.

### JESSICA ONORATI

*Faculty Advisor: Verneda P. Hamm Baugh*

#### The Influence of Race and Gender on Disciplinary Practices in School Settings

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This research project examined the effects of race and gender on the disciplinary practices in school settings. Participants took a survey that explained a situation in which a disciplinary action needed to be administered. The possible disciplinary actions were either a verbal warning, after school detention, calling home to parents, in school suspension, community service, out of school suspension, and expulsion. Participants were presented with a picture of the child to be disciplined. The child was either a young Black male, young White male, young Black female, or young White female. Participants then chose the severity of the discipline the child should receive. It was hypothesized that males will receive more severe disciplinary actions than females and Black males will receive the most severe disciplinary action.

### JESSICA ONORATI

*Faculty Advisor: Shai Tabib*

#### The Relationship Between Academic Class and Test Anxiety

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Students often report that Test Anxiety is a factor that hinders their academic performance. Lowerclassmen might be more vulnerable to Test Anxiety since they are less accustomed to college-level testing. In order to investigate the relationship between academic class and Test Anxiety, archival data was obtained from a larger research project. Participants (N = 68) completed a survey that included a Test Anxiety scale and a demographics questionnaire in which they reported their academic class. An independent samples t-test found no difference in Test Anxiety between lowerclassmen (freshman and sophomores) and upperclassmen (juniors and seniors). This suggests that Test Anxiety begins before a student enters the university and does not change after continued exposure to college-level exams. An important limitation of this study was the underrepresentation of freshman, which prompted the separation of the four academic ranks into lowerclassmen and upperclassmen during the analysis. Further research should be conducted with a larger sample of incoming freshman.

### ADEDOTUN OSHOLUWU

*Faculty Advisor: Verneda P. Hamm Baugh*

#### First Impressions and Perceptions of Future Academic Success

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This research study looked at the impressions college students form about the future outcomes of an undergraduate freshman. Participants were randomly placed into three groups. Each group saw a picture of a Black male college freshman and were given information about his major and hometown location. The only difference between the three groups was the young man's hometown (Chicago, IL, Wellesley, MA, and International). Participants evaluated the freshman on seven points: support system, curiosity, emotional intelligence (EQ), work ethic, fitness, chances of graduation, and graduation GPA. It was hypothesized that the freshman with the International hometown will receive greater future outcomes than the freshman from Wellesley, MA who will receive a greater future outcome than the freshman from Chicago.

### ALISHA PEAN

*Faculty Advisor: Linda Symanski*

#### Composing/Implementing Mental Health Training Policies in the Workplace

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The purpose of the research is to investigate the creation of evidence-based policies used in the workplace to train Management, thereby increasing their competence when working with individuals who have Mental Health Disorders and, Intellectual and Developmental Disabilities.

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This competence factor of Management is imperative to increase self-respect/productivity of workers who are experiencing problems resulting in a trusting relationship with Management. The goal is to create theoretical policies that will require Management to utilize Mental Health Disorder training modules in the facilitation of their Management In-Services. Utilization of these policies will assist Management in developing insight regarding exhibited behaviors by these diverse populations.

### JIANNA PISA

**Faculty Advisor:** *Richard Conti*

#### Psychopathy, Cerebral Laterality, and Executive Functions

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The present study will examine psychopathy, executive functioning, and handedness in a non-clinical population using the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995), the Handedness Questionnaire (HQ; Flowers & Hudson, 2013), and the Behavior Rating of Executive Function- Adult (BRIEF-A; Gioia, Isquith, Guy & Kenworthy, 2000). Previous research measuring psychopathy, handedness and executive functioning has produced inconsistent findings. It is hypothesized that higher levels of primary psychopathy will demonstrate lower levels of executive functioning. As well as, the more non right handed and higher level of primary psychopathy, the lower the level of demonstrated executive functioning. All participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2016) and in accordance with Institutional Review Board (IRB) guidelines.

**Research Supported by:** Research Recruits program, Quality First Initiatives (QFI), Kean University

### JIANNA PISA

**Faculty Advisor:** *Verneda P. Hamm Baugh*

#### Racial Diversity and Perception of Comfort in a College Classroom

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This research project examined the comfort level of students that were exposed to different levels of a racially diverse classroom. The participants were divided into four groups. Each of the four groups were shown an image of either a majority white, majority Black, a moderately diverse classroom, or a very diverse classroom. They completed a survey to indicate their anticipated comfort level if they were to hypothetically join the classroom they were shown. Next, the participants were shown all four images and chose which classroom they would most want to be in. Then, the participants completed another comfort level survey on the classroom they chose. It was hypothesized that most participants would feel comfortable in any of the classrooms but would feel more comfortable in the classroom that had the majority of the same ethnicity as the participant.

### CATALINA ROCA

**Faculty Advisor:** *Zandra Gratz*

#### Levels of Moral Reasoning Among Kean Freshmen and Sophomore Students

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The main focus of this study to gain insight into how an individual's current mood and emotional status affects their moral decision making in situational events. About 60-80 participants were needed, each completing two small Likert scale inventories for Emotional State and State moods measure. After completing both, participants then moved on to an 11 item vignette where real-life events were listed. I hypothesize emotional state and mood status to have a significant effect on their moral decision making while completing the vignettes. Using correlational analyses (Pearson's correlational coefficient) I will assess any positive or negative relationships between emotions and moods to moral decision making.

#### PSY.D. COMBINED SCHOOL AND CLINICAL PSYCHOLOGY

### ARIKA AGGARWAL, MARISSA DESTEFANO, JARED HAMMOND, MARINA OGANESOVA AND KENDAHL SHORTWAY

**Faculty Advisor:** *Kendahl Shortway*

#### Stigma and Help-Seeking Behavior Among a Sample of Division III Student-Athletes

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College students experience increased rates of psychological concerns, with over 60% reporting moderate to severe levels of distress (Knowlden, Hackman, & Sharma, 2016). Despite the prevalence of anxiety and depressive symptoms on college campuses, high levels of perceived stigma among student-athletes is a potential barrier to seeking psychological services (Kaier, Cromer, Johnson, Strunk, & Davis, 2015). The purpose of this study was to assess student-athletes' attitudes towards mental health treatment through the completion of a brief Qualtrics survey. The measure, the Sports Psychology Attitudes-Revised Form, was administered, as well as a demographic questionnaire. The sample consisted of 73 student-athletes representing 12 different varsity sports teams from a public Division III higher education institution located in the Northeast. The results from this needs-based survey indicated that 26% of the student-athletes have previously received mental health services, 16% would seek mental health services, and 48% would prefer to work with a sport-specific provider. Our findings further increase awareness of the need for suitable mental health services for the student-athlete community, as they may be more willing to seek help from a sport-specific provider.



## STUDENT POSTER PRESENTATION ABSTRACTS

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### **CLAUDIA EMMANUEL, SALENA WILHELM, ANGEL MIMS AND ALEXANDRA GIL**

*Faculty Advisor: Aaron Gubi*

#### **Spectrum on Campus: College Professors' Beliefs Regarding Students with Autism**

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Individuals with autism spectrum disorder (ASD) are graduating high school and attending college at higher rates than in the past. Research shows that college students diagnosed along the autism spectrum often experience difficulties that impede graduation from college and successful employment outcomes. The current study investigated how teacher self-efficacy and ability to identify symptomology of ASD predicted attitudes toward students with ASD. The findings of this study highlight the need among faculty for opportunities for training and professional development, to strengthen faculty knowledge and self-efficacy beliefs regarding their capabilities to serve and work with undergraduate college students. Furthermore, knowledge in this area may be helpful in crafting training and professional development opportunities for faculty. Such understanding thus could indirectly facilitate more successful student outcomes.

### **DANIELLE FISHBEIN, KRISTEN PARENTE, DR. ADRIENNE GARRO AND DR. JENNIFER BLOCK-LERNER**

*Faculty Advisor: Adrienne Garro*

#### **School Personnel's Knowledge, Confidence and Perceptions of Social-Emotional Functioning in Students with Food Allergies**

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According to Food Allergy Research and Education (FARE), 5.9 million American children under the age of eighteen have at least one food allergy (Food Allergy Facts and Statistics for the U.S, 2018). Although research has shown the detrimental effects of food allergies on children's quality of life, there is less information about their impact on social-emotional functioning, specifically within school settings (Edwards & McQuaid, 2010). Therefore, the purpose of this study is to explore this impact from the perspective of school personnel to gain insight into the problems students with food allergies may face. Teachers and mental health professionals from school settings across the United States were asked to complete a self-report questionnaire assessing their knowledge and confidence in working with students with food allergies and their perceptions of these students' social-emotional functioning. In addition, we will also explore differences between teachers and school mental health professionals (counselors, school psychologists, etc.). These results can identify possible disparities between groups and lead to further research examining social-emotional functioning and mental health in students with food allergies, informing comprehensive intervention to address these issues.

### **AYAL GOLDBERG, SHIRA ENGELBERG, MICHAEL O'KANE AND KERI GIORDANO**

*Faculty Advisor: Keri Giordano*

#### **The Impact of Staff and Program Characteristics on Expulsion Rates of Infants and Young Children in Community Childcare Settings**

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Preschoolers in the US are expelled at dramatically higher rates than older students (Gilliam & Shahar, 2006). Expulsion represents a school's strongest, most final disciplinary action, and has been linked to increased likelihood of later dropout or graduation delay (American Psychological Association, 2008). Much attention has been paid to the high expulsion rate and the ethnicities of students expelled, but little is known regarding contributing programmatic factors. Survey data completed by 368 directors or staff of licensed New Jersey private preschool centers are utilized in this study. Expulsion rates are explored in relation to director and staff ages, levels of education, and years of experience. Programmatic factors including individual program accreditation status, policies, and staff-to-student ratios are explored for possible relations to expulsion rates.

### **JARED HAMMOND, ARIKA AGGARWAL, MARISSA DESTEFANO, KRISTEN PARENTE AND MICHAEL OKANE**

*Faculty Advisors: Kendahl Shortway*

#### **Concussion Symptoms and Assessment Explored Through Language**

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A concussion is a specific form of traumatic brain injury (TBI) that is the result of a hit or jolt to the head or body (CDC, 2017). Concussion diagnosis relies heavily on the self-report of symptoms and observer judgement. Many symptoms associated with concussion rely on "private events," or changes in cognition and emotion as perceived and language by the individual. The present objective is to explore linguistic and contextual barriers in concussion symptomatology and diagnostic measures. A comprehensive literature review was conducted. Results of the literature review suggest that language is critical for assessment. While diagnostic tools, such as the SCAT-5 and ImPACT, were effective for assessing for concussion, the available research highlights that administering such tests in languages other than English is potentially unreliable. It is important for clinicians screening for concussions to be cognizant of contextual factors, such as the primary language, sex/gender, and culture of the individual. Further research is needed to explore such factors to systematically reduce limitations while improving accuracy for the optimal administration of concussion screening tools.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **JARED HAMMOND, CRISTIN PONTILLO AND ARIKA AGGARWAL**

*Faculty Advisors: Jennifer Block-Lerner and Donald Marks*

#### **Does Perceived Socioeconomic Status Predict Receptivity to Mindfulness Practices and Willingness to Seek Psychotherapeutic Services?**

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Individuals of low socioeconomic status (SES) are in need of mental health care at similar or higher rates than those in the middle class (Reese et al., 2006). Higher levels of stigma surrounding mental health care are common among families with lower income, signifying a potential barrier for utilization (Golberstein et al., 2008). Higher SES has been associated with higher levels of receptivity to mindfulness and willingness to seek psychotherapy (Barnes et al., 2008; Meyer et al., 2013). The purpose of this study is to examine associations between SES, receptivity to mindfulness practices, and likelihood of seeking psychotherapeutic services in the context of curriculum-based mindfulness-focused workshops. Undergraduate students at a diverse state university in the northeastern U.S. participated in a one-session curriculum-based experiential workshop emphasizing values, mindfulness, and community-building. Results of the linear regression analysis suggest that SES is not associated with receptivity to mindfulness practices and willingness to seek psychotherapeutic services. Further examination of associations between these variables is necessary for developing, promoting, and extending accessible services for individuals of lower SES and other vulnerable or underserved populations.

### **VICTORIA INTERRA, GIULIANA STILLO, ANGEL MIMS, DR. KERI GIORDANO**

*Faculty Advisor: Keri Giordano*

#### **The Impact of Child and Administrator Ethnicity on Expulsion Rates in Community Childcare Programs**

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This paper aims to evaluate expulsion at a preschool educational level in order to determine whether there is an association between student/and or faculty ethnicity and rates of expulsion. Data were gathered via an online survey disseminated to directors or principals in New Jersey preschools and community child care programs. Keywords: early childhood, pre-school, community child care, racial and ethnic attitudes, school expulsion

### **KERYN KLEIMAN**

*Faculty Advisor: Jennifer Block-Lerner*

#### **Assessing Demographic Predictors of Receptivity to a Brief Mindfulness-Based Workshop, Immediately Post-Workshop and at One-Month Follow-Up**

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Research has demonstrated that mindfulness-based interventions are efficacious in treating a variety of conditions, including pain, stress, anxiety, depression, and eating disorders (Baer, 2003). Nevertheless, in the 2012 National Health Interview Survey (Burke et al., 2017), only 6.6% of surveyed participants reported engagement in mindfulness meditation or a related practice (e.g., spiritual or mantra meditation). Additionally, while 32% of college students report having mental health issues, only approximately one third seek out therapeutic services (Eisenberg, Hunt, Speer, & Zivin, 2011). Brief, group-based interventions may ameliorate this problem by increasing awareness and accessibility of mindfulness-based practices and therapies. A brief, one-session mindfulness workshop comprised of psychoeducation and experiential practices was administered to undergraduate students. We will explore whether demographic variables predict receptivity/acceptability of the brief mindfulness workshop immediately after the session and one month later. In addition, we will analyze whether any change in receptivity that occurred between these time points could be predicted by these variables. Implications for the dissemination of mindfulness-based interventions will be discussed.

### **TAYLOR MACLEAN AND DANIELLE FISHBEIN**

*Faculty Advisor: Kendahl Shortway*

#### **What About the Siblings?: A Narrative Approach to Understanding the Sibling Experience of Pediatric Cancer**

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The proposed study will offer a unique perspective on childhood cancer, from the viewpoint of siblings, using a case-study approach. Within the research on pediatric cancer, the siblings of those diagnosed are often under-represented. A cancer diagnosis has an effect on the entire family, and siblings may experience their own version of loss and trauma. It is therefore important to understand the sibling perspective in order to know how to care and support the family in the time of such medical crises. To gain more of an understanding of their experiences, adolescent siblings will be invited to tell their story in front of a camera with a short prompt. This method will allow the siblings to control the narrative and speak freely about their experiences related to their sibling having cancer. Siblings will also report demographic data and complete measures to assess their overall quality of life and sibling relationship quality. The narratives will then be transcribed and analyzed for common themes. Findings may portray various themes rooted in resilience, isolation, time constraint, growth, and family connectedness or disconnectedness, which may then be used to inform sibling-focused interventions.

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### **KRISTEN PARENTE, MICHAEL O’KANE, JARED HAMMOND, MARISSA DESTEFANO AND ARIKA AGGARWAL**

**Faculty Advisor: Kendahl Shortway**

#### **ACTive for Life: An Acceptance and Commitment Therapy and Yoga Program for Graduating Student-Athletes**

---

Participation in collegiate athletics is intense, but short-lived, with the majority of student-athletes terminating their competitive sport career upon graduation. This transition entails drastic changes to diet, exercise and social regiments, as well as, shifts in sense of identity, meaning and purpose. These overarching changes have psychological implications including adjustment problems, identity crisis, body image concerns and increased distress (Park, Lavallee, & Tod, 2013). We have created “ACTive for Life,” an original program with inclusion of yoga practice and components from acceptance and commitment therapy (ACT). Participants will engage in weekly 45-minute yoga sessions and 30-minute ACT-based workshops focusing on mindfulness, values in sport and beyond, acceptance, self-as-context, cognitive defusion and psychological flexibility. Using a mixed-method design, assessments will be administered at three intervals measuring psychological flexibility, mindfulness, psychological distress, commitment to values and athletic identity. An additional measure will elicit feedback about program feasibility, utility, and receptivity. Results will be useful for future interventions to prepare student-athletes for the transition from their competitive athletic identities.

### **NEIL PATEL, PAOLA RICARDO, MARQUITA CARTER AND CRISTIN PONTILLO**

**Faculty Advisors: Jennifer Block-Lerner and Donald Marks**

#### **Cultural Harmony: Examining the Effects of Exposure to Music-Based Mindfulness Practices on Feelings of Common Humanity and Openness to Diversity**

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In a time of increasing divisiveness and hostility towards those perceived as other, where the term “identity politics” has begun to dominate public discourse, finding ways to see humanity in others and foster openness to diversity can help generate change in the way communities interact and relate to one another (Gilbert, 2009). Engagement with cultural expressions via music may allow individuals to connect with universal aspects of human experience, including feeling part of nature or a larger whole (Matsunobu, 2011). However, little research has examined the effects of exposure to music-based mindfulness practices on these processes. This study aims to investigate whether exposure to the documentary One Track Heart, which features the spiritual journey of Krishna Das and the performance of kirtan as a form of mindfulness practice, contributes to increased feelings of openness to diversity and a sense of common humanity. Undergraduate students enrolled in psychology courses are quasi-randomly assigned to one of four conditions in

a 2x2 independent groups factorial design. Currently, 126 students have participated. Preliminary results will be presented and implications for the use of mindfulness-based practices like kirtan as ways of creating connection to shared aspects of the human experience will be discussed.

### **DOMINIQUE REMINICK, BRACHA KATZ, VANESSA VEGA AND Yael OSMAN**

**Faculty Advisor: Aaron Gubi**

#### **A Web-Based Training in Childhood Maltreatment and Trauma**

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Child maltreatment and trauma is a national health concern and is frequently under-reported by school psychologists. This presentation will provide a review of our web-based training study providing psychoeducation to school psychologists and school counselors on the signs, symptoms, and possible sequelae for complex trauma, mandatory reporting laws, and evidence-based suggestions for supporting students impacted by trauma or maltreatment. Participant knowledge of trauma-informed care practices will be assessed both before and after the training via online evaluations and we anticipate that participants who complete this training module will gain an increased understanding of how trauma presents among children within schools. Additionally, this study will assess the feasibility of web-based trainings for sensitive and challenging topics.

### **DOMINIQUE REMINICK, Yael OSMAN, CRISTIN PONTILLO, BRACHA KATZ AND VANESSA VEGA**

**Faculty Advisor: Adrienne Garro**

#### **The Impact of Mindfulness-Based Activities on Emotional Regulation in an Urban, Elementary After-School Program Population**

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Research indicates that after-school programs can have positive effects on children’s social-emotional development (Durlack et al, 2010). While after-school programs are widely implemented across the US, the use of mindfulness practices in such programs has received little attention. The present study seeks to address this gap by investigating the impact of mindfulness-based activities on children’s ability to understand and regulate their emotions in an urban, elementary after-school program. Eighteen 4th grade students in this program are participating in weekly sessions of mindfulness activities including breathing exercises, sensory awareness, and art-based emotional awareness activities. Students’ self-reports of their emotional awareness, via the Emotional Awareness Questionnaire (Rieffe et al, 2008) and management of their anger and sadness, via the Children’s Emotion Management Scales for Anger/Sadness (Zeman et al, 2001) are being assessed at baseline, midway through the intervention, and at the school year’s end. We expect that students will show increased awareness and more positive management of their emotions as a result of practicing mindfulness. Results from this study will help inform future use of mindfulness-based interventions in various school environments.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **PAOLA RICARDO, ASHLYNE MULLEN, JENNIFER BLOCK-LERNER, PH.D. AND DONALD MARKS PSY.D.**

*Faculty Advisor: Jennifer Block-Lerner*

#### **Our Bodies as Metaphor: Using Yoga to Foster Psychological Flexibility in the College Classroom**

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Yoga involves the practice of being present with one's mind and body, usually through movement, and accepting emotions and sensations as they are in each unfolding moment. Recent research has found yoga to be a beneficial treatment, leading to improvements in anxiety, depression, panic, sleep, and overall quality of life (Khalsa et al., 2015). Additionally, yoga has been shown to help develop mindfulness and decrease experiential avoidance (Dick et al., 2014). However, receptivity to yoga and other mindfulness practices has been mixed (Gaskins et al., 2015; Olano et al., 2015). The current study offers an alternative method of delivering yoga by incorporating postures and related practices in a curriculum-based workshop. Participants (N= 68) engaged in a one-session ACT workshop infused with yoga. The postures were used as a way to embody components of psychological flexibility and cultivate openness. Quantitative and qualitative data show that, on the whole, participants were receptive to the yoga exercises and able to connect the postures with acceptance, present moment, and values processes.

### **LINDSEY WILKINSON, EMILY SAUER AND DOMINIQUE REMINICK**

*Faculty Advisors: Donald Marks and Jennifer Block-Lerner*

#### **The Impact of Childhood Trauma on Adult Emotion Dysregulation and Expressed Anger in a Female College-Age Population**

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Research has indicated that traumatic childhood experiences may lead to decreased ability to manage anger, which has been associated with higher levels of other forms of emotional distress, and may entail problematic behavior such as acts of aggression and/or interpersonal violence (Smyth, Gardner, Marks & Moore, 2017). This study investigates the relationship between childhood trauma and expressed anger in adulthood as mediated by difficulties in emotion regulation. These constructs will be examined in a sample of female college students (N = 118) utilizing the Childhood Trauma Questionnaire, Anger Disorders Scale, and Difficulties in Emotion Regulation Scale. It is anticipated that reported traumatic childhood experiences (physical and emotional abuse) will predict reported levels of anger-related distress. It is also hypothesized that reported childhood trauma predicts two specific forms of anger-related distress: (a) aggression and (b) anger expression. Moreover, the study examines the indirect effects of childhood trauma on these two forms of anger-related distress through the combination of impulse control and limited access to emotion regulation strategies. Implications of the impact of childhood trauma on emotional health outcomes for adults will be discussed.

## **PUBLIC ADMINISTRATION**

### **MATHIAS BANNER**

*Faculty Advisor: Jung Ah Yun*

#### **The New York-New Jersey Trail Conference: Leadership Through Collaboration and Expertise**

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This presentation explores how an organization can utilize its leadership practices, specifically collaboration and expertise, while maintaining its autonomy dimension. The organization that is focused on is the New York-New Jersey Trail Conference (NYNJTC), a non-profit located in Mahway, New Jersey. The organization maintains trails, educates on proper usage, advocates for open space preservation, and provides material for hikers, runners, mountain bikers, equestrians, and overall nature lovers. Of particular interest, for Public Administration, is the organization's role in "Leave No Trace" which provides a case study for how the organization is able to retain its unique identity while collaborating with organizations for a shared goal. The concepts of Robert Denhardt's works (Managing Human Behavior in Public and Nonprofit Organizations (2016) and "The New Public Service: Serving Rather than Steering" from Public Administration Review (2000)) and Randee Lipson Lawrence's 2017 article "Understanding Collaborative Leadership in Theory and Practice" are used as models to compare against the NYNJTC's initiatives and programs.

### **MICHAEL CROWLEY**

*Faculty Advisor: Deborah Mohammed-Spinger*

#### **Intergovernmental Cooperation and the Opioid Crisis in New Jersey**

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This research presentation was tasked with identifying the historical context of the current opioid epidemic and the implications of intergovernmental cooperation and action on the outcome of the crisis. The research is an important look into how varying levels of government, from federal to local, and different agencies can increase their effectiveness in dealing with large scale public health issues. The research was done by using publicly available data, provided by the New Jersey Department of Health, that tracks rehab center demographics and by data by the New Jersey State Medical Examiner on deaths related to opioid overdoses. In addition, several press sources and official government releases were used to track legislative and executive actions taken by governing bodies. The main outcome has shown that despite a building problem much of the action taken by official bodies came late and has not been able to force much of a change in the current situation.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **CARISSA MAZZEO, CRISTINA FITTIPALDI, TIMOTHY AWOJOBI, JEMIMA NOEL, YAGMUR SOYBAKISLI AND NADINE JAMES**

*Faculty Advisor: Bok G. Jeong*

#### **Reforming Union Center**

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This research focuses on improving the city of Union, NJ Special Improvement District by conducting analysis and assessment regarding both the quantity and quality of stores within the district. The main objective of this research is to determine what opportunities there are to improve the overall quality of the district so it's beneficial for the city of Union's residents and with a focus on students attending Kean University. The research group has identified several needs within the Special Improvement District such as parking, public transportation, as well as, quality, and variety of stores which lowers the appeal to Kean University students do not become involved in the Union Township Community due to the high commuter population and low student appeal. By addressing the quality, variety and engaging students in the Special Improvement District, this will benefit the residents of Union and encourage more business to be conducted. The data sources used for this research is comprised of two surveys which have been conducted in the duration of Fall-2018 and Spring-2019; one for students and one for residents. The data was then compared to show areas of agreement, disagreement and form policy suggestion for the Special Improvement District.

### **KHAMAYAH MCCLAIN**

*Faculty Advisor: Craig Donovan*

#### **Management Challenges in Public Assistance Programs: An Overview of Food Assistance Programs in New Jersey**

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In this era of social welfare reform, particularly within the workforce of public assistance programs, the federal administration has streamlined procedures in order to serve citizens. However, the public sector's interactions with the public come into question when there are certain barriers that effect the way that employees may relate to their clients. This study examines these relationships and determine how public managers and the public perceive employee behaviors in food assistance programs. Along with this, the study clarifies what kinds challenges public managers and employees face in food assistance programs based upon human resource management practices. Food Assistance policy was explored using literature based research, semi-structured interviews, and food assistance program history. Results indicate that there is a dearth of research in this field and that more research on this topic is needed in order to improve the design of public assistance programs in the future.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### **SABIHA PAREVEEN**

*Faculty Advisor: Jung Ah Yun*

#### **Police Service Reforms in KPK, Pakistan**

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This study will examine the reform in human resource management at the KPK (Khyber Pakhtun Khwa) Police. Khyber Pakhtun Khwa (KPK), the province of Pakistan is significant due to its geo-strategic location as its north western border is shared with Afghanistan. This border is porous, unregulated and remained involved in many insurgencies since Soviet Union war in 1980. After Afghan War 2001, this province of the Pakistan was hit hard by militants/terrorists due to easy infiltration across the border. Due to the nature of tribal culture of KPK and inhabitants residing on both sides of north-western border of Pakistan and Afghanistan, created lots of law and order issues. This extraordinary development needed for the revamping the police department by capacity building and human resource development. In 2013, after the election, Pakistan Tehreek-e-Insaf took over provincial government and showed a political will for technocratic (structural and functional) and transactional(Behavioral) in Police department of KPK which has now become a big community asset for the KPK public.

### **JAZMINE TORRES**

*Faculty Advisors: Craig Donovan and Bok Jeong*

#### **Exporting American Higher Education Overseas: A Look at China**

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The demand for an American higher education is a global phenomenon. Since President Nixon's historic meetings with Chairman Mao Zedong in 1972, Sino-US relations have evolved considerably. Productive collaborative exchanges have included sports, culture, science and technology, women's issues, health and education. Chinese students have shown a dramatic increase in the demand for American higher education, with more than 250,000 students currently studying in the US. This study examines the establishment and operations of Sino-US collaborative Universities as an example of an innovative approach to meeting this need. We compare the recruitment, application and acceptance practices of Sino-US collaborative Universities, focusing on five public and private institutions. The implications for global higher education will be discussed.

**Acknowledgement: Jeffrey Toney Ph.D., Provost and Vice President of Academic Affairs, Kean University**

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**



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**MEI ZHENG, BRIANNA LOGAN, DOREEN BURGESS, ZANEB GOHAR, JONATHAN LOPEZ, MARIA HEREDIA, LAUREN RODRIGUEZ, EDWARD DEFREITAS, JASMINE DORT, REGINA HOLMES, DAN YAMAKAITIS, SCOUT HARTLEY, BRIANNA GREENBERG AND SOBEYDA CERRATO-LOPEZ**

**Faculty Advisor: Bok G. Jeong**

### **Integrating Kean University with Union Township**

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The project team examines the ways to enhance the integration between Kean University and Union Township, by address the needs of the various Kean Community and Union Township stakeholders. For the purpose of this project, a SWOT Analysis was conducted to breakdown the Strengths, Weaknesses, Opportunities, and Threats in pursuit of these two communities' integration. The project team utilizes various forms of data collection to compile a list of needs and suggestions and conducts its own surveys with students and residents in the academic year 2018-2019 for recommendations of integrating Kean University with Union Township. These suggestions will modify approaches used by the township and University to better the community and enhance their integration. This research is part of the collaborative project between the Kean University MPA program and Union Township.

### **SOCIAL WORK**

**AALIYA ALSTON, AMANDA FRUSCO, ALEXA ROBERTIELLO AND CHRISTINA RODRIGUEZ**

**Faculty Advisor: Maureen Himchak**

### **Dolores Solitano: A Mother's Perspective in *Silver Linings Playbook***

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Exploring the life of Dolores Solitano, the character chosen from *Silver Linings Playbook*. The question that was investigated was what was the issue of concern with Dolores? The methods used were engagement, assessment, and intervention. Dolores' strengths and challenges were discussed as well as the values, ethical conflict and legal obligations. There was a theory used to discuss the micro, mezzo, and macro systems. Then, can the concept of mindfulness be used when working with Dolores. In addition to, would Dolores be able to incorporate self-care into her life?

**DAMARYS ESCOTO, DOMINICK CROUCHELLI, DEANNA DELL BENE AND WILLIAM GYEKYE**

**Faculty Advisor: Maureen Himchak**

### **Intervention Strategy: Pat Sr.'s Obsessive Compulsive Disorder**

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This project looked at developing a clinical social work strategy to treat Obsessive Compulsive Disorder based on a character ("Pat Solitano, Sr.") from the film "*Silver Linings Playbook*". The methods and procedures outline the importance of the engagement and assessment steps in practice to: establish a clinician-client relationship, assess the client's strengths, challenges, look at influencing factors in the development and probable disorder cause, and develop "mutually agreed-on focus of work and desired outcomes" (Ingrao, 2015). In studying the character behavior and tendencies throughout the film, social work student practitioners can apply core social work values and ethics and learned modalities to show that the most suitable real-life intervention for a client like "Pat Solitano Sr." would be Cognitive Behavioral Therapy (CBT) with Exposure and Response Prevention Therapy (ERP). By using both CBT and ERP, the anticipated result is that clients like this would exercise mindfulness to explore and understand alternative ways of thinking and also acknowledge that negative thoughts do in fact occur—however, respond to them differently (Lack, 2012). This would help clients manage the disorder and enhance social as well as family dynamic functionality.

**JONATHAN HARRISON, HARRY JONES AND KIM LEVASH**

**Faculty Advisor: Myra Robinson**

### **Diagnosing Batman's mental health**

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Our project consists of using the skills gained as social workers at Kean university to collaborate to diagnosis super hero Batman's mental health status. By using the DSM 5 and our understanding of mental illness we are able to assess Batman. Batman is a household name that as kids we looked up to. After digging into his past we learn that Batman holds a lot of stress, guilt, and suffers daily. We have come together to help Batman get proper therapy to combat his own personal demons.

**TAMEKA MURPHY, BRENDA MICHEL, LYNN J VILCEUS, ERICA RODRIGUEZ AND SOPHIA DAVIS**

**Faculty Advisor: Jennifer Pax**

### **A Psychological and Social Analysis of *Precious*, the Movie**

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*Precious*, the movie, is about a young black female who experiences trauma and abuse during childhood. This project identifies and critiques the psychological and social related content from the film to the Diagnostic and Statistical Manual-5 and relevant literature. The discussion highlights educational content for clinical practice.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### JILLIAN PADILLA

*Faculty Advisor: Ingyu Moon*

#### Physical Health Disparities between People with Depression and the General Population

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Our research sought to investigate the difference in between the high impact health-related factors amongst people with depression and the general population. This research is critical for the field of social work as it seeks to illuminate the health disparities within healthcare provisions for people with depression as well as promote healthy behaviors among people with depression. A total of 3,797 people with depression and 32,621 individuals without depression were selected from the 2013 Behavioral Risk Factor Surveillance System (BRFSS). Chi-square and independent t-tests were also used to compare the difference in chronic diseases, healthcare access and health behaviors between two groups. Upon review of the analysis, we found that people with depression are more likely to have chronic diseases resulting in heart attacks, coronary heart disease, stroke, asthma, skin cancer, COPD, arthritis, kidney disease, diabetes, and obesity. Results indicated that regarding healthy eating habits, people with depression and the general population showed difference for vegetable and fruit consumption per day. People with depression are also more likely to report binge drinking, smoking, and physical inactivity. More importantly, approximately 18% of people with depression reported not being able to see a doctor due to cost while 10% of the general population could not see a doctor.

### SAMANTHA PICARO

*Faculty Advisor: Jennifer Pax*

#### Are College Sexual Assault Training Programs Disability Competent?

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The current project explores disability competence among college sexual assault training programs. For many young adults, college years are a time of increased independence from parents, but with that comes with more self-responsibility for safety. One area of risk is exposure to sexual assault, especially among college students with disabilities. The current study reviews the literature on sexual assault training with young adults on college campuses and identifies areas for improvements. The current project includes recommendations for sexual assault training best practices that are inclusive of individuals with disabilities.

### JESSE SHAFER, JONNELL HERON, ELENA ZANGERLE AND LEIGH SNELLBACK

*Faculty Advisor: Jennifer Pax*

#### A Psychological Analysis of *Split*, the Movie

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Split, the movie, is about a young male who has dissociative disorder. The purpose of the current project is to identify the psychological content and provide a critical analysis of the film guided by the Diagnostic and Statistical Manual – 5 and relevant literature. The discussion identifies the learning value for students in clinical practice courses.

### CATARINA SOUSA

*Faculty Advisor: Maureen Himchak*

#### Single-System Design-Self Assessment-Self-Care

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Single systems design along with its treatments and interventions have been essential in the lives of MSW students. Self-care is an important aspect of life for combating stressful and anxious situations. This study has been designed to examine if students are able to change their behaviors in their social, academic, and personal environments through self-care. With focusing on mind, body, spirit, and emotions for one week it shows the success in changing anxious behaviors.

### NINA STRAZDAS

*Faculty Advisor: Maureen Himchak*

#### Single-Systems Design Methodology

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This Single-Systems Design research study examined the effect that self-care has on the intensity of a social work graduate student's level of anxiety. As a social worker, self-care is an essential practice that should be incorporated regularly in order to prevent burn out. In an effort to explore how effective self-care is on one's level of anxiety, a single-systems design baseline report and intervention was utilized. For the baseline report, an exploratory log was used to track the problematic behavior of anxiety for one week. The behavior of anxiety was then rated on a scale of 0-5 based on the frequency, duration, and intensity of the anxiety episode. The social work graduate student then rated their feelings towards participating in individual and group counseling. Body, mind, spirit, and emotions were the self-care objectives for lowering the graduate student's level of anxiety. Through this research study, it was discovered that self-care interventions, such as meditation, yoga, journaling, and spending time outside, greatly assisted in lowering problematic behaviors experienced by social work graduate students. Moreover, it has been found that one intervention may be more powerful than the rest of them.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### HIEKA WIESE

*Faculty Advisor: Jennifer Pax*

#### An Examination of Hospitality in the Foster Care System

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Hospitality encompasses treating people in a warm, friendly, and generous manner. Customer service models often flow from the concept of hospitality and are employed to secure lasting customer relationships. Among institutions of society, government is often least associated with hospitality and customer service, but charged with the task of child protection and permanency. This study examines the relationship between hospitality and customer service models and the process of recruiting, training, supporting, and retaining foster care resource parents in the State of New Jersey. Discussion includes implications for future research, policy, and practice.

### HIEKA WIESE, ZOEWY ASHLEY, LINDA HILL AND JAMES MCDANIEL

*Faculty Advisor: Maureen Himchak*

#### Grief and Guilt

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We looked at how feeling guilt during the grieving process and how it can result in incongruent behavior. Discovering the challenges and strengths of clients is a social workers main goal. With time and therapy, learning positive coping techniques for stress and developing strong supportive relationships can ease the grieving process.

## SOCIOLOGY

### THALIA MORSILLO

*Faculty Advisor: Julia Nevarez*

#### The Impact of Library Programming on the Community

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The impact of libraries on academic achievement will be explored in the proposed poster presentation. Several studies have determined a positive correlation between adequately funded library programs and academic achievement in school aged students. Some innovative library programs have even provided high school students with vocational job training. A new wave of library programs have emerged that educate both students and their families on the importance of literacy. Both public and school libraries are providing family literacy education programs to aid students' with literacy skills. The proposed poster presentation will examine different library programs that seek to strengthen literacy skills in students and their families.

## SPECIAL EDUCATION

### TAIWO ADEYEMI

*Faculty Advisor: Beverly Kling*

#### Overrepresentation of African American Students in Special Education Programs Compared to Caucasian Students

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Research has suggested that disproportionate representation of culturally diverse students in special education has been a significant debate in the field of special education within the United States. Moreover, it has been a reoccurring discussion for parents, minority communities, the education community and teacher trainers in higher education. The disproportionality may be due to race, culture, gender, socioeconomic status, parents' education, and school location. This study examined data to determine if there is an overrepresentation of African American students in special education compared to Caucasian students. This study used quantitative approaches to analyze the statistical data collected from the New Jersey Department of Education website. The data collected consist of entire enrollment of district reported data on African American and Caucasian in general and special education ages 6 to 21 in the state of New Jersey focusing on all the counties and Middlesex County. The results of this study support the hypothesis of the overrepresentation of African American students in special education. Data analysis showed a considerable difference between African American and Caucasian students in special education both on the state and county level.

### LISA MARIE BLANCHARD

*Faculty Advisor: Beverly Kling*

#### Parent Perspectives of the Effectiveness of Early Intervention and School-Based Special Education Pre-K Services

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The purpose of this research is to learn more about special education students' experience with Early Intervention and school based Pre-K setting. This study will also determine if students received Early Intervention Services. If the child was eligible for Early Intervention, what was the age of the student when he/she received services? If a student did not receive Early Intervention Services, what was the reason for lack of services? Were the parents of this given child aware of Early Intervention Services and that their child qualified or were they uninformed about these services? The research will investigate the nature of the child's disability and whether it was identified. Overall, the research will provide information on the use of Early Intervention Services, whether they helped students in preschool disabled classrooms and whether parents were aware of or chose to take advantage of these services.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### **JULIE CHESNEY**

*Faculty Advisor: Beverly Kling*

#### **Teachers' Attitude Toward Alternative Proficiency Assessment**

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This research was designed to examine the attitudes of teachers regarding alternative proficiency assessments (APA). It focused on teachers' knowledge of APA, their level of training and if they have used it in their classrooms. Graduate students in three targeted classes in either the Master's Program in Autism and Developmental Disabilities or the post Master's BCBA program were invited to participate in this study by taking a short survey. They work with students with Autism and Developmental Disabilities and/or are learning about alternative assessments for students with moderate to severe disabilities. These participants used or will use alternative proficiency assessment to measure students' performance which is part of the accountability system required by state and federal officials. The participants answered a survey that consisted of short answer questions about Alternative Proficiency Assessment. Such questions determined teachers' input on adequate planning time for them to prepare APA instruction and assessments, and assess teachers' training to design and administer APA assessments. The results of this study could provide more information on teachers' perspective on alternative proficiency assessment.

### **CHRISTINA DELOUISA**

*Faculty Advisor: Beverly Kling*

#### **Classroom Teachers' Perspectives on the Recognition of Bipolar Disorder as Distinct from Other Emotional/Behavioral Disorders**

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Bipolar Disorder (BD) is a complex mental health disorder that is very difficult to diagnose. The purpose of this study is to determine teachers' knowledge of characteristics of Bipolar and other emotional/behavioral disorders in the classroom. In addition, a purpose of this study is to determine whether and where students with these characteristics, indicative of Bipolar Disorder, receive services. The teachers surveyed in this study consisted of general and special educators in range from pre-K to eighth grade. The teachers were invited to fill out a survey exploring their perspectives and opinions on bipolar disorder as distinct from other emotional/behavioral disorders, their knowledge of characteristics of Bipolar Disorder, whether students receive treatment and if so, in what school setting? All certified teachers in a public middle school were invited to participate in this survey. A benefit of this study would be to make teachers aware of what childhood bipolar disorder is and how it is addressed in the school. In addition, study results may lead to increased training for teacher in recognition of bipolar and other mental health disorders.

### **MARIA ANGELA FERNANDES**

*Faculty Advisor: Patricia Higgins*

#### **Perspectives on Co-Teaching in the Classroom**

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The primary focus of this study will be to analyze the perspectives of educators co-teaching. The participants will be both general education and special education elementary educators with varied years of experience. The participants will be given a link to an online survey which will be composed of 20 questions, 14 of which multiple choice are, 5 short answers, and one open-ended response question. The data will be collected from the responses and desegregated, and trends will be examined using the participant's responses. Specific trends will focus on the models of co-teaching and what factors they considered essential to building success in a co-teaching classroom.

### **DOMENICA FICARRA**

*Faculty Advisor: Beverly Kling*

#### **Elementary School Teachers' Perspectives on the Effects of Project-Based Learning on Students with Disabilities**

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It is evident from the recent surge of Project Based Learning in education, 21st century skills are a focus throughout innovative districts across the nation. Previous studies have shown with the proper planning, professional development and collaboration Project Based Learning is highly beneficial for all students. Teachers' perceptions, experience, skill set and professional development of Project Based Learning are some of the most crucial factors that will affect the success of this methodology and their students within all classroom settings and diverse students. This study seeks to determine educator perspectives on teacher preparedness and success in implementing project based pedagogy on our special needs population at the elementary school level. Both general education and special education instructional staff in a public elementary school, with varying amounts of teaching experience and training in Project Based Learning participated in this study by completing an online survey. Results of this study can provide information on the success of Project Based Learning in this school and may lead to professional development to support teachers in implementing project based learning for all students.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### LISA FLEMING

*Faculty Advisor: Beverly Kling*

#### Teacher Perspectives on Issues and Techniques to Address Social Skills and Behaviors in Students with Autism

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Students with ASD often have delays in social interactions and social skills; this is a result of their impaired use of language, lack of ability to form peer relationships, failure to spontaneously share enjoyment with those around them, and a lack of reciprocity. This study serves to explore teacher perspectives on issues and techniques used to address social skills and behaviors in students with autism. The intent of this survey is to measure various effective/ineffective models teachers have used in their classroom. Participants in this study will be graduate students from three autism classes from Kean University, who will be invited to complete a short survey. The rationale of this study is to expand on effective interventions to increase social and communication skills in children with Autism.

### CARA LESPERANCE

*Faculty Advisor: Beverly Kling*

#### Transitioning Individuals with Moderate to Severe Autism to Post 21 Programs

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Individuals with moderate to severe autism who are age 21 or older and have aged out the educational system typically will transition to a Post 21 program. There are many different types of program options for these individuals, however, many of these individuals are lacking the appropriate amount of services needed to assist them in everyday life skills once leaving the educational system at the age of 21. Finding an appropriate program that is suitable for their behavioral needs becomes difficult. This study conducted via an online survey, examined various aspects of the current programs available by questioning the amount of time spent in the programs and the number of programs attended. In addition, the following questions were asked: was the individual dismissed from any programs and what were the reasons? Is the individual using state funds and if so, was that budget appropriate? Have there been improvements in choices for enrollment? Is the staff/student ratio sufficient? The results showed that the staff/student ratio is not sufficient. It also showed that the amount of programs available to individuals with moderate to severe behavioral concerns are lacking. Since there was a small number of responders to the survey, further exploration on this topic is needed.

### MOLLY LUPPINO

*Faculty Advisor: Patricia Higgins*

#### Academic Achievement of College Students with Disabilities

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The primary focus of this study will be to analyze the resources available to undergraduate and graduate students with disabilities who are members of Kappa Delta Pi, an education honors society. The participants will be undergraduate and graduate students at Kean University. The participants will be given a link to an online survey, which will be composed of 15 questions, 9 of which are multiple choice and 6 are open-ended. The data will be collected from the responses and desegregated, and trends will be examined using the participant's responses. Specific trends will focus on the accommodations that the students utilize and their academic success.

### THOMAS MEGLES

*Faculty Advisor: Beverly Kling*

#### Job Training for High School Students with Autism Spectrum Disorder

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Transitioning from high school to adulthood is difficult for students, but even more so for students with autism spectrum disorder. The nature of autism causes difficulty in communication and in social situations. Due to this, transition planning for these students does not always achieve its desired result. This study sought to explore methods of preparing high school aged students with autism spectrum disorder for employment after graduation. Participants in the study have experience in the Transition Planning process and are familiar with students with autism who have gone through transition. These participants completed an internet-based survey. Research results may suggest the current status of job training for students with autism prior to high school graduation and determine whether participants find it adequate. Participants will be asked to determine whether they believe training prior to graduation may result in more positive job outcomes, and whether training during high school should be expanded.

### EUGENE MOLLOY

*Faculty Advisor: Patricia Higgins*

#### Physical Education Teaching Practices for Students with Special Needs

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The purpose of this study is to identify the best practices to teach physical education to students with special needs. The subjects will be the twenty elementary physical education teachers that teach in the district of the investigator with varied years of experience. A yes/no questionnaire will be distributed to any teacher willing to participate. The questionnaire, containing 17 items focuses on four categories: introduction, methods to increase or maintain



## STUDENT POSTER PRESENTATION ABSTRACTS

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appropriate behavior, of methods to decrease or redirect inappropriate behaviors, and methods to improve motor skills. Once completed, the participants will send their survey responses back to the primary investigator via campus mail. Specific trends will focus on the different teaching strategies used by teachers based on experience. Also, the results of the survey will determine the most common strategies in order to teach physical education to students with special needs.

### **GUNEET MONGA**

*Faculty Advisor: Beverly Kling*

#### **Increasing Academic Performance and Time-on-Task in School-Age Children with ADHD/ Attention Issues**

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This study examines the methods used by the elementary school teachers to determine the learning strategies they use with students who have ADHD, the knowledge that the teachers already have, and professional development opportunities they received and or will receive to prepare them to work with students with ADHD and attention issues. A survey was distributed to 70 teachers at a local elementary school on the background knowledge of all teachers on ADHD, the support of administration in dealing with these students, the need for professional development workshops in the area of attention strategies, and a ranking of strategies used in the classroom each day.

### **NATHAN PEART**

*Faculty Advisor: Patricia Higgins*

#### **Teachers' Perspectives and Experiences in Teaching in Multiage Classrooms**

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The primary focus of my study will be to gather and analyze the perspectives and experiences of teachers who educate in a multiage classroom setting. The participants will be graduate students from the Special Education department of Kean University. All willing participants will be given a survey of 10 questions, 9 multiple choice and one open-ended response. The data collected from these responses will be used to see how multiage classrooms are currently servicing the needs of students.

### **ROBERT PEREZ**

*Faculty Advisor: Beverly Kling*

#### **The Effectiveness of Co-Teaching in an Inclusion Classroom**

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The importance of this study is to display teachers' perspectives on co-teaching and inclusion. The study aims to provide valuable information on the types of preparation co-teachers receive, their experiences in inclusion classes, the models of co-teaching they employ, and their opinions on whether students with learning disabilities benefit from inclusion in general education classes. The study that is being conducted surveys educators' views on co-teaching, the co-teaching models they employ in their classrooms, and the academic and social impact inclusion has on students with learning disabilities. Forty-two teachers in a public middle school were invited to complete an online survey. Results of this survey may drive professional development in this district and may make teachers aware of a need for more training in a co-teaching environment during teaching preparation courses and more professional development for teachers in co-teaching positions.

### **NICOLE REDDEN**

*Faculty Advisor: Beverly Kling*

#### **Inclusion of Students with Autism Spectrum Disorder: A Teacher's Perspective**

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With the rise of Autism Spectrum Disorder (ASD) in the United States the need for inclusion classrooms has increased. In order to further understand this classroom model the teacher's viewpoints need to be taken into consideration. Having the input and feedback from the teachers will allow for a more effective approach when implementing any new programs. This study will look into understanding the teachers' current viewpoint and the survey collects their responses for improvements and changes they may wish to see in inclusion programs. Graduate students from three targeted classes in the Special Education Program at Kean University were invited to complete a survey to provide their perspectives. The majority of these participants were teaching across grade levels. The goal of this study was to understand what teachers consider to be important in regard to their training to teach students with autism in inclusion settings. Participants may benefit from the research provided in this study and may choose to follow through with additional training and professional development workshops for working in inclusion classrooms.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### MARY REPOUSIS

**Faculty Advisor:** *Patricia Higgins*

#### Review of the Consultative Model in Secondary Education

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The primary focus of this study will be to analyze the perspectives of educators currently using the Consultative Model in a secondary high school inclusive setting and determine what components of the model are needed in order for the model to be effective. The participants of the study will consist of special educator consult teachers and humanities general education teachers with varied years of experience. The participants will be given a hard-copy multiple-choice question survey that is composed of 11 questions with 1 open-ended response question in regards to the model. The data will be collected and responses will be analyzed in regards to teacher role, subject area and years of teaching. Specific trends will be examined to see what factors are essential to implementing a successful consultative model.

### LOIS SCHILLING

**Faculty Advisor:** *Beverly Kling*

#### Teachers' Perspectives on Inclusion and their Perspectives on Effective/Ineffective Strategies and Methods

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The importance of this study is to determine general and special educator teachers' perspectives on inclusion, survey their level of training; find out what they feel is effective, what challenges they face and which models of co-teaching they prefer. Does the model that is primarily used in the classroom have a great deal of effect on whether co-teaching and inclusion are effective in the classroom? This is one of the questions that will be addressed in the survey. The other issues that will be dealt with are concerning co-planning, administrative support, and whether the general and special education teachers share planning, instructional delivery, grading, lessons and assessments together. Three graduate classes in Special Education at Kean University were targeted, and students were invited to participate in a short survey addressing the above issues. Results of this study may determine teacher perspectives and training in inclusion and co-teaching, and may lead to more professional development in these areas.

### SHAROL SMITH

**Faculty Advisor:** *Beverly Kling*

#### Teacher Perspectives on Strategies to Increase Attention and Relaxation in the Classroom

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Increasingly, school-aged children present with challenging emotional and behavioral problems and may be resistant to traditional special education approaches (Smith et al, 2001). Educators are therefore always looking for methods to curtail inappropriate behavior in the classroom

and increase on-task performance. Special educators have trained to utilize various behavioral strategies that will assist the growth and development of students within the classroom. This study will gain perspectives from teachers, and child study team members on knowledge of recommended strategies utilized in the classroom to help students with attention and anxiety issues in the classroom. The purpose of the study is to produce research-based strategies that will assist teachers and students alike in a classroom where the student has known anxiety and attention issues. A survey was distributed to graduate students in three targeted classes in the Dept. of Special Education. The study will collect information related to strategies teachers and child study team members utilize and consider effective in working with students with anxiety and attention issues in the school setting.

### JUSTYNA STEC

**Faculty Advisor:** *Beverly Kling*

#### General and Special Education Teacher Perspectives on Skills and Strategies to Manage Classroom Behavior at the Elementary School Level

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It is the goal of educators to motivate and engage all students within their classroom. Most importantly, teachers should show respect and concern for each individual within their classrooms. The purpose of this study is to determine the attitude of teachers teaching special needs students and identifying methods used and observed effective with these students. This study will identify the specific behaviors that may interfere with teaching and learning for students with special needs. Using behavioral interventions and behavior management strategies could enhance classroom performance in all schools. Elementary teachers in a public school were invited to take a short online survey, addressing topics of training, and professional development available to general and special education teachers in using behaviors strategies in their classrooms.

### CARLA VALENTE

**Faculty Advisor:** *Beverly Kling*

#### Social-Emotional Development and Self-Regulation in Preschoolers through the Pyramid Model

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Abstract: Socio-emotional development and self-regulation should be a primary focus of early childhood educators, as research shows these competencies are related to short and long-term positive outcomes, including higher academic achievement, increased well-being and fewer challenging behaviors. To support social-emotional development, teachers need to create positive relationships, help children feel secure and calm and acknowledge their feelings to help meet their emotional and social needs. The Pyramid Model strategies promote high quality supportive, nurturing and responsive environments that are critical in promoting social-emotional competence in all children. Therefore, the purpose of this study is to explore:

## STUDENT POSTER PRESENTATION ABSTRACTS

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the social-emotional characteristics of preschoolers and their importance, the Pyramid Model effectiveness in promoting social-emotional development and self-regulation and recommended strategies for early childhood educators. Lessons to promote social-emotional skills using this model were incorporated into the researcher's preschool disabled class to help students learn appropriate social emotional skills. For participants, the research used a checklist to observe targeted skills, using the Pyramid Model through the incorporation of themes into the curriculum.

### **RICHARD VASQUEZ**

*Faculty Advisor: Beverly Kling*

#### **Overrepresentation of English Language Learners in Special Education**

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This study examines the Representation of English as a Second Language students in Special Education in a local High School and compares that data to national averages. Research was gathered through a local high school to determine the percentage of English Language Learner (ELL) students who are also classified in Special Education as well as the years in which they participated the ELL program prior to being referred to Special Education. Additionally, the percentage of non ELL Students in Special Education at the local high school was determined. The data collected at the high school was compared to the national percentages, as found on the Educational Consortium website. Individuals may become aware of strategies to better assist students classified as ELL before referring the student to special education. As a result of this study, districts may offer additional and more specifically targeted services to English as a Second Language students that would better assist them in their educational journey.

### **THOMAS WEBER**

*Faculty Advisor: Beverly Kling*

#### **Teacher Perspectives on Gender Differences and the Impact on Special Education Referrals**

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The purpose of this research was to explore teacher perspectives on gender differences and Special Education referrals. It was hypothesized that teacher's input would provide evidence of significant gender differences related to classroom behavior, executive functioning skills and Special Education referrals. A survey was developed with the purpose of identifying certain traits that can have an impact on referrals. This particular study was conducted in a single North Jersey urban middle school with twenty-six total responses. Participation was well represented by gender, experience, grade level/s taught and teaching areas including general and Special Education teachers. Results supported the hypothesis with most participants responding similarly to the survey statements. As a result of the overall agreement between the majority of participants, the evidence was mostly conclusive. Males, in the opinion of most participants, demonstrate clear traits that can be quite different from females. With males

falling behind their female counterparts in the classroom including being overrepresented in Special Education, future appropriate strategies should lead to improved education for all. This study addresses the numerous gender differences that have led to gender imbalance in education.

### **DANA WOLFF**

*Faculty Advisor: Beverly Kling*

#### **Factors of Self-Esteem in Adolescents Transitioning from Primary School to Middle School: the Teacher's Perspective**

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The importance of this study is to display teachers' perspective of factors of self-esteem among adolescents transitioning from elementary to middle school. The study aimed to provide information on which factors teachers recognize as most prevalent in adolescents. Furthermore, the study aimed to provide information on the transition strategies available to aid in creating the most positive transition. The study that was conducted surveyed graduate students enrolled in the Special Education Master's program at Kean University. The survey asked students to reflect on the factors of self-esteem, body image, and transition strategies.

### **IMRAN ZIA**

*Faculty Advisor: Patricia Higgins*

#### **Teacher Perspective on Co-Teaching**

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The purpose of this study is to explore the variables that directly affect the success of the co-teaching partnership, and to investigate which aspects of co-teaching teachers deem critical to the practice of co-teaching. This information will be collected as a means to inform future avenues of research and, consequently, how the practice of co-teaching can be improved. For this study, general and special education teachers in grades one through five will respond to questions regarding teaching methods and strategies, their perceptions and attitudes regarding co-teaching relationships, and other contributing factors, which may influence outcomes. The paper survey will be composed of twenty-five questions, with some questions asking participants to respond using the multiple choice answers provided, and some questions asking readers to use a likert scale to respond to the questions.

### SPEECH LANGUAGE PATHOLOGY DOCTORATE SLPD

#### JACQUELINE AHRENS

*Faculty Advisor: Sarah Patten*

#### Unknown Bias Toward Adolescents of the Korean Culture in the Test of Pragmatic Language-Second Edition (TOPL-2)

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This study investigated possible bias in the TOPL-2 toward adolescents of the Korean culture and if non-Korean culture speech-language pathologists (SLPs) were aware of this possible bias. As per the American Speech-Language Hearing Association, in order to provide accurate and ethical assessment culture must be considered. Without consideration of culture misdiagnosis could occur. A qualitative, interview-based survey was implemented with a group of three Korean culture SLPs and three non-Korean culture SLPs. Thematic analysis was conducted to report and describe themes within the data. Results indicated that non-Korean culture SLPs did not find any bias in the TOPL-2 while the Korean culture SLPs identified bias in over 81% of the assessment. Further analysis of the Korean SLPs data revealed three primary and four secondary themes.

#### AMBIKA BHATTACHARYA

*Faculty Advisor: Sarah Patten*

#### South Asian's level of aphasia awareness and access to post-stroke supports compared to other cultures in New Jersey

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South Asians have the largest risk for stroke. Therefore, the aim of this study was to gauge South Asian's level of aphasia awareness and learn which supports and resources South Asian stroke survivors and their caregivers were accessing for post stroke recovery as compared to the non-South Asian population in New Jersey. A non-experimental, qualitative approach using a cross-sectional survey was carried out to collect and analyze data which was used to identify themes. The two participant groups were caregivers that culturally identified as South Asian and caregivers from other cultures. Results indicated 33% of South Asians had heard of aphasia compared to other cultures at 60%. South Asians were also less aware of support groups for people who have difficulty speaking and understanding speech after a stroke than other cultural communities. Additionally, the South Asian group accessed outpatient rehabilitation services 44.4% less than the general population. Lastly, caregivers mostly relied on online services and their family and friends as a resource for support.

#### STACEY JOHNSON

*Faculty Advisor: Mahchid Namazi*

#### The Dilemma Faced by Parents Who Need guidance after Early Intervention (EI)

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Continued support is an ongoing concern at a transition planning conference for families receiving EI (early intervention). The demand for continuous services through special education or a prereferral intervention program can arise due to the child exiting EI. Parents want fully qualified instructors to meet the needs of their child. Therefore, an explanation of special education and prereferral programs such as PIRT (prereferral intervention and referral program) needs to be explained to families so that they understand the strengths found in each. This qualitative study utilized a survey with a convenience sample of 15 education professionals. Participants completed a multiple choice, open-ended questionnaire with a series of demographic questions. Data was analyzed using thematic analysis. The findings challenged the existing assumptions that special education is the only choice after EI. However, the study indicated that when these programs are viewed as a collaborative forum for problem solving, families and educators will view them as equally important.

#### KEISHA STOKES

*Faculty Advisor: Sarah Patten*

#### Using iPad Apps and Video Modeling to Incorporate the First Language of Emerging Bilinguals Into Early Intervention Speech Therapy

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Question: Can technology in the form of iPad apps and video be used to incorporate the native language of emerging bilinguals when the SLP does not speak the child's native language? Importance: Nationally, the number of emerging bilinguals on the caseloads of SLPs is increasing. Methods: Participant #1 used iPad apps and video modeling in therapy to incorporate his L1 in therapeutic activities. Participant #2's mother provided L1 modeling while using apps and apps and video modeling in therapeutic activities. Conclusion: Participant #1 was able to use/learn four of five targeted words, two in his L1 and two in English. Participant #2 was unable to use/learn any of target words.

## STUDENT POSTER PRESENTATION ABSTRACTS

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### GILLIAN VELMER

*Faculty Advisor: Sarah Patten*

#### Using Melodic Intonation Therapy to Improve Speech Production for a Child with Developmental Apraxia of Speech

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Research on the benefits of Melodic Intonation Therapy (MIT) has been extensive for adults with neurological disorders, in particular those with aphasia. Few studies have explored using MIT to treat speech and language disorders in children with childhood, or developmental, apraxia of speech; therefore, the following research question was developed: Will MIT improve the articulation skills of a child with childhood apraxia of speech (CAS)? The participant was a six-year-old male receiving speech and language services in public school. After six modified MIT treatment sessions over a four-week period, the student's number of speech errors decreased based on raw data from the Goldman Fristoe Test of Articulation Third Edition in support of the research question. Informal error analysis revealed a decrease of final consonant deletion. There were limited opportunities for inferential statistics to determine if there were statistically significant differences between pre- and post- test scores. Positive results from this study support the use of modified MIT for children to decrease speech sound disorders in children; however, more research is needed to determine which specific elements (e.g., rhythm, melody, rate) of MIT are the most effective for success.

#### THERAPEUTIC RECREATION

### CHRISTIAN DEWITT, BRIELLE DOWNES

*Faculty Advisor: Sharon E. McKenzie*

#### Well-being as described by community-dwelling older adults: A case presentation

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The purpose of this study was to facilitate the writing of an older adult's life story using Guided Autobiography groups (GAB). The primary goal of the study is to promote a deeper understanding and acceptance of self and life as lived. This poster presentation will highlight preliminary data for this 6-week GAB program currently being implemented in Queens, NY. Baseline results of consented subjects will be presented showing the relationship between socio-economic status, psychological well-being, and self-esteem. We will also present a case sample of writing from the current group.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

### CHASADY WILFORD, DAKOTA WUNSCH

*Faculty Advisor: Kyoung Tae Kim*

#### Understanding Inclusion Through Unified Sports Participation: Qualitative Analysis of Parents' Experience

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The purpose of this study is to explore a parental perspective when it comes to their children participating in Unified Sports-Special Olympics. This study will also address their views on inclusive sports, disabilities, and the importance of inclusion. The use of Unified Sports as a recreational tool is extremely important and has great impact on those who participate. This study will be conducted by doing over the phone interviews with parents who have children participating in Unified Sports at a university in the northeast United States. The information gathered from these interviews will then be transcribed and interpreted into themes. This study will provide the views of parents with children participating in Unified Sports and how inclusion has impacted them and can apply to others.

## ARCHITECTURE AND DESIGN SHOWCASE

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#### ARCHITECTURAL STUDIES

### NADA ALY

*Faculty Advisor: Craig Konyk*

#### Urban Space

Presented is research into how Urban Space is created, presenting a process of designing three unique spaces to view outdoor movies. There is the creation of a primary, secondary, and tertiary space. The primary space is usually the largest space, the secondary is the medium sized space, and finally the tertiary is the smallest space. All three spaces have large stairs, which can be used for seating and give the space a movie theater feeling for the people watching. After carving out each space, they are connected by primary, secondary and tertiary streets. The primary and secondary streets connect to all three spaces, making the circulation system easier for people to access each space, while the tertiary streets are used as connectors for people to get from one space to another. In each space there is a movie screen but in the primary space there are two that are connected to make it easier for people to view the movie. All the facades have a visual and conceptual idea of triangulation that connects and relates them to each other. How Urban Space allows the interaction of different groups of people viewing different subject matter is the goal of the research.



## ARCHITECTURE AND DESIGN SHOWCASE

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### RAYMOND AROCHA

*Faculty Advisor: Craig Konyk*

#### Materials and Their Influence on Space

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Materiality can sometimes overwhelm a space and take away from the architecture. If architecture becomes distracted, then there is no place that influences emotion. This research seeks to discover the balance of how material works with the space by investigating how light and sound works with materials. Light and sound are two things that will always happen in a space. Making certain that those elements don't interfere with how the space influences people is the focus of this investigation. This is one component that makes well conceived architecture such a beautiful thing to experience.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### DIHZAE BAILEY

*Faculty Advisor: Craig Konyk*

#### Hospital Reformation

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Throughout history hospitals treating mental illness, the so called "insane asylums", were places where people were treated with procedures that are now considered a form of torture, or worse. Many of these older buildings of these certain hospitals are blocked off in separated and defensive blocks in the city fabric. My first hand experience from seeing three different hospitals in over 10 visits, I felt we all know that the design of hospitals is not conducive to wellness, with examination rooms being small rooms which lack windows and natural light. For my research, I will investigate the future of new hospital designs and how the simple things such as nature, natural lighting and movement throughout the space can enhance the patient experience.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### MATTHEW CARBONE

*Faculty Advisor: Craig Konyk*

#### Landscape + Architecture: Dia:Beacon Foundation

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As a part of our Studio 3: Landscape + Architecture project, our I conducted research into several contemporary artists exhibited in the museum, Dia:Beacon located in Beacon, New York. Thereafter, I designed based upon the context of the thriving arts community, and building on my research of artists and demographics. My design proposal involved making an annex to the Dia:Beacon Museum that would function as a venue for Dia:Foundation with

related events and involving the community at large. The proposal is a subterranean design that is directly adjacent to the museum and on the same property. This project helped me better understand the contextual analysis necessary in order to fully understand a community for the designing of civic architecture and its landscape. In addition, I was able to develop several representational, drawing, graphics and modeling techniques.

### ASHLEY CATARINO

*Faculty Advisor: Craig Konyk*

#### The Fundamental Argument: Will It or Will It Not Work?

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Which models would or would not work? In architecture, study models are very important to the design process. To know which idea would be able to work and which ideas would not is a matter of trial and error; of the testing a design thesis. What is being shown in this research is a demonstration of study models which would work versus the other study models that would not work. Thus the arguments are literally on display to allow people to better understand as to how or why something is able to work and something is not able to work.

### SANTIAGO RADA

*Faculty Advisor: Craig Konyk*

#### Eco-Friendly Architecture

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How do we form Architecture in a way that not only benefits us but is eco-friendly and sustainable to the environment around us? Architecture is a necessity not only for human survival, but for the entire eco-system, by maintaining it in a healthy state. By combining both necessities in collaboration with each other we can form a balance between man's creation and nature. By finding ways to include plants and trees within structures, we could form our structures to be living environments for these organisms. By flooding natural sunlight within the creation of space and incorporating an irrigation system for the transportation of water, we can form a biosphere-like living environment that's healthy for both humans and the entire eco-system.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### YANAISEY RIVERA

*Faculty Advisor: Craig Konyk*

#### Movie Festivals and Public Preference

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In this model, the intended purpose was to create spaces within buildings in which movies would be able to be displayed and to give the public a choice. There are three different spaces

## ARCHITECTURE AND DESIGN SHOWCASE

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in which three different films would be screened simultaneously. Conceptually, the design created unique buildings that would eventually form a small town. The screens chosen were meant for all different age groups. In the primary screen, an action movie would be displayed since those types of films attract a large audience and age group. Within the secondary space, an animation film would be displayed since it attracts children's attention, that way they will have a movie that they enjoy watching with their parents. Lastly, within the tertiary space, a musical or opera would be displayed attracting an older audience. Throughout the night, every age range will be able to enjoy a film and spend time with loved ones. The research seeks to demonstrate the relationship between space making and peoples' preferences.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### DESIGN - GRAPHIC, INDUSTRIAL, INTERIOR

#### ZAC CAVALUZZI

*Faculty Advisor: Robin Landa*

#### Black Sunday Table

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This piece is graphic, illustrative, functional, and is aesthetically pleasing. My research involved experimenting with construction, mixed media, translating illustrations to this media, and researching B-horror films. I am a graphic designer with an illustrator's background and this piece helped me merge those skills together. The piece is constructed out of cut strips of tape and stickers on wood with a clear resin coating. The steel frame was custom welded to fit the artwork which allows it to function flawlessly as a table. The main conclusion is a crisp cut, mixed-media coffee table that can be taken off of its steel frame and hung on the wall. The dual purpose of the piece makes it easier to arrange in a setting.

#### MICHAEL DITOMASSO

*Faculty Advisor: Robin Landa*

#### DOVE - Time for Love

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Paid paternity leave is a conversation largely ignored in the workplace. While most millennials agree that paid paternity leave is extremely important to them, the truth is that many employers simply do not offer enough time—if at all. Working with DOVE and The One Club, we want to create a public service advertising campaign for social media platforms that will encourage employees and employers alike to begin the discussion and come to an agreement. Our approach has been to research statistics on paternity leave—in both the US and other

countries—and interview new and future fathers on the importance of paternity leave to them and how the lack of one may affect them and the ones they love. Our conclusion thus far has been that, although slightly increasing, the availability of paid paternity leave in the workplace is still seriously lacking.

#### NICOLE EMERSON

*Faculty Advisor: Efecem Kutuk*

#### Castle Conquer

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Castle Conquer is a siege war inspired board game. It was created using the iterative design process involving research, testing, prototyping and refinement.

## INTERACTIVE EXHIBITS AND PERFORMANCES

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### COMMUNICATION, MEDIA, AND JOURNALISM

#### NGWA NUMFOR, JONATHAN ANDRADE, JACQUELINE MCEVOY, PRECIOUS CASTANON, DANIELLE THOMAS, SHANI-LEE PURCELL AND GABRIELLA MONTALBAN

*Faculty Advisors: Christina Mastroeni, Malcolm Evans*

#### Table Talk

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From #metoo and criminal justice reform, to finding your voice and freewriting, this session provides participants with an opportunity to engage in meaningful civil discourse using table top games. In "Humor in Pedagogy: How Ha-Ha Can Lead to Aha!" R.L. Garner discusses the idea of both teachers and students benefiting from humor in the classroom. By developing a history in this theory, we concluded the most effective way to have this idea come to life is through not just talking, but also doing. The theory has been tested in our classrooms through collaboration. It is through this collaboration, that we can comprise and produce a friendly level of humor for a variety of educational backgrounds.

## INTERACTIVE EXHIBITS AND PERFORMANCES

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### ENGLISH STUDIES

#### KELLI HAYES

*Faculty Advisor: Mia Zamora*

#### Exploring Self-Representation and Aesthetic Presentation in New Digital Media as a Resurgence of Dada Idealism

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This project explores the connection between emergent forms of digital content creation — like memes and Eliterature—and traditional Dada ideological concepts. By combining literary and art historical perspectives, this research project sought to establish a more nuanced critical lens through which to conceptualize and analyze new media as well as establish a way through which to better understand how digital intervention affects presentation of self and of art. A content analysis of Eliterature works, digital art, and traditional Dada manuscripts and works was conducted to inform the creation of an Eliterature piece and an accompanying art installation that invites people to contribute their own self-identifying artifacts. Both of these works encourage interaction and active engagement with the content of this research. This dualistic, creative approach is meant to present this research in an interactive way that mirrors the participative qualities found in online spaces as well as to more fully illustrate the digital and aesthetic processes being embodied and used to convey self.

### GENERAL STUDIES - INTERDISCIPLINARY PROJECT

#### ZACHARY GARDNER, MATTHEW DIAZ, ERIKA REYES AND CARLY CIARDULLO

*Faculty Advisor: Vito Zajda*

#### The Effects of Residual Limb Fluctuations in Regards to Prosthetic Comfort

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Post-amputation, the fit of the prosthetic to the residual limb is not only affected by the healing process, but also from diet, exercise habits, sweat, and swelling. With weight loss or weight gain, the limb no longer fits snugly in the prosthetic socket, causing irritation to the skin, mobility issues, overall discomfort, and hygiene concerns. Unfortunately, re-fitting a socket is not a solution that is available to all amputees and many find that they must wear multiple socks to make up the difference in volume. While traditionally a socket must be re-fit when ten socks are used on the residual limb, there are cases where amputees must put on over thirty socks to make their prosthetic usable. Flux, an adjustable prosthetic sock, seeks to help people with these problems in the event that getting re-fit for a new socket is not an option in the near future.

**Research supported by: Quality First Initiatives, Kean University**

### MUSIC CONSERVATORY/ARTS AND PERFORMANCE EDUCATION

#### SAMANTHA ADAMS, ANTONIA KITSOPOULOS-GRAZIANO AND CHAANCE BARNES-GOULD

*Faculty Advisor: Lyn Schraer-Joiner*

#### The Impact of the Rock Band Performance Experiences on Quality of Life Music of Adults with Developmental and/or Physical Disabilities

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The purpose of this descriptive research study was to investigate the impact of musical learning and performance using popular music pedagogy on the Quality of Life (QOL) of special-needs adults. We collected data on participants' experiences in learning to play rock band instruments and to perform in concert as possible potential factors relating to enhance QOL. To determine impact of music on participants' QOL, video recordings of music activities and the individual participant interviews were transcribed and then analyzed using a priori coding with emphasis upon themes related to Schalock's (1996) eight QOL dimensions and related Results of a priori coded data suggest that performing/self expression do promote QOL in the areas of emotional well-being, personal development, social inclusion, and interpersonal relations (Schalock, 1996). The results of our study will contribute to a growing body of knowledge pertaining to the post-secondary experiences of individuals who have "aged out" of the Individuals with Disabilities Education Act (IDEA). With this information, public schools and similar continuing education programs may be able to provide better support services to better prepare these individuals for the demands of living in and contributing to their communities.

**Research Supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

## STUDENT ORAL PRESENTATIONS SCHEDULE

### TUESDAY, APRIL 23, 2019

Time	Location	Title and Presenters
9:30 a.m. - 2:30 p.m.	STEM Auditorium	<i>Business Symposium</i> <b>Min Chung Han and Sut Sakchutchawarn, moderators</b>
11:00 a.m.	STEM 401	<i>Interdisciplinary Panel: History and Psychology of Social Movements</i> <b>Lillie Barber, Paola Ricardo, Dr. Dennis Klein &amp; Dr. Donald Marks</b>
1:00 p.m. -4:00 p.m.	STEM 401	<i>Psy.D. Dissertation Symposium</i> <b>Jennifer Block-Lerner, moderator</b>
4:00 p.m.	STEM Auditorium	<i>Latino Families' Experiences Accessing Early Intervention Services for Their Developmentally Delayed Children</i> <b>Katherine Lorente</b>
4:15 p.m.	STEM Auditorium	<i>International Adoption: Perceptions of parents, teacher and social worker</i> <b>Lynne Hartman</b>
4:30 p.m.	STEM Auditorium	<i>"The Correlation Between High School Students' Performance on the ELA/Literacy PARCC Assessment and Their Overall Academic GPA: A Descriptive Study"</i> <b>Jessica Vitali</b>
4:45 p.m.	STEM Auditorium	<i>Professional Development Projects</i> <b>Danielle Margulies</b>
5:00 p.m.	STEM	<i>What is the Reading Growth of Fifth Grade Students Under five different coaching scenarios?: A descriptive study</i> <b>Bettina Bergamo</b>
5:00 p.m.	STEM 6th Floor	<i>Early Childhood Education Thesis Research Presentations (Jennifer Chen, moderator)</i> <b>Aliza Schwartz, Brittany Meeter, Satyen Baldev, Amy Rodriguez &amp; Laura Yi</b>
5:10 p.m.	STEM Auditorium	<i>Professional Development and Reading Strategies</i> <b>Melissa Lorenzo</b>
5:20 p.m.	STEM Auditorium	<i>What is the relationship between fluency and comprehension at the first, second, and third grade comprehension: A correlational study</i> <b>Lauren Ubaldi</b>

Time	Location	Title and Presenters
5:30 p.m.	STEM Auditorium	<i>Is the Use of Graphic Novels Associated with Changes in Thoughts and Feelings about Reading Traditional Texts</i> <b>Ann Ryan</b>
5:40 p.m.	STEM Auditorium	<i>"What online tools and resources are available to support dyslexic students, their parents and educators?: A qualitative research design"</i> <b>Eileen Kinney</b>

\*Each presentation is 10 minutes in length

### WEDNESDAY, APRIL 24, 2019

Time	Location	Title and Presenters
9 a.m. -1 p.m.	STEM 501	<i>History Symposium</i> <b>Elizabeth Hyde, moderator</b>
9:00 a.m.	STEM Auditorium	<i>The Impact of the Rock Band Performance Experiences on Quality of Life Music of Adults with Developmental and/or Physical Disabilities</i> <b>Samantha Adams, Antonia Kitsopoulos-Graziano and Chaance Barnes-Gould</b>
9:15 a.m.	STEM 318	<i>Fully Immersive Public Space</i> <b>Sara Mountford, Eric Anderson and Nahquasia Robinson</b>
9:15 a.m.	STEM 306	<i>Substance Abuse, Mental Health and Violence-Based Discrimination of LGBT+ Youth</i> <b>Maria Briffa</b>
9:30 a.m.	STEM 318	<i>A Case Study in Using Augmented Reality and Mobile Design To Create Informative Experiences About Buildings</i> <b>Angel Santos</b>
9:45 a.m.	STEM 308	<i>Improving New Driving Habits with Waze</i> <b>Amanda Vigdor</b>
10:00 a.m.	STEM 308	<i>Sole Unit: Threaded with Culture, Driven by Community</i> <b>Frank Mellana</b>
10:15 a.m.	STEM 306	<i>A Marriage of Art and Science: Bodily Expressions and Cellular Movements</i> <b>Shiaoching Wang</b>

## STUDENT ORAL PRESENTATIONS SCHEDULE

WEDNESDAY, APRIL 24, 2019

Time	Location	Title and Presenters
10:30 a.m.	STEM 306	<i>Implementing a Successful Unified Sports Program: Lessons from Unified Sports Programs in New Jersey</i> <b>Anthony Manduca</b>
12:30 p.m. - 3:30 p.m.	STEM 318	<i>Traditions of Ancient and Medieval Magic: Amulets, Gems, and Jewelry</i> <b>See Program</b>
1:15 p.m.	STEM 501	<i>Analysis of Historical Recording Conventions in Classical Chinese Literature Through Emperor Ling of Han</i> <b>Charles Nelson</b>
1:30 P.M.	STEM 501	<i>What You Should Know About Graduate School As Presented by A Graduate Student</i> <b>Nicole Pastore</b>
2:00 p.m.	STEM 308	<i>Impacts of the MPA Program's Mission and Curriculum Change on Students' Global Awareness</i> <b>Scout Hartley</b>
2:00 p.m.	STEM 307	<i>Diversity in Literature</i> <b>Stephanie Bowles-Jones</b>
2:15 p.m.	STEM 308	<i>Minority Student Challenges in the College Application Process and the Role of the High School Counselor</i> <b>Jazmine Torres</b>
2:15 p.m.	STEM 307	<i>Small Bites of Knowledge</i> <b>Jeanne Donohue, Kaveena Bullock, Darline Ceus, Christina Masucci &amp; Serkan Tiker</b>
2:15 p.m.	STEM Auditorium	<i>Kean University, Liberty Hall Museum Historic Preservation</i> <b>Monica Morales, Nicole Duncan, Ashley Gross and Samantha Coppola</b>
2:30 p.m.	STEM Auditorium	0.05 <b>Sabrina Tan and Jacob Aristizabal</b>
2:30 p.m.	STEM 307	<i>The effects of organic matter and nitrogen fertilizer on rice paddy soil in Gonggan County, Hubei Province</i> <b>Ijeoma Akpu, Maurizia De Palma and Danielle Junio</b>
2:45 p.m.	STEM Auditorium	<i>Pretty For a Black Girl</i> <b>Danielle Thomas</b>

Time	Location	Title and Presenters
2:45 p.m.	STEM 307	<i>The Business Cycle and Market Expectations</i> <b>Moses Ajibade, Mou Qidi, Yanan Lyu, Jie Li and Hiral Shah</b>
3:00 p.m.	STEM Auditorium	<i>Pathology and Advancements in HIV and HIV Therapy</i> <b>Faustina Gomez, Hassen Hamzaoui, Maria Olaya and Adewunmi Talabi</b>
3:00 p.m.	STEM 308	<i>Benthic Macroinvertebrate Survey of the Elizabeth River</i> <b>Eugene Giardino</b>
3:00 p.m.	STEM 307	<i>A Prime Factorization Algorithm Utilizing Lattice Orders</i> <b>Matthew Johnson</b>
3:10 p.m.	STEM Auditorium	<i>Historical, Cultural, Political and Societal Perspectives and Knowledge of HIV</i> <b>Jeremy Bate, Connor Baucom, Shirley Ochoa, Ildio Santos and Ayten Sergios</b>
3:20 p.m.	STEM 307	<i>Myanmar: Key Challenges to Unity</i> <b>May Oo</b>

\*Each presentation is 10 minutes in length



## STUDENT ORAL PRESENTATION ABSTRACTS

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### ARCHITECTURAL STUDIES

#### SARA MOUNTFORD, ERIC ANDERSON AND NAHQASIA ROBINSON

*Faculty Advisor: Craig Konyk*

##### Fully Immersive Public Space

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This project will endeavor to recreate significant Public Spaces from Piazza del Campo in Sienna, Italy through use of the UNITY software in the simulated CAVE environment. Using actual 360 camera views as well as video feeds, simulated environments of this important open public space, will be reconstituted. An inventory of these “virtual experiential events” organized by typology will be developed and integrated into the First Year Architecture curricular experience, which is dedicated to “Urbanism and Architecture.” This could allow a fuller more immersive experience for understanding and appreciating how, through its attributes, this space gives civic quality to urban life. It is the goal of the summer research to develop a variety of experiential environments that can be utilized in the fall 2019 semester to support architectural education. Additionally, the Unity software can enable the design of space in real time, selecting options and experiencing them as “reality.” The CAVE also has potential application in the explanation to stakeholders of a newly created design, thus allowing them to be “in” a design before it is constructed.

#### ANGEL SANTOS

*Faculty Advisor: Ed Johnston*

##### A Case Study in Using Augmented Reality and Mobile Design to Create Informative Experiences About Buildings

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Augmented reality creates the opportunity to learn more about buildings while individuals are outside in the environment observing them along with the mobile devices that they already carry with them. The goal of this project is to create a functioning prototype of an augmented reality learning experience for at least one building on Kean University’s campus. The intention is to create and test a prototype and provide an exemplar which could be used in the future to shape similar experiences on other buildings on campus and at schools around the world. **Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### ART EDUCATION

#### SHIAOCHING WANG

*Faculty Advisors: Dr. Joseph Amorino and Dr. Marshall Hayes*

##### A Marriage of Art and Science: The Aesthetic Symbiotic Between Painting, the Body and Bacteria

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My goal is to raise awareness about the symbiotic relationship between the outward physical body and inner movements of bacteria and cellular structures. As a dancer, artist and educator, this studio-based research integrates art and science and has implications to cross-curricular learning. At the STEM building, I inoculated a media plate with bacteria from my body, which then grew into aesthetically pleasing forms. With the aid of microscopes and photography, I integrated these forms into the backdrop of a life-size self-portrait in oil paint. The painting process is done in layered glazes that interplay organic colors, textures and shapes, replicating the stratified nature of outwardly observative and microscopic realms of the human body. This exploration has enhanced my philosophical appreciation of outer and inner bodily movements as interrelated, natural occurrences that can contribute to the growth and well-being of the developing individual.

### ART HISTORY

#### SARAH HUNT, ANIBAL AGUILERA, SHAMMI AHMED, SABLE ARIAS, ARLENE BORBORN, LIANA CARDOSO, KIRSTIE CASTRO, HUNTER CZARNIK, KATHRYN DOYLE, ELIZABETH EGNER, IRAIDA GARCIA, CHRISTY HA, AMANDA JOHNSON, JOHN KIRK, EMILY KRAFFT, JESSICA MARTELL, NICHOLAS PERK, MORGAN PETZOLD, ARIEL RIMPSON, AMANI SHABAZZ, ALLISON STIER AND TAYLOR WATTS

*Faculty Advisors: Jacquelyn Tuerk-Stonberg*

##### Traditions of Ancient and Medieval Magic: Amulets, Gems, and Jewelry

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Students conceived, researched, and wrote an e-book collectively. The research topic is in art history of Late Antiquity and Medieval Byzantium. Each student individually focused on a particular art object (including amulets, gems, and jewelry) that engaged traditions of magic, science, or religion. Students analyzed the iconography and inscriptions, and interpreted art objects in historical and cultural contexts. Students worked collectively to organize, format, and edit the entire book.

### ASIAN STUDIES

#### CHARLES NELSON

*Faculty Advisor: Xurong Kong*

#### Analysis of Historical Recording Conventions in Classical Chinese Literature Through Emperor Ling of Han

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In the contemporary society, we tend to liken ourselves as scientific and logical, using scientific methods, empirical analysis, and proofs as a justification to this belief. And to a point, this assertion stands. However, in the research of Asian history, particularly Central Asian, Iranian, and Chinese history, scholars depend hugely on the accounts recorded in classical Chinese literature that do not abide by the same standards we use to conduct research. Perhaps most pronounced is how many classical Chinese literatures mix story-telling conventions and hyperboles with their historical records. The result is, research in the fields mentioned above are subject to speculation and debatable theories unless there is archaeological evidence to back up claims. In this research project, I will look at bibliographies of Emperor Ling of the Han Dynasty, an emperor with important achievements yet bad image, and how their portrayal of the emperor were influenced by the political environment, among other things. Through this, I will present the literary tools historians of the time used to report Emperor Ling, of which influenced literature on Emperor Ling thereafter.

### BIOLOGY

#### JEREMY BATE, CONNOR BAUCOM, SHIRLEY OCHOA, ILIDIO SANTOS AND AYTEN SERGIOS

*Faculty Advisors: Laura Lorentzen and Kristie Reilly*

#### Historical, Cultural, Political and Societal Perspectives and Knowledge of HIV

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Human Immunodeficiency Virus (HIV) is a bloodborne pathogen that targets the body's immune system by attacking T cells. Having originated from Simian Immunodeficiency Virus (SIV), the first confirmed case was discovered in the Democratic Republic of Congo in 1959. In the 1980s, the HIV pandemic began, and by the end of the decade, the World Health Organization reported the presence of HIV in 145 countries and nearly 400,000 cases worldwide. This rapid spread left the scientific community perplexed, and the general population scared. Our aim is to explore which factors led to the rapid global spread of HIV, after remaining isolated in Africa since 1959. By exploring historical records and peer-reviewed articles, the work of our research team seeks to uncover and piece together practical applications to enhance understanding of the history and potential dangers of the spread of future pandemics.

**Research Supported in Part by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

#### EUGENE GIARDINO

*Faculty Advisor: Lucas Kirby*

#### Benthic Macroinvertebrate Survey of the Elizabeth River

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In typical freshwater systems, biodiversity is greatest in close proximity to the headwater and decreases inversely with distance. Urban waterways, however, are not typical as they are subject to high levels of degradation from heavy anthropogenic influences including pollution and channelization. The goal of this study was to analyze the benthic macroinvertebrate community in the Elizabeth River in Union, NJ in conjunction with the U.S. EPA Stream Physical Characteristic Data Sheet. We hypothesized that water quality and subsequent macroinvertebrate biodiversity will improve as the stream flows through less disturbed riparian areas (urban greenspace). Twelve sites, either directly in the river or in tributaries, were kick sampled using D-nets, and enough substrate was collected from each site to fill a mason jar. Approximately one hundred specimens were sub-sampled from each jar which were then identified by taxa ranging from phylum to genus with the intention of characterizing the water and habitat quality (utilizing the High Grade Macroinvertebrate Index). The initial results indicate universally poor ecosystem health as the vast majority of specimens are Chironomidae (non-biting midges) or Oligochaeta (aquatic worms).

#### FAUSTINA GOMEZ, HASSEN HAMZAQI, MARIA OLAYA AND ADEWUNMI TALABI

*Faculty Advisors: Laura Lorentzen and Kristie Reilly*

#### Pathology and Advancements in HIV and HIV Therapy

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Human Immunodeficiency Virus (HIV) is a blood borne pathogen that infiltrates the immune system, leaving it vulnerable to disease. If left untreated, late stage, chronic HIV infection can develop into Autoimmune Deficiency Syndrome (AIDS). The Joint United Nations Programme on HIV/AIDS estimates between 37-44 million people living with the virus worldwide as of 2017. Many people do not have access to therapy for HIV or are even aware of their infection. Our objectives were to investigate the pathology and mechanisms of the virus, and current methods used to combat and treat it. We reviewed the current scientific research exploring how the virus infects a CD4+ T-cell, replicates, and spreads, including why it is difficult to treat, the current therapies, and therapies under development. Our research will provide awareness of the ongoing epidemic, and further offer insight to understanding the potential development and innovative ideas to further the advancement of HIV therapy. There is currently no cure for HIV/AIDS, but the more that is understood about it, the closer the race against the epidemic comes to a finish.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

## STUDENT ORAL PRESENTATION ABSTRACTS

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### BUSINESS

#### HARRIS ATZ, RENE KUNURIA AND PRINCESS JOHNSON

*Faculty Advisor: Sut Sakchutchawan*

##### Cultural Impact on International Management

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How does culture impact the way we manage businesses internationally? This is crucial to understand because in order to deal with international management we must understand their customs or ethics of conducting business. Understanding the social norms of any international management also shows respect and importance to their culture. We gathered the information to support the importance of cultural impact on international management by researching online scholar and journal articles from our Kean database as our source. After our research, we will have seen the different social norms in different cultures and how impactful it is in international management.

#### ARJUN BRAHMBHATT, DAVID NEGRON AND LARRY DAVID BONAPARTE

*Faculty Advisor: Sut Sakchutchawan*

##### Ethics and Corporate Social Responsibility

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In our research we will be comparing the ethics and corporate social responsibility of two different companies, one which is for profit and one which is non-for-profit. These two companies are Amazon, a well-known ecommerce business and American Red Cross, a popular non-for-profit organization that helps in humanitarian projects over the world. We chose these two companies because they have a prominent presence in our society and have used social media as a forefront of their marketing. In our research we hope to find if these well-known organizations abide by their ethics and social responsibility or if they use social media to gain prestige over their competition. We will employ e-research and Kean University library as methodologies.

#### GRACE BRESKY, IVETTE SAMANIGEO

*Faculty Advisor: Sut Sakchutchawan*

##### Ethics and CSR of the Media

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As the world seems to be becoming more sensitive by the day, companies are forced to adjust to the new environment and make sure any work, product or service that they launch doesn't insult anyone's culture, race, beliefs or sexual orientation. The purpose of this study is to examine if the media's power to influence people's decisions and opinions on certain topics can affect the success of an advertisement, product or statement. The study wants to evaluate companies' ethical standpoint on these matters, analyze the drops in their revenue and sales

when they suffer from bad publicity, their thoughts on how millennials are more sensitive than any other generation and how that's changing the way companies and organizations approach marketing campaigns. It is common to see big companies strike out with poor marketing or advertising choices that can be interpreted as insulting or offensive. These mistakes often lead to backlash, loss of customers, and even lawsuits. Every year, the revenue of big corporations suffer due to wrongful statements, or in Dolce & Gabbana's case, misinterpretation of humor.

#### ANGEL CALVOPINA, BERIA DUMANKAYA AND YAZMIN DURAN

*Faculty Advisor: Sut Sakchutchawan*

##### The Issues and Solutions of Ethics Training in New Jersey

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The purpose of this research paper is to expand the proper ethics training in New Jersey by raising the public awareness of business ethics. There are many cases that show the legal process of a business in New Jersey. We have found a lot of issues that could be considered as ethics violation and we searched their consequences. After searching online articles, journals and textbooks we came out with solutions to educate people better about ethical skills. We are going to compare other cultures' ethic trainings with the process in New Jersey and will figure out what issues should companies that aim to expand globally should consider before taking a step in abroad. Last we are going to give statistics on unsuccessful ethics past and training in New Jersey. This research aims to find a way to at least give an idea about improving ethics training in New Jersey by accentuating the consequences and advantages of knowing or not knowing about practicing business in proper ways.

#### DESEAN CARTER

*Faculty Advisor: Sut Sakchutchawan*

##### The Ethics and Corporate Social Responsibility of the Media and Social Media

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This research paper will question how effective traditional media and social media are as communication channels between businesses and society. This paper will discuss the history of communication between the two parties, then analyze the effectiveness of the communication channels, as well as give suggestions on how to increase the efficiency of these channels.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### ADA CHAN, BRANDY MILLS AND JEREMIAH GAMO

*Faculty Advisor: Sut Sakchutchawan*

#### Ethics and Corporate Social Responsibility of Social Media

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In today's society many are adhered to social media platforms and use them as a mechanism to express and promote themselves while also allowing corporations to interact with various customers. Ethics and corporate social responsibility are integral parts of any business. It is a requirement that companies continuously innovate their communication methods of social responsibility with a strategic plan in order to successfully meet their expectations of consumers in which they work, invest and buy from. Social media is an essential platform for bringing a wide variety of messages mainly cooperate through certain platforms that are provided to many types of customers. Social media is an important marketing tool used by companies and businesses all over the world today to generate revenue and to bring in new clients. It is important that we make sure the content uploaded on social media platforms are appropriate and respectful towards the online community.

### JORDAN COISMAIN, JULIAN GUERRERO AND JUSTIN SINGH

*Faculty Advisor: Sut Sakchutchawan*

#### Corporate Social Responsibility of PNC and Wells Fargo

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Our research presentation will cover the similarities and differences between PNC bank and Wells Fargo regarding corporate social responsibility. This topic correlates to our members' main focus of studies which includes accounting, global business, and business management. Our approach we will use to carry out the research is by attending our local branches of PNC bank and Wells Fargo individually, and then reconvening for a comparison of the corporate social responsibilities of each branch. We will likely discover that PNC has a better standing overall when compared to the history of Wells Fargo.

### JESSIE CORONEL

*Faculty Advisor: Min-Chung Han*

#### A Simple Mistake or Is It Really Me?: Focused on Purchasing Decision and Body Satisfaction

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Despite of numerous prior research regarding body satisfaction and their clothing choice, studies focusing on consumers' body satisfaction and its impact on purchasing decision in the event of service failure are limited. Thus, this study tries to shed a light on the relationship between body satisfaction and service satisfaction. The objective of this study is to identify whether service failure of wrong size clothing recommendation have an impact on a consumers purchasing decision. The matter intertwines with the subject of body dissatisfaction, because the

level of body dissatisfaction will determine if the altercation has any influence on a consumers purchasing decision. -In particular, this study aims to comprehend if the relationship between body satisfaction relates to service satisfaction. - Identify if there are correlations between age, ethnicity, or gender of participants and their body satisfaction involved in the study. To sum up, this study tries to help marketing practitioners by providing evidence sales training involved in retail stores can be improved by the assessment of consumers attitudes and general perception of one's body.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### JACQUELYN DILLER, SHUTING WU, DARLENE BERMUDEZ AND TORI BROWN

*Faculty Advisor: Min-Chung Han*

#### A Market Analysis of the Viability of Jack in the Box in the Chinese Market

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Jack in the Box is an American fast-food restaurant chain, whose advertising campaigns transform the brand into a juggernaut with fans across the country and a model for the rest of the quick serve restaurants. However, Jack in the Box has never opened a shop outside America and non-American consumers are more likely to be unfamiliar with its brand and products. Therefore, how well this fast-food restaurant chain can do in new markets remains to be unknown. This research answers the question, especially how a company like Jack in the Box is able to win the market share and build public praise in an intensely competitive market of China. By bringing an American fast-food restaurant into a market such as China, could potentially generate revenue as the food sold is good quality. By bringing Jack in the Box, this could also drive in more traffic for companies that are located near the fast-food restaurant. Our method to help Jack in the Box gain presence in China is through focusing on the SWOT analysis, using consumer promotion tools in order to build brand recognition and make full use of the trend of multi-channel marketing with the digital age as the research background.

### YULAI DONG, DAVID LEAL, JESENIA LAZO, LINIBETH TAVAREZ AND SAMANTHA MARTONE

*Faculty Advisor: Min-Chung Han*

#### A Market Analysis of the Viability of PetSmart in China

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PETSMART is a known nationwide to be the number one pet store for all pet needs. With approximately 1,433 stores in the United States and Canada alone. The strength of PETSMART in the Northern American market is undeniable and has been growing over the last 20 years. A person might wonder whether it could also sustain itself overseas. The research gathered will either prove or disprove such a notion. By analyzing the political, economic, culture, and technological aspects of the Chinese market, as well as consumer behavior of PETSMART to

## STUDENT ORAL PRESENTATION ABSTRACTS

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demonstrate the market potential PETS MART has in China as well as showing the prospective segments the company has for penetration into this market. This report will also cross-reference diverse alternatives and provide a cost benefit analysis of whether the amount of resources invested would be worth the potential for market capitalization. An omni-channel marketing campaign including electronic and technological marketing efforts, advertisements and brick-and-mortar opportuni will be designed for Petsmart to expand its market. This report will analyze the different metrics and statistics to assess whether PETS MART can have a huge market share in the domesticated animal amenities domain.

### **CHRISTIAN GLEIM, JARROD TASNADY AND WALID SALAS**

*Faculty Advisor: Sut Sakchutchawan*

#### **Ethics and Corporate Social Responsibility (CSR) of the Media/Social Media**

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The aim of our research is to analyze the use of online social networks and the media as a tool for Corporate Social Responsibility (CSR) and Ethics. We will conduct an analysis of the privacy scandals and responses of popular companies such as Facebook, Twitter, Uber, etc. The results of this analysis will show how different companies handle their accountability of their social, economic and environmental impact, and consideration of human rights. It is necessary to change the way companies communicate and handle their CSR issues by shifting to a two-way communication approach, as has been the case in other types of enterprise relations with their stakeholders.

### **HAZARI HERNANDEZ, DEREK WALKER AND ANTHONY SAMSEL**

*Faculty Advisor: Sut Sakchutchawan*

#### **Managing Across Cultures**

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The purpose of this research is to compare and contrast the cultures in business management between the United States and China. The topic of managing across cultures is rated as one of the most pivotal areas of importance within the subject of International Management because understanding cultures, as well as cultural values, can be a determining factor between whether or not an agreement is made between two parties from different backgrounds. Through the research we have conducted, using online, scholarly reviewed articles, we have been able to conclude that based on the differences in the United States and China's values, managing across different cultures requires a change of approach into how business is handled and it will ultimately determine the outcome of the study.

### **YIQI HU, HAO WENG, YICHU SUN, ZHEN LI AND HERNA FLORUS**

*Faculty Advisor: Min Chung Han*

#### **Would you like to use same products as your neighbors?: Focused on 90 Hour (Millennials in China) online shoppers**

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The objective of this research is to find out whether there is the relationship between the neighbors' purchased products and the consumers' purchase decision. Purchasing decisions are often strongly influenced by people who the consumer knows and trusts. Moreover, many online shoppers tend to wait for the opinions of early adopters before making a purchase decision to reduce the risk of buying a new product (Kim, Y., & Srivastava, J. 2007). We argue that the neighbors' purchased products may influence the consumer's decision. This research makes constructive supplementary information for factors that may influence the consumer purchase decision. Be more specifically, the result of the research help the managers and the retailers understand their consumers' behavior better. In this research, we want to figure out whether neighbors' purchase history have an effect on consumers' perceived risk and perceived enjoyment, which would lead to change their purchase decision on that goods. In this study, we investigate purchase intention, which is willingness that a consumer buys a certain product or service. Marketing managers routinely use purchase intentions to predict sales (Morwitz, 2006). Thus, we use the purchase intentions to figure out the neighbor effects to the future sales.

### **DESHAUN JOHNSON, SIJIA JIANG, JOSE NOVA AND RASON SMITH**

*Faculty Advisor: Min-Chung Han*

#### **Wholesale business analysis in Chinese Market**

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A market analysis of the success of BJ's Wholesale Club in China; products ranging from bulk groceries, furniture, electronics, jewelry, sporting goods, cosmetics and toys, BJ's offerings have consistently succeeded in the United States markets. However, it will be interesting to know if the wholesale club would survive and thrive in a new environment with new competitors? Assessing the political, economic, socio-cultural, and technological aspects of China's market will indicate if BJ's would be a good fit. Also, it is important to look at the psychographics of China to see if the personality, values, opinions, attitudes, interests, and lifestyles are cohesive with the values of a wholesale club. The acquisition of information should allow for the creation of an omni-channel marketing campaign to be designed and be presented to the wholesale clubs as an option to infiltrate success in China's market. The campaign will involve social media efforts, advertisement, online and brick-and-mortar offerings.



## STUDENT ORAL PRESENTATION ABSTRACTS

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### **YUNYUN LI, ERIN DONNELLY, BERTHA HERNÁNDEZ, MANSI SHAH AND JADAH SUBER**

*Faculty Advisor: Min-Chung Han*

#### **A Market Analysis of the E-Commerce Diamond and Bridal Jewelry Business James Allen in China**

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James Allen, the only retailer presents their ring settings in all hand selected diamonds with 360° HD, is aiming to offer the largest selection of elite quality diamonds at their best price to customers in America. The diamond market in China is exceeding all heights of success. Can the prestigious, innovative diamond ring brand meet the appetites of Chinese consumers? This research will deeply analyze and answer the question of whether James Allen can survive in the fast-expanding Chinese diamond market. Our goal is to accumulate substantial information about the Chinese market and their consumers via the internet, the Kean Library, and scholarly articles. We will choose two major parts to analyze: the external environment and the consumers themselves. Firstly, evaluate the economic condition, the intensity of competition, technology, local policy, and culture. Then, turn to income, consumption trends, consumer preferences and behaviors in the Chinese market. This research will define the target Chinese consumers of James Allen and perfect the market segmentation. An omni-channel marketing plan will be designed for James Allen's executive decision makers to implement their market, explore plans and thus enable James Allen to survive and thrive in this Chinese market.

### **DISNEYRA MEJIA, OWEN IGORI AND CINDY ARRIAZA**

*Faculty Advisor: Sut Sakchutchawan*

#### **Who is Safe?: Consumer Protection Issues and Solutions**

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This paper investigates the issues on customer protection and research involving Facebook on data sharing, Equifax on security breaches, and the Volkswagen Company with customer deception. This research is being conducted with online sources such as facebook.com, equifax.com, and vw.com, newspapers, scholarly articles and social media. This investigation addresses the issues and solutions for customer protection. Some articles state that it is unethical but others say that this is normal business practices. This paper examines research in relation to new solutions against breaches, data sharing, and customer misinformation or quality of the product. This research seeks to find and formulate new policies and ethical practices to protect consumers against these issues.

### **AMBERLY MOUNT, MOHAMED BARRIE**

*Faculty Advisor: Sut Sakchutchawan*

#### **Ethics and CSR of the Media/Social Media**

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The purpose of this paper is to identify the ethics and the Corporate's Social Responsibility in regards to different types of media. The CSR is supposed to guide as to what the media represents for its consumers. It benefits from media while using it as a tool for communication and management. What does the consumer get from media? Practicing ethics in the use of media is vital in personal and professional use. Some people practice unethical behavior due to the use of it being behind a screen - doing or speaking of things you wouldn't do in person. The way you would professionally act in real life is the way you should in whichever form of media you use. Journal articles, relevant web sites and Kean Library data base will be used for this research. By the end of this research, the effects of ethical and unethical use in the media will be discussed.

### **JOSE NOVA, SILVER GONZALES**

*Faculty Advisor: Sut Sakchutchawan*

#### **Facebook Social Responsibility Should Include Privacy Protection for Users**

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This research explores the phenomenon of Facebook and the loss of trust between the successful social media platform and its billions of users. We will cover Facebook's rise to power and how its relationships with their users evolved throughout the years. As well, this research paper will include Facebook's legal issue relating to selling the users private information. We will also be discussing how Facebook is trying to fix these issues which consists of Facebook selling private information such as date of births, name, home, e-mail address, phone number, and many more sensitive information. The methods that will be used to conduct this research will be through the study of scholarly articles, internet, and Kean Library.

### **ANGELO RODRIGUEZ, GABRIELLA GRAFAS AND ALIVIA CUCCARO**

*Faculty Advisor: Sut Sakchutchawan*

#### **Ethical Recall**

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Why are recalls made? FDA is the leading consumer safety company and has approved over millions of products to suppliers. Recalls and defaults of products create complications to consumers. Research has shown labeling errors are one of the leading problems for FDA. The FDA website includes applications and information on food and drugs. FDA is the number one trusted United States organization for consumption. Food and drugs may present health hazards for consumers reflecting the company and that is why they are recalled.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### **SIYANG SHEN, ZHOURONG YUAN**

**Faculty Advisor: Sut Sakchutchawan**

#### **An Analysis of Credit Card Fraud and ID Theft Protection in U.S.**

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This research explores credit card fraud and ID theft protection in USA. During the last decade, several issues about card fraud and security have been developed but there is no proper response to the concern of society. We will cover how credit card and ID theft information is stolen, and how to improve the protection of customer information. In this research, we will employ E-research, survey of literature, and Kean electronic data as methodologies. The solution from this research should be useful to society at large.

### **KE SUN, TORI YATES, ELSIE OPIO, CHRISTOPHER HO AND JUSTIN GERENA**

**Faculty Advisor: Min-Chung Han**

#### **A Market Analysis of the Viability of CVS Pharmacy in China**

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CVS, as the largest pharmacy chain in the United States (over 9,600 as of 2016) provides prescription drugs and a wide assortment of general merchandise through retail stores and online. CVS maintains a steady position in the pharmaceutical and general merchandise retail market in the United States. With the development of the international market, it is very important to develop the company in a new market. Therefore, this research analysis will be about whether a company like CVS Pharmacy can be competitive and survive in the diverse market of China, where there are already similar supermarkets. Our group's methods and approach to doing this will be through doing research on the characteristics of the new target market. We shall analyze the policies, economy, culture, and technology of China. The data of consumer behavior will be obtained through the questionnaire surveys. We shall discuss how the new target market relates to the existing market and learn from the experience of developed markets or the influence that has been formed to improve the efficiency of new market development. This research will give a final result of whether CVS Pharmacy can be competitive in the Chinese market and survive for a long time.

### **CHARLES TRAN, REIGNER MASPONO AND ROSS ROSENBERG**

**Faculty Advisor: Sut Sakchutchawan**

#### **Banking Ethics of BOA and Wells Fargo**

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The important qualities of our project includes the ethics between BOA and Wells Fargo. To show and explain the unethical actions of Wells Fargo. This way, we can educate everyone on the wrong doings of Wells Fargo and show what they have to try and recuperate their trust within the banking industry. The problem and questions we investigated were to see the

difference between the two corporate banks. The importance is to have a set guidelines of what is ethical and what is unethical in the banking industry then explain how Wells Fargo and BOA show corporate responsibility. A chart of how the two different banks approach each customers and clients utilizing databases of web-searching, blogs, google, wiki, and Kean library database will be used. Our main conclusions are that Bank of America is seen as the more ethical and reliable bank, unlike of Wells Fargo that is seen as corrupt and unethical. Due to the fact that Wells Fargo has opened up accounts to reach quota without the consent of the customers that names are on those accounts.

### **AKEELA WHITTINGTON, KAI YUAN LI, ALONDRA FERNANDEZ, MIKE HOFF AND ENNIRIS DIAZ**

**Faculty Advisor: Min-Chung Han**

#### **A Market Analysis of Costco Warehouse Club in India.**

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Costco is a membership warehouse club that thrives to bring its members the best possible quality and brand name products. With 527 Costco warehouses in the United States and 766 total worldwide, does Costco have what it takes to continue to expand? Our research will bring a resolution to this question through a market analysis and market segmentation of India. An integrated omni channel marketing campaign will be devised for the organizational team of Costco for use in attaining India as its next market. The components of this campaign will consist of political/legal, economic, socio-cultural and consumer behavior of the Indian market. This report will examine India as a potential market for Costco to expand its operations.

## **COUNSELING**

### **MARIA BRIFFA**

**Faculty Advisor: Rieko Miyakuni**

#### **Substance Abuse, Mental Health and Violence-Based Discrimination of LGBT+ Youth**

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The prevalence of violence-based discrimination against sexual minorities and gender identity among LGBT+ youth continues to elevate. LGBT+ youth are at risk for homelessness, substance abuse and mental health complications. With understanding of factors placing LGBT+ youth at risk for abuse of illicit substances and/or mental health problems, the proper prevention and early intervention is possible. This presentation provides a review of the current literature on LGBT+ youth and substance abuse and mental health treatment methods as well as identifying critical components of appropriate prevention, intervention and maintenance.

## STUDENT ORAL PRESENTATIONS SCHEDULE

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### DESIGN

#### FRANK MELLANA

*Faculty Advisor: Denise Anderson*

##### Sole Unit: Threaded with Culture, Driven by Community.

The streetwear fashion industry was built around culture and community. Every product has a story packed with emotion, and a meaning for its creation. In today's society, social media has masked the true meaning of individuality and culture. Witnessing these changes in an industry that has such a special place in my heart was devastating. The importance of this research was to establish why current streetwear products and branding lack a story and meaning behind them. The authenticity of the fashion industry has started to fade. Working with personal connections, I was able to interview some of the top leading streetwear brands in the world, going to the retail locations and documenting each one. One of the main conclusions I was able to establish is that individuals are apprehensive to be themselves. People today, base their decisions off of what is trending or through social media to try and fit in. Through numerous years of research, I used the information collected to launch my brand "Sole Unit" in 2018. Sole Unit infuses historic moments of streetwear history with clothing trends to educate and instill the roots of streetwear culture into a modern day society.

#### MONICA MORALES, NICOLE DUNCAN, ASHLEY GROSS AND SAMANTHA COPPOLA

*Faculty Advisor: Marguerite Mayhall*

##### Kean University, Liberty Hall Museum Historic Preservation

Liberty Hall has many objects in its collections that remain uninvestigated and thus present opportunities for undergraduate researchers interested in historic preservation to conduct original research that could benefit the museum. Understanding the particulars, as well as the overall scope, of the Kean family's collection of porcelain, textiles, and other objects, however, could also lead to greater insights into the nuances of upper class culture, especially women's culture, in 19th century in the U.S. This project will benefit Kean University and Liberty Hall Museum by providing a detailed catalogue of (selected) objects in the museum's collections. It may also help to give students entrée to historic preservation at Kean University, a program housed in the history department. Dr. Mayhall will lead the project and will be able to use insights from the information gathered in a research project she is conducting on upper class women and textile making and collecting in the 19th century in the U.S. As the project progresses, we hope to be able to access the Kean family papers sometime in the future, in order to augment what we will learn with more specific information about individual objects, but archival access is not necessary for this stage of the work.

**Research supported by: Students Partnering with Faculty (SpF) summer research program, Kean University**

#### SABRINA TAN, JACOB ARISTIZABAL

*Faculty Advisor: Robin Landa*

##### 0.05

5 percent is an in-depth design research project examining the behavior of young adults by posing and dissecting the question every up-and-coming young professional is asked, "Can you tell us a little bit about yourself?"

By conducting interviews with students and professionals, we started at the surface of small talk and dry conversations. One's 20's is a time when individuals discover, explore, and test their strengths and weaknesses. As creatives, individuality is key, yet many times it is diminished by social constraints. The journey of self-discovery is ongoing, and through this research we've created a catalyst that can drive others to seek-out their 5%, embrace their own story, be gutsy, and own it.

#### DANIELLE THOMAS

*Faculty Advisor: Robin Landa*

##### Pretty For a Black Girl

"You're really pretty for a black girl." That statement has scarred many black women for generations. Pretty For A Black Girl is a movement that highlights the damaging effects of microaggressions aimed at the black woman. I utilized my discipline of Graphic Design to develop an Ad Campaign to promote the Pretty For A Black Girl movement. The methods used to gather information were an online survey and group discussions. Black women were asked, "What is a comment that you have received that was meant to compliment you, but actually dismissed you as a black woman?" Then, I used the honest feedback and research to support a campaign to be distributed via social media and through an interactive social experiment. The goal is to gain enough viral traction to then develop a Netflix Documentary with the same namesake.

#### AMANDA VIGDOR

*Faculty Advisor: Robin Landa*

##### Improving New Driving Habits with Waze

Research has shown that millennials are the most dangerous drivers on the road today, as they are distracted by a wide range of stimuli. However, almost all millennials use Waze as their default GPS system. As the most popular wayfinding app, Waze has a responsibility to its users to keep them safe; unlike other GPS systems, Waze users can interact with each other to communicate road hazards in real time. This detail is the key to raising awareness

## STUDENT ORAL PRESENTATION ABSTRACTS

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about the poor driving habits of millennials. Waze's advertising plays a large role in changing bad driving habits. Using witty, short humor on out-of-home ads, like billboards, and social media advertisements, Waze will attract young drivers' attention. The shareability of these ads also will help spread the message further to a larger population of drivers to not only practice better driving habits, but to use Waze as their main GPS system. This campaign will effectively improve young drivers' habits, while also bringing positive attention to the company.

### EARLY CHILDHOOD EDUCATION THESIS RESEARCH PRESENTATIONS

#### SATYEN BALDEV

*Faculty Advisor: Jennifer Chen*

#### Indian Immigrant Parents' Participation in Their Children's Education

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This study investigated how Indian immigrant parents in the United States make meaning of their involvement with their children's education and whether parental involvement was viewed by Indian immigrant parents as a factor contributing to the academic success of their children. Ten Indian immigrant parents were interviewed to find out how and why they get involved in their children's education. According to Jumbunathan (2006), immigrant parents choose a method of raising their children that matches their needs and resources in the new society. Similarly, this study examined how Indian immigrant parents get involved with their children's education by understanding their needs and resources that are available to them in their society and culture. This research study will shed some light on how and why the Indian American immigrants are so successful academically in the United States. The findings of this research study will be discussed at the presentation.

#### BRITTANY MEETER

*Faculty Advisor: Jennifer Chen*

#### The Impact of Dramatic Play on the Social Development of Preschoolers

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The goal of this research was to investigate if and what impact dramatic play has on social development in preschool children. Research has stated that play is an important part of children's learning and development. Play is seen as a vehicle for developing self-regulation, cognition, and social competence. The development of social skills, in turn, lays a strong foundation for school success. During play, the skills of empathy, participation in group activities, generosity, helpfulness, communication, negotiation, and problem solving skills can be developed. To examine whether and how these skills are developed during social interaction, I observed eight children in the dramatic play center in their preschool classroom

as they were interacting with one another. I conducted a 30-minute weekly observation for eight weeks. I analyzed the children's social interactions by focusing on what social skills they were using and developing during dramatic play, and how. In this presentation, I will discuss my findings and related educational implications for engaging children in dramatic play to support their social development.

#### AMY RODRIGUEZ

*Faculty Advisor: Jennifer Chen*

#### The Role of Technology in Home-School Communication

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The effectiveness of communication between teachers and parents has great importance on student achievement (Ozmen, Akuzum, Zincirli, & Selcuk, 2016). If technology can help improve communication between families and teachers, then teachers who use this mode of communication with families are helping to improve student achievement. The goal of this research project was to investigate if and how teachers use technology to communicate with families and how this usage benefits their communication to improve student learning and achievement. To collect data for this research, I created an online survey and recruited teachers from pre-kindergarten to third grade to complete it. The results of my study and their educational implications will be discussed in this presentation.

#### ALIZA SCHWARTZ

*Faculty Advisor: Jennifer Chen*

#### Early Childhood Teachers' Implementation of the STEAM Program in their Classrooms

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The purpose of this research was to investigate how eight early childhood teachers implemented the Science, Technology, Engineering, Art, and Math (STEAM) program in their classrooms. Research shows that teachers are in favor of having STEAM in their classrooms because it promotes student learning through a variety of ways and encourages the children to think, explore, and problem solve. However, there is a lack of knowledge about STEAM and how to implement it effectively to promote student learning. Furthermore, research indicates that while interested in implementing a STEAM program in their teaching, teachers are feeling overwhelmed to do so because of other teaching demands. My research took place in a private preschool, servicing children from infancy through five-years of age. I interviewed eight classroom teachers teaching preschool children (ages 3-4) about how they implemented the STEAM program. Each interview lasted about an hour. In this presentation, I will discuss my research findings and their implications for future implementation of a STEAM program in the early childhood classroom.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### LAURA YI

*Faculty Advisor: Jennifer Chen*

#### Korean Parents' Involvement in Their Child's Heritage Language Maintenance: Challenges and Opportunities

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This study explored Korean immigrant parents' language beliefs and practices with respect to the maintenance of their child's heritage language. Based on interviews with Korean parents, this study examined if and how they play a role in their child's heritage language development. This study has implications for families, educators, and researchers who hope to understand and support children's oral language and literacy abilities in two languages: English and their heritage language.

#### EDUCATION LEADERSHIP

### LYNNE HARTMAN

*Faculty Advisor: Soundaram Ramaswami*

#### International Adoption: Perceptions of Parents, Teacher and Social Worker

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This research examined the process of international adoption from viewpoints of three parents, a teacher and a social worker. Adoption has become a way for people to have a family, especially for those that have had difficulties in becoming parents naturally. The main research question the study explored was: What were the perceptions of the parents, a teacher and a social worker in the process of international adoption, from pre-placement to post-placement and beyond in the development of the child in school, home and the larger community. This research was a case study where the method of data collection was through in-depth interviews that provided an opportunity to understand the views of all stakeholders involved in the international adoption. The major result from the parents was that they all had a positive experience with the international adoption process, and they would recommend the experience to others. One of the major results from the social worker was that many families need support from the social worker in dealing with the school system. The teacher clearly articulated that professional development is needed to help faculty to understand the impact of adoption in the classroom. This case study provides a unique insight into the international adoption process.

### KATHERINE LORENTE

*Faculty Advisor: Rafael Inoa*

#### Latino Families' Experiences Accessing Early Intervention Services for Their Developmentally Delayed Children

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This project identifies the successes, as well as the various challenges and issues that Latino families encounter as they navigate through the various phases of accessing and receiving early intervention services to help their developmentally delayed babies maximize their potential. It is a qualitative study that follows a phenomenological approach and uses unstructured interviews as its method of data collection. It was designed to identify the strengths and weaknesses in provision of early intervention services for the Latino family. Results from this study will provide direction for the development of strategies and guidance for early intervention practitioners in the application of recommended practices, and bridges the gap between research and practice to ensure that our Latino infants and toddlers have equal and equitable access to early intervention services.

#### ENGLISH STUDIES

### STEPHANIE BOWLES-JONES

*Faculty Advisor: Mia Zamora*

#### Diversity in Literature

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There aren't enough books written for children that feature people of color or reflect the voice and concerns of today's youth that can be taught in the classroom. My research into the world of children's literature has led me discover that there is an entire movement calling for diversity in children's literature. Working with my own students I discovered what they look for in a book. My research led me to write my own young adult book and secure a literary agent. The main conclusion is that all children need windows and mirrors. They need windows to see into the lives of others allowing them to be more empathetic. And, they also need mirrors which reflect the world in which they know to show them that they too exist.

### JEANNE DONOHUE, KAVEENA BULLOCK, DARLINE CEUS, CHRISTINA MASUCCI AND SERKAN TIKER

*Faculty Advisor: Mia Zamora*

#### Small Bites of Knowledge

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Our theory & practice class crossed many boundaries together last semester. Join our potluck feast for small bites of knowledge from all over the curriculum. Taste portions of



## STUDENT ORAL PRESENTATION ABSTRACTS

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writing & composition theorists, seasoned with TED Talk reflections, served with sides of Digital Learning, Equity Unbound and more. Our research is presented in website form created through combined research and an exploration of digital literacy across international boundaries in education.

### ENVIRONMENTAL AND SUSTAINABILITY SCIENCES

#### IJEOMA AKPU, MAURIZIA DE PALMA AND DANIELLE JUNIO

*Faculty Advisor: Juyoung Ha*

#### The Effects of Organic Matter and Nitrogen Fertilizer on Rice Paddy Soil in Gonggan County, Hubei Province

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Rice is commonly used as a staple food source for several different Asian and Latin American countries. Rice is a unique crop because unlike most crops, it grows in extremely wet conditions. Since rice is such a widely used food source, the demand is increasing exponentially. This research experiment focuses on a rice paddy field located in Gonggan County, Hubei Province, China and was treated with six different treatments that consisted of different amounts of nitrogen and organic fertilizer, specifically animal manure, added to the soil. The purpose is to see the impact of additional nutrients (such as nitrogen and organic fertilizer) on a rice paddy field and how it affects the overall land management. Eighteen plots were created and two different types of soil samples were collected from each plot as they were sampled from different depths, i.e., 0-10cm and 10-20cm. The plots with the same treatment and depth were condensed into one sample, totaling twelve overall samples. Ammonium, nitrates, and total nitrogen (TN) concentrations were measured and concluded that sample four had the most nitrogen in all of these tests. Other chemical tests include total phosphorus (TP) concentration to identify additional soil chemical property differences among the samples.

**Research Supported by: National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP) program, HRD-1400780**

### FINANCE

#### MOSES AJIBADE, MOU QIDI, YANAN LYU, JIE LI AND HIRAL SHAH

*Faculty Advisor: Ben Le*

#### The Business Cycle and Market Expectations

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The business cycle typically lasts for nine to eleven years and has five phases: initial recovery, early upswing, late upswing, slowdown and recession. This project identifies each phase of the business cycle, proposes appropriate fiscal and monetary policies and forecasts the performance of stock, bond, and real estate markets during each period. Most people believe that if investors can identify the current phase of the business cycle and correctly predict when

the next phase will begin, they should be able to make money easily. This project uses a top-down analysis approach. Stock markets perform well from the initial recovery and peaks at the late upswing; however, bond yields reach peaked and start falling at the slowdown phase. Real estate is the only market that performs well when inflation is above expectations.

### HISTORY

#### VICTOR BRETONES

*Faculty Advisor: Elizabeth Hyde*

#### William Livingston and the Organization of his Booklist

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William Livingston's booklist, a document he maintained over the course of his life, offers insight into the mind of the first elected Governor of New Jersey. What does the organization of his booklist tell us about the mind of an 18th-century intellectual, who was at the front lines of the American Revolution in New Jersey? The analysis of the inventory of the library that he maintained over the course of his life will allow us to see what his system of book organization tells us about how he was thinking during the American Revolution. In cross-examining his organizational scheme with that of other Founding Fathers, one can uncover their intellectual approach to understanding the world. This paper will address how Livingston ordered his books as it related to how he ordered his thinking.

#### DAVIAN BROWN

*Faculty Advisor: Christopher Bellitto*

#### Medieval Chivalry's Legacy for Today's Classrooms

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This project discusses the medieval practice of chivalry, which is a code of honor pertaining to knighthood, and makes an argument for the importance of teaching about it in today's classroom. In order to tackle this discussion of chivalry, this paper utilizes secondary sources—from various digital archives—that give light to chivalry's origins, as well as its current importance to matters of honor, loyalty, respect, and personal conduct. Special attention will be paid to what medieval chivalry actually was as opposed to what later centuries said it was. This paper concludes by making an argument for why the discussion of chivalry matters in modern-day classrooms.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### **WILLIAM CORMAN**

*Faculty Advisor: Christopher Bellitto*

#### **Avignon Papacy: History and Legend**

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The Avignon Papal Palace was the residence of the Holy Father of the Catholic Church for nearly a century, 1305-1378. The time at which the Pope lived in exile was one of the most turbulent times in Church history that shook the authority of the Church to its core since the pope was away from his theological power base in Rome. While the traditional argument is that the Popes of Avignon were completely decadent, greedy, and puppets of the French crown, this paper will look at several recent studies that, through archival research, have upended that interpretation.

### **WILLIAM CORMAN**

*Faculty Advisor: Elizabeth Hyde*

#### **An Examination of William Livingston's Personal Philosophy and Morality**

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William Livingston, the first governor of New Jersey from during the American Revolution (lived from 1723-1790), left behind a catalogue of his personal Library that offers a chance to examine the mind of an 18th-century American scholar. While he was not the most prominent figure of the American Revolution, Livingston's philosophy and sense of morality were seemingly typical of the time. Livingston was a slave owner who came to disagree with the institution of slavery, an elitist who developed a sense of republican responsibility, and a deeply devoted husband and father to his family all at the same time. Livingston was not a man to accept moral responsibility from a church or an established religion--he was both an original thinker and a man of his time who developed his own personal theology. By examining the contents of Livingston's personal library, which contained titles such as John Milton's Paradise Lost and a book titled Religion of Nature, the intellectual influences on his moral and religious philosophy become apparent. Using the literature that shaped William Livingston, my presentation constitutes an intellectual portrait of the stoic mind of one of the American Founding Fathers.

### **AMAYA ERAWOC, ADELINA ISCOA, BREANNA HERNANDEZ, JEMYCHELLE TODOROVICH, KAREN GARCIA DE LA CRUZ, AARON D'COSTA AND CHELSEY JAIPERSAUD**

*Faculty Advisor: Sue Koziel*

#### **Kean Student Research Advocating Human Rights: Looking at Student Research, Twitter, Social Media, and Personal Human Rights Declarations**

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Human Rights policy priorities belong in our classrooms, and it is never too early to help empower ourselves to articulate our vision of leadership to establish and protect human rights. As part of short-term research projects for a human rights topic section of Worlds of History, we have tested ideas regarding Human Rights based on research and evaluation of evidence in primary documents, secondary sources, and examining social media. When discussing whether a "Tweet can Save the World," describing the power of Social Media to promote or limit Human Rights, and/or defining a personal Human Rights Declarations based on current and past historical challenges to the idea of human rights, we will showcase samples of Twitter posts (created in a password protected account) as they discussed how research and evidence to support facts can address human rights. Our personal Human Rights Declarations showed us what difference our leadership could have made in the past. Personal awareness based on research to highlight human rights reforms and strategies for change will be shared as some on the panel discuss when human rights succeeded in the past and the present. We are all global citizens who value historical research that helps us compare today's human rights challenges with past leadership as we provide new strategies and ideas for solutions.

### **JUDITH GEKER**

*Faculty Advisor: Christopher Bellitto*

#### **Christine De Pizan: Medieval Feminist**

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Christine De Pizan: Medieval Feminist. Christine de Pizan (1365-1430) was a French widow who was one of the first medieval authors, male or female, to make a living as a writer. She was a trailblazer as a woman because she wrote about topics traditionally claimed by men: diplomacy, war, and chivalry. She also wrote about how medieval women could negotiate power in a male-dominated world. I will explore her writings to see how she pulled this career off and to see where she fits in the history of feminism.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### FAYETTE KALEDZI

*Faculty Advisor: Elizabeth Hyde*

#### William Livingston's Hypocrisies and Idiosyncrasies in New Jersey's Quest for Abolition

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William Livingston was a Founding Father and the first elected Governor of New Jersey. He began his life as a slave owner, but his letters demonstrate that in the last years of his life, he came to oppose slavery. Within the historic context of the American Revolution and intellectual enlightenment, slavery persisted, while many began to argue against it. This new America was imbued with a hypocritical and oxymoronic tension around who was free and who was enslaved, while we saw this new abolitionist and deportation mindset to rid America of slavery for the White majority's own benefit. This began the grueling end towards one of the darkest moments in American history. As the North struggled to rid itself of slavery, New Jersey was one of the slowest Northern states to abolish this evil. Livingston embodied this hypocrisy: in a speech from March 11, 1777, printed in the Maryland Journal and Baltimore Advertiser, Livingston spoke of the liberty of all Americans from the oppression of the Crown, but did not mention liberty for slaves from the oppression of bondage. This paper will use the letters, speeches, and papers of William Livingston to explore the hypocrisies and idiosyncrasies that plagued New Jersey's road to abolition.

### HUMBERTO MARMOLEJO

*Faculty Advisor: Christopher Bellitto*

#### History and Legends surrounding the Knights Templar

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The Knights Templar were a religious military order founded in the 12th century during the time of the crusades with the purpose of protecting pilgrims traveling to the Holy Land. Over time, the organization grew in both power and economic wealth which would lead to its demobilization by order of Pope Clement V. Today, many legends and conspiracies surrounding the Knights Templar continue to captivate people. This research project aims to inform about this religious organization's history and the many myths and legends that surround it. The first portion of this project will focus on the history of this organization, while the second portion will focus on some of the legends that revolve around this organization and how they have remained politically relevant throughout the years.

### DIEGO MAZARIEGO

*Faculty Advisor: Elizabeth Hyde*

#### William Livingston's Diplomatic Relations with the French between 1777 and 1778

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My research will be focused on the role Livingston played in diplomatic relations with the French between 1777 and 1778. Throughout this time, Livingston engaged in foreign policy by contacting several countries including France. The cause for his diplomatic outreach to European superpowers at the time was to express the United States as a separate entity from Great Britain. But he also expressed that the newly formed country needed assistance to fight the British. In reviewing letters in which Livingston wrote to the French in 1777 and 1778, I analyze how Livingston helped in the negotiations with the French to persuade them to join the war. It was a crucial time in the Revolutionary War. In his letters, Livingston expressed hopes that the French would become a crucial ally by providing troops and especially naval support, and warned that the British planned to ruin the relationship between the French and the Americans by printing false propaganda that the US would declare war against the French.

### CHRISTIAN MILLS

*Faculty Advisor: Christopher Bellitto*

#### The Whitewashed Middle Ages: Revisiting the African and Islamic Involvement in Medieval Europe

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While popular culture continues depicting this period as predominantly white, accounts from European villagers and Crusaders provides a more complicated racial narrative. Records from prominent cultural centers in Medieval Spain, Rome, Constantinople and Jerusalem, all suggest migratory patterns that brought many Christian Africans to Europe. Geographically speaking, this phenomenon has been obscured in the larger historical narrative of Medieval European history. Christian and Muslim Africans in the North African and sub-Saharan region, frequently found their way to Spain and subsequently continued into the European mainland. Medieval Europe's ethnic diversity, spanned across most of the continent, while cities perpetuated this movement by comprising a multitude of cultures. In the 21st century, western Europe cannot continue to promote the Medieval period as one of singular whiteness. As neo-Nazis, the KKK and other hate groups alike continue perverting the historical narrative of Medieval Europe to promote prejudice, historians must present the truth of this period's ethnic diversity.

### CHRISTIAN MILLS

**Faculty Advisor:** Elizabeth Hyde

#### Moderating 18th-Century Whig Ideology: William Livingston's Resistance to Revolutionary Fervor

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As a mid-18th century subscriber to Whig political ideology, William Livingston stood as a moderate in the midst of an American populace clamoring for independence. While many of Livingston's contemporaries in the Continental Congress moved towards legislating severance from Great Britain's colonial rule, Livingston was apprehensive, marking him as an unusual skeptic of war in the midst of revolutionary fervor. Livingston continues to be considered as a moderate Founding Father today. This research project uses his 1790 booklist that recorded his personal collection upon death, to explore the intellectual influences on his enlightened political ideology. Enlightenment texts that illuminated Livingston's collegiate years remained a major feature of his personal library later in life. The influences of Livingston's literary interests played a significant role in formulating his political views as a moderate Whig. The Enlightenment philosophes of the 18th century characterized his decision to abstain from supporting the growing movement towards war with Great Britain until bloodshed became imminent. Livingston's desire to be governed directly from the British monarch, demonstrates an Enlightenment understanding of government once prominent across the trans-Atlantic.

### SANDRA PALMA

**Faculty Advisor:** Elizabeth Hyde

#### The Evolution of William Livingston's View on Slavery

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William Livingston was the first governor of New Jersey during the American Revolution (1776-1790). Before Livingston's political career, he composed the poem *Philosophic Solitude* (published 1747), in which he managed to encapsulate his ideals and express his desire for a humble lifestyle, a life of ideas, a dislike of the corruption of luxury, and his personal religious philosophies. Though Livingston would be a slave owner for most of his life, he makes no mention of the institution of slavery in this ideal world. Later in his career, Livingston developed abolitionist ideas and was documented to have freed an undisclosed number of his slaves in his Will. The study will research his views on slavery and abolition and the overall evolution of his thinking on slavery throughout his career as a politician, in context of and in comparison to those of his contemporaries.

### JOSEPH PARILLO

**Faculty Advisor:** Elizabeth Hyde

#### William Livingston and Domestic Policy

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This paper will discuss the implication of New Jersey's first Governor William Livingston in shaping the development of the state. It will specifically look at his domestic policy during the Revolutionary War through the analysis of his actions to create and protect the state of New Jersey and how it helped shape the state that is today. Using Livingston's official correspondence, I will reconstruct Livingston's ideas about the state, as well as examine his interaction with other states during the Revolutionary War.

### SARAH ROBERTS, FAYELTE KALEDZI

**Faculty Advisor:** Frank Argote-Freyre

#### A People Divided: The Rise and Fall of the Berlin Wall

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The Berlin Wall has now been gone as long as it stood. Although it no longer exists, its scars remain on the streets of Berlin and pieces of it are dubiously sold in tourist shops. It was a poignant reminder during its erection of the stark divisions between the East and the West; a visible and visceral landmark that could not be ignored. The purpose of this research is to review the historiographical evolution of the Wall both as a real construction and as a symbol of the divide between the East and the West. In its history, it was seen as a stabilizing force, a symbol of intrigue and evil, and eventually the catalyst for German unification. This raises the question as to whether history can be compartmentalized, or whether the aftermath of a historical event lingers in the present. Through the use of secondary sources and private familial accounts, this historiographical research explores the deeper meaning of The Wall on the German peoples -- past and present.

### NICOLE SKALENKO

**Faculty Advisor:** Christopher Bellitto

#### Recapturing Medieval Planet Mythology: The Case of C.S. Lewis

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*The Chronicles of Narnia: The Lion, the Witch, and the Wardrobe* by C.S. Lewis contains many medieval themes including gender, myths, and religion. C.S. Lewis has mentioned that all of the Narnia Chronicles are about Christ, which formulates most readers' perceptions that *The Chronicles of Narnia* reflects the stories of the Bible. While it is true that C.S. Lewis was a Christian, *The Chronicles of Narnia* also parallel ancient planet mythology and each of the seven chronicles represent a planet and all the qualities they encompass. This study of literary texts in medieval historical context should reveal Lewis' presentation of the Middle Ages not only as a religious time, but also one of science and imagination.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### NICOLE SKALENKO

*Faculty Advisor: Elizabeth Hyde*

#### A Comparative Analysis of William Livingston's and Other Founding Fathers' Book Lists

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William Livingston was the first elected governor of New Jersey and played a vital role prior to and during the Revolution. Governor Livingston also maintained a book list that included a variety of works on subjects such as law, history, philosophy, and government. This paper draws parallels between William Livingston's book list and those of George Washington, John Jay, Robert R. Livingston, and the Kean family library in Liberty Hall. The comparison allows for the analysis of a shared understanding of Enlightenment principles that propelled the colonies into war and breaking ties with Great Britain. The identification of Enlightenment philosophical works in the libraries of William Livingston and his contemporaries, will provide a better understanding of the impact of the Enlightenment on their ideas and the formulation of the ideologies of liberty, equality, and self-government at the heart of the Revolution and the eventual Constitution.

### NICOLE SKALENKO

*Faculty Advisor: Elizabeth Hyde*

#### William Livingston's Revolutionary Propaganda: A 1778-1779 Timeline

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William Livingston was considered the most prominent and effective propagandist on the colonial side throughout the Revolutionary War. Prior to the establishment of New Jersey's own newspaper, the colony was influenced by publications in Philadelphia and New York. In October 1777, William Livingston recognized the urgency of providing New Jerseyans with a newspaper that was published and printed in New Jersey. The majority of newspapers that circulated within the colony were largely Tory influenced. He proposed to the Assembly that the state needed to immediately subsidize the establishment of a weekly newspaper. William Livingston's efforts were successful, the legislature responded by ordering a committee to take up the proposal with the state's public printer, Isaac Collins. On December 5, 1777, Collins issued the first publication of the New Jersey Gazette. The moral in relation to war efforts in New Jersey was at a significantly low point resulting in many civilians turning their support to the British. The continental army was in a crucial position and needed New Jersey's physical and moral support. Focusing on the years 1778- 1779, the research conducted will examine William Livingston's propaganda against a timeline of the Revolutionary War and explore its impact.

**Research Supported by: Research Recruits program, Quality First Initiatives (QFI), Kean University**

### CHRISTOPHER THOMS-BAUER

*Faculty Advisor: Christopher Bellitto*

#### The Children's Crusade: History and Legend

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Despite its widespread belief as an element of the Crusades, it is essential to evaluate the authenticity of the thirteenth-century Children's Crusade. Centuries of diverse scholarly works created a lack of clarity and agreement on the existence and purpose of the Children's Crusade, thus it is crucial to determine on what primary medieval sources later interpretations of the alleged event are based. As it turns out, most purveyors of the myth had agendas: to present the event as a model of fervor and devotion or to denigrate Catholic leadership and belief as superstition, foolishness, or avarice. Analyzing the historiography of the Children's Crusade should lead to an understanding of why certain dealers in myth chose to promote their version of the Children's Crusade. The analysis of these writings intends to conclude whether the Children's Crusade existed only as mythistory or an authentic but mischaracterized historical event

### CHRISTOPHER THOMS-BAUER

*Faculty Advisor: Elizabeth Hyde*

#### An Analysis of an 18th-Century Classical Education through William Livingston

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The inventory of William Livingston's library provides both insight into the education of New Jersey's first governor and an opportunity to better understand an 18th-century classical education. The Founding Fathers of the United States displayed their classical educations through the institutions created for the nation, which furthers the importance of understanding the classical creations that influenced their actions. The use of William Livingston's book list provides the groundwork for discovering the ancient titles studied by a Founding Father. This project analyzes Livingston's writings and explores the connections between his compositions and the texts of antiquity used to educate the Yale College alumnus. Examining the Greco-Roman titles and the penned works of Livingston will convey an understanding of not only Livingston's training but the similar educations of other American founders.



## STUDENT ORAL PRESENTATION ABSTRACTS

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### ELIZABETH THORSEN

**Faculty Advisor: Elizabeth Hyde**

#### **An Analysis of William Livingston's Library and the Ideals of the Enlightenment Thinker**

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William Livingston played a pivotal role in the formation of this country, helping lay the foundation as the first elected governor of New Jersey during the American Revolution. Along with being a well-recognized politician, Livingston was also a scholar, writer, and propagandist, who used his knowledge and expertise to influence the people of the 18th century. In creating a list of the books that he owned, Livingston made public what books he believed to be important for one to possess and, in doing so, documented what books may have driven the ideals of the 18th-century. Therefore, an analysis of this list, particularly focusing on the books that reflect the ideals of the Enlightenment, would provide a glimpse into the minds of the thinkers who drove the movement that would eventually lead to the Revolution. In addition, a comparison between Livingston's book list and the books in the New York Society Library, which he helped to found, would solidify which books he felt were most important for the public to have access to and, therefore, which books may have held the most influence throughout the 18th-century.

### INTERDISCIPLINARY PANEL

#### **PAOLA RICARDO, LILLIE BARBER**

***"Civic Engagement Past and Present: The History and Psychology of Social Movements"***

**Faculty Advisors: Dennis Klein, Don Marks**

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The product of interdisciplinary collaborations involving faculty and students in history and psychology, this four-part panel presentation will describe the historical conditions that contributed to the successes of the US civil rights movement, as well as the processes of change that contribute to or elude similar efforts at social transformation today. Presenters will explore the characteristics of key historical turning points, leadership qualities that possess the potential for inspiring social movements, behavioral and contextual factors that influence social action, and the critical importance of renewed civic engagement for community health and psychological well-being.

***"Social Determinants of Health and Psychological Distress: The Case for an Engaged Psychology"*, Paola Ricardo, Third-year doctoral student, Psy.D program**

Psychologists working within systems of care are in a unique position to foster an active, community-oriented approach toward improving individual well-being and influencing public policy. This presentation will explore socioeconomic factors affecting health and quality-of-life outcomes. It will look at economically disadvantaged populations where the incidence of psychological distress occurs at notably high rates.

***"Effective Leadership in Times of Social Change: Then and Now"*, Lillie Barber, Junior, Elementary/Middle Education, History concentration, Africana Studies minor**

Leadership is a main component in social and political change. This was evident in the civil rights movement, exemplified in the leadership of Martin Luther King, Jr. and Malcolm X. Effective leadership, however, is lacking even in movements, like Black Lives Matter, that are addressing social problems that have started to emerge in the 2010s, notably cases of police brutality against unarmed African Americans and the resurgence of bigotry in America. This paper will examine the role of leaders during the civil rights movement and ask why leaders are conspicuously lacking today in hopes to inspire future movements for social change.

***"From Bystander to Activist: The Civil Rights Movement and the Origins of Advocacy"*, Dennis Klein, Professor of History and Director, Jewish Studies program and Master of Arts in Holocaust and Genocide Studies**

Although World War II and its immediate aftermath brought about first hints of new questions about Jim Crow segregation, it was not until the 1954 Brown v. Board of Education Supreme Court decision and the 1955 campaign of images led by Mamie Elizabeth Till-Mobley depicting the brutal white-supremacist murder of her son Emmett when a movement for civil rights crystallized. This illustrated presentation will zero-in on these two years and their dramatic fruition to explore the transition from a country that tacitly if not explicitly supported virulent racism to one that actively confronted racism and pushed through landmark, progressive legislation. This presentation dovetails with the introduction of new advocacy courses that will be introduced at the undergraduate level in history this spring and at the graduate level in the Master of Arts in Holocaust and Genocide Studies program next academic year.

***"Understanding and Promoting Civic Engagement -- What Psychology Can Tell Us"*, Don Marks, Assistant Professor, Director of Clinical Training, Psy.D program, Director, Kean Psychological Services**

The science of social change is a transdisciplinary effort to understand and remedy organizational and community problems. Using methods informed by applied behavioral analysis, as articulated by contextual behavioral science (CBS), and relational frame theory (RFT), psychologists offer new perspectives for conceptualizing civic engagement and designing interventions that facilitate dialogue and promote nonviolent social action, peace-building, and prosocial community transformation.

## STUDENT ORAL PRESENTATION ABSTRACTS

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### MATHEMATICAL SCIENCES

#### MATTHEW JOHNSON

*Faculty Advisor: Chihiro Oshima*

#### A Prime Factorization Algorithm Utilizing Lattice Orders

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Prime factorization is a pertinent mathematical problem in cryptography and number theory. Although some current prime factorization algorithms are efficient, there are no published algorithms that can factor any integer in polynomial time. In this study, we employ indexed chains to factorize large semi-primes using the natural numbers partially ordered by divisibility. In addition, we rely on the birthday paradox and Dilworth's theorem to gain a heuristic analysis of the complexity of our algorithm.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

### POLITICAL SCIENCES

#### MAY OO

*Faculty Advisor: Kihwan Kim*

#### Myanmar: Key Challenges to Unity

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Myanmar's democratic transition fosters peace and unity among ethnic groups. However, the national reconciliation process is still tenuous due to ongoing ethnic conflicts between Burmese military and several ethnic armed groups over state's autonomy and access to natural resources. This paper examines the attempts of Myanmar's civilian government to end ethnic conflict and identifies major challenges for unity. This paper will also analyze the complexity of ethnic conflict and discuss about ethnic identity, Burmanization, and repressive laws against ethnic minorities.

### PSY. D. - COMBINED SCHOOL AND CLINICAL PSYCHOLOGY

#### BRIANA CALCAGNO

*Faculty Advisor: Keri Giordano*

#### Positive Descriptive Praise: How Positive Descriptive Praise Affects Classroom Relationships

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Positive reinforcement has been shown to have beneficial outcomes in student behaviors, and classroom relationships. While most teachers are trained to provide positive reinforcement, studies have shown inconsistency in quality and quantity of reinforcement behaviors (Bayat,

2011; Brophy, 1981; Brunett, 2011; Derevensky, 1997; Muller & Dweck, 1998; Weissbourd, 2009). The current study used positive descriptive praise as a form of daily reinforcement to foster healthy classroom relationships in 2nd through 5th grade students. The intervention aimed to use descriptive praise to strengthen the relationships amongst students and teachers. Through descriptive praise, the teachers were trained to focus on positive qualities seen within each individual student in the classroom. A total of 80 student and 8 teachers participated, with 7 classrooms being experimental and 1 classroom being the control group. The effects on students and teachers were examined through a pre-post testing design. Overall, results indicate that teachers in the experimental group saw positive changes in classroom relationships after implementing positive descriptive praise. Furthermore, students in the control group showed significantly worse relationship scores post intervention compared to experimental students.

#### MARQUITA CARTER

*Faculty Advisor: Jennifer Block-Lerner*

#### A Pathway to Psychological Flexibility: Exploring the Impact of Music-Based Mindfulness Interventions for College Students

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Undergraduate populations can be particularly vulnerable to mental health challenges due to a variety of stressors. Traditional mental health services may be elusive to many of these students, particularly those from minority and disadvantaged backgrounds. Mindfulness- and acceptance-based interventions have shown promise in reducing anxiety levels and perceived stress in college settings. Further, informal, everyday engagement with music has been shown to be beneficial in experiencing enjoyment in life and coping with stressors. The purpose of this study is to examine the effects of adding music components to mindfulness- and acceptance-based interventions. Specifically, the research will analyze effects on state mindfulness, level of personal engagement, and receptivity to mindfulness- and acceptance-based practices in the future. Workshops will be conducted with undergraduates at an urban, diverse university in the northeastern United States. Quantitative and qualitative methods will be used for a deeper understanding of participants' experiences and processes at play. We hypothesize that the music-based mindfulness conditions will evoke higher levels of state mindfulness, personal engagement, and receptivity to mindfulness practices in the future.

#### EZRA COWAN

*Faculty Advisor: Donald Marks*

#### The Role of Experiential Avoidance in Linking Obsessive-Compulsive Disorder and Obsessive-Compulsive Personality

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Research indicates that obsessive-compulsive personality disorder (OCPD) and obsessive-compulsive disorder (OCD) are highly comorbid conditions. In effort to identify possible

## STUDENT ORAL PRESENTATION ABSTRACTS

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reasons for this relationship, researchers have explored symptom-related variables that manifest in both disorders. One variable that has been identified is the “not just right experience” or feeling of “incompleteness” (INC), which has been shown to mediate the relationship between OCPD and OCD. The goal of the present study is to further understand the mediating role of INC and the ways that it contributes to the relationship between OCPD and OCD. Specifically, this study aims to investigate the moderating influence of experiential avoidance (EA) on the effects of INC. EA has been linked to both OCPD and OCD and may moderate the degree to which INC mediates the relationship between these two diagnostic conditions. It is hypothesized that increases in EA will strengthen INC’s mediating role and thereby contribute to the effects of OCPD on the development of OCD symptoms.

### ARIANA DICHIARA

*Faculty Advisor: David Brandwein*

#### Mental Health Service Use Amongst Veterans in a Peer-Mentor Intervention: An Analysis of Barriers to Treatment

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Evidence suggests many returning Operation Enduring Freedom/Operation Iraqi Freedom veterans may benefit from psychological services, with studies citing that approximately 79.1 per 100,000 veterans aged 18-24 commit suicide (Veterans Health Administration [VHA], 2014). However, only a small portion of veterans ever seek mental health services, with one study noting as few as 22.9% sought services in a year (Tsai & Rosenheck, 2016), presumably due to various barriers to treatment. A better understanding of barriers to treatment may ensure that these populations seek the services they require. Data from a randomized controlled trial (RCT) of a peer-mentor program was examined to assess the extent to which barriers to treatment precluded these veterans from requesting assistance with mental health needs. . Score profiles on a variety of measures (including quality of life, somatization, combat exposure, and demographic variables) were explored.

### SHILOH EASTIN

*Faculty Advisor: David Brandwein*

#### Developing a local norm groups for the MCMI-IV with parental fitness litigants

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The Millon Clinical Multiaxial Inventory – IV (MCMI-IV) is an assessment of personality that is used most often in clinical populations. Previous versions of the MCMI have been used by forensic psychologists in a variety of settings, including those related to child custody and parental fitness, and is generally recognized as meeting the Frye and Daubert standards for admissibility in legal settings. The MCMI-IV, the most recent iteration of the MCMI, was published in 2015 and, presently, has no established norms for forensic populations –parental fitness cases, in particular. Previous research has found some commonalities amongst elevations

on the MCMI for parental fitness litigants (e.g. Stredny, Archer, & Mason, 2006). Specifically, a “faking good” profile that included elevations on the Narcissistic, Compulsive, and Histrionic clinical scales. Lenny & Dear (2009) examined specific commonalities and differences amongst parental fitness litigants and groups instructed to “fake good” in specific ways. The present study aims to develop a local norm group that can aid in a more clear interpretation of MCMI-IV scores for specific forensic populations. Common elevations on the MCMI-IV scales will be identified with the overarching goal of aiding forensic professionals in both score

### NEHA MISTRY

*Faculty Advisor: Kendahl Shortway*

#### Help-Seeking Behaviors and Stigma Surrounding Mental Health Services in Indian Americans

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Cultural background impacts mental illness in terms of conception, perception, experience of symptoms, recognition and labeling, classification, and treatment, as it can shape one’s expression and elicitation of clinical symptoms (Chandra et al., 2016; Lauber & Rossler, 2007). Although the collectivist nature of the Indian culture may serve as a protective factor for individuals, mental health stigma may continue to serve as a barrier to those seeking help and striving to approach a direction toward recovery. The current study aims to explore the impact of a psychoeducational presentation about mental health in increasing help-seeking behaviors for mental health services in a sample of Indian Americans residing in an area in the northeastern United States. Data will be collected via brief questionnaires from participants affiliated with religious and cultural community organization, and the data will be analyzed to investigate if the psychoeducational presentation increases one’s willingness to seek help. Developing an understanding of relevant characteristics that contribute to help-seeking may help to reduce stigma, better inform professionals screening for psychological distress, and increase attention toward providing mental health services for Indian Americans.

### LARISSA REDZINIAK

*Faculty Advisor: Jennifer Block-Lerner*

#### Using Curriculum-Based Mindfulness Workshops to Foster Openness to Diversity and Challenge

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Research has found associations between holding different kinds of prejudicial views (see Bäckström & Björklund, 2007). This view suggests there may be internal processes underlying different kinds of prejudice, such as sexism, racism, and stigmatizing views of those diagnosed with mental illness. One explanation for this connection may be our tendency to place others in evaluative verbal categories (Lillis & Levin, 2014). Most interventions on prejudice target prejudicial thoughts and attitudes. However, interventions aimed at helping individuals change their relationship to their prejudicial thoughts, rather than the thoughts themselves,

## STUDENT ORAL PRESENTATION ABSTRACTS

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may be effective in increasing positive behavioral intentions toward diverse others (Lillis & Hayes, 2007). The idea of changing one's relationship with thoughts is part of a larger concept known as increasing psychological flexibility. Psychological inflexibility, the opposing process to psychological flexibility, has been predictive of prejudice toward ethnic and racial groups (Levin et al., 2016). The present study explores whether a brief, curriculum-based mindfulness workshop can foster openness to diversity and examines whether state mindfulness and/or reactions to stigmatizing thoughts mediate this relationship.

### JED SELTZER

*Faculty Advisor: Donald Marks*

#### Fear of Cancer Recurrence: The Roles of Psychological Flexibility and Social Support as Possible Protective Factors

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Fear of cancer recurrence can lead to anxiety, panic attacks, intrusive thoughts, hypervigilance, symptom checking, overutilization of the medical system, and lower quality of life. Fear of recurrence is common, rating at moderate to high levels in some 40% of cancer survivors. And yet, levels of it vary greatly. Several demographic, psychological, and disease-specific factors have been linked to fear of recurrence, including disease type and severity, treatment type/duration, medical co-morbidities, perceived risk of recurrence, family/social support, other life stressors, family/social group experience with cancer, and several psychological predictors. Psychological factors examined in the extant literature include symptoms of anxiety and depression, PTSD symptomatology and intrusive thoughts, and various ways that individuals encounter adversity, such as tendencies toward problem-solving, reassurance-seeking, avoidance, and optimism/pessimism. The present study posits that lack of social support and psychological inflexibility underlie these psychological factors, and aims to evaluate their role in mediating the relationships between established medical-status and distress-related variables and fear of cancer recurrence among a group of cancer survivors at the New Jersey VA.

### PUBLIC ADMINISTRATION

### SCOUT HARTLEY

*Faculty Advisor: Bok G. Jeong, Patricia Moore, and Craig Donovan*

#### Impacts of the MPA Program's Mission and Curriculum Change on Students' Global Awareness

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This study examines whether the mission and curriculum changes of a higher education program affect students' learning outcomes focused on global awareness. This study asks the research question: Does higher education curriculum change in incorporating globalization

components increase the global awareness of students? The Kean MPA program revised its mission by inserting "Global Awareness" in fall 2015 and its curriculum has incorporated global components in its curriculum. This study conducts a quasi-experimental design to assess the impact of the higher education program's curriculum changes on their learning outcomes. As the main measurement tool, this study utilizes the Global Perspective Inventory (GPI) to measure the global awareness of Kean MPA students. This study also complementarily conducts multiple post-event student feedback surveys. The implication of this study is that it contributes to assessing educational outcomes by introducing a variety mix of global elements into the curriculum as the main treatment of the experimentation. The assessment of students' global awareness aligned with the program mission revision and curriculum changes will have pedagogical implications in higher education in this changing and integrating global environment.

**Research Supported by: Untenured Faculty Research Initiative, Kean University**

### JAZMINE TORRES

*Faculty Advisor: Craig Donovan*

#### Minority Student Challenges in the College Application Process and the Role of the High School Counselor

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There is a substantial amount of research showing that students from disadvantaged backgrounds often do not participate effectively in the college application process, in particular they struggle with applying for financial aid, and thus often do not get awarded all the aid for which they qualify. As a result, even some of the most highly qualified students do not attend college, do not complete their degrees, and are not able to engage their full potential. In this study I discuss the challenges and disadvantages that lower income minorities have in applying to higher education and the role that their high school counselors have in the process. Studies show that the challenges to student success are not within the ability of students: lower test scoring African Americans and Hispanics, from low income backgrounds, do in fact perform very well when placed in academically challenging environments. An estimated 12,000 plus students a year could qualify for admission to highly selective institutions if they received good financial and counseling support.

**Research Supported by: U.S. Department of Education, Ronald E. McNair Post-Baccalaureate Achievement (McNair) Program, P217A170003**

## STUDENT ORAL PRESENTATION ABSTRACTS

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### M.A. PROGRAM IN READING SPECIALIZATION

#### BETTINA BERGAMO

*Faculty Advisor: Diane Tracey*

#### What is the Reading Growth of Fifth Grade Students Under Five Different Coaching Scenarios?: A Descriptive Study

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This study examines if there is any relationship between the amount and types of literacy coaching fifth grade teachers have received over the course of five years, and the growth of fifth graders' scores on the MAP Test. Students take a MAP (Measurement of Academic Achievement) test three times during each school year. Students' pre and posttest scores were analyzed from the: 2014-2015, 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years to determine individual growth scores for each student. Since the current year is still in progress, the score on the midyear assessment was used instead of the posttest. Teachers received no coaching in 2014-2015, and a half year of coaching in 2015-2016. From 2016-2017 to the present, teachers received full years of coaching but with varying content orientations. The present study, still in progress, will contribute to understanding of how much, and which types of, literacy coaching are related to students' academic growth. With literacy coaching being such an important part of professional development for teachers, the information provided by this study will be very valuable to teachers and school districts.

#### EILEEN KINNEY

*Faculty Advisor: Diane Tracey*

#### What Online Tools and Resources Are Available to Support Dyslexic Students, Their Parents and Educators?: A Qualitative Research Design

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The purpose of this qualitative study was to determine what online tools and resources are available to support dyslexic students, their parents, and educators. The features of three websites, developed to provide resources and support to the public, were examined (Bright Solutions for Dyslexia, the International Dyslexia Association and The Yale Center for Dyslexia & Creativity). The goals of the research were to provide summaries of the sites to increase knowledge and understanding of what defines dyslexia, research based methods of intervention, tools and webinars to educate and inform dyslexic students, adults and professionals in the field of education. Dissemination of the collected data will be sought.

#### MELISSA LORENZO

*Faculty Advisor: Diane Tracey*

#### Professional Development and Reading Strategies

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What ways can we improve reading comprehension through various reading strategies? Using Notice and Note a close reading strategy, will improve reading comprehension. Using websites such as actively learn and freckle will help students and teachers with leveled comprehension.

#### DANIELLE MARGULIES

*Faculty Advisor: Diane Tracey*

#### Professional Development Projects

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I will be presenting the highlights of my professional development projects. The first PD will be centered around the idea of Metacognition. Here I will work with a small team of teachers to explain what Metacognition is, how to teach strategies, and why these strategies are important for students to learn. The second PD is based on the idea of Self-Regulation, working with teachers to implement strategies to help un-motivated students create goals, implementing these goals, and tracking success. The final PD will work with the RTI team to help teachers create SMART goals and strategies to implement these goals.

#### ANN RYAN

*Faculty Advisor: Diane Tracey*

#### Is the Use of Graphic Novels Associated with Changes in Thoughts and Feelings about Reading Traditional Texts?

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The purpose of this research study is to investigate the use of graphic novels in a sixth grade classroom to see if it is related to students' thoughts and feelings about reading traditional texts. The subjects include members of one class of six grade students in a middle school in an urban town. The importance of this study is to evaluate students' attitudes about reading and to see if an exposure to graphic novels is related to feelings they may have about reading in general. This is a qualitative study in which students will first be interviewed and asked to complete surveys about their attitudes about reading in general. Next, the students will be asked to read graphic novels of their choice for a period of approximately 30 minutes per 8 sessions. At the end of the eight sessions, students will be interviewed again and asked to complete another survey. They will also be observed throughout the eight sessions during reading to evaluate their level of engagement, interest, and motivation to read. I hope to be able to report that graphic novel reading creates a positive reading experience that carries over to the reading of traditional texts.



## STUDENT ORAL PRESENTATION ABSTRACTS

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### LAUREN UBALDI

*Faculty Advisor: Diane Tracey*

#### What is the Relationship Between Fluency and Comprehension at the First, Second, and Third Grade Comprehension: A Correlational Study

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The purpose of this study is to determine the relationship between fluency and comprehension at the 1st, 2nd, and 3rd grade levels by examining pre-existing data collected by classroom teachers who used the Fountas and Pinnell Benchmark Assessment in October 2018. The goal of the study is to: 1. Determine how closely aligned comprehension scores are to fluency scores. 2. Examine the relationship between fluency and comprehension across grade levels to see if the relationship is consistent or subject to change depending on a child's age or stage of reading development. The results of the study will add to the already large body of research that exists on the topic of fluency in relation to comprehension. The research is currently being conducted; therefore, there are no outcomes to report at this time. However, the study is predicted to support the LaBerge and Samuels's automaticity theory, which states that we have a limited amount of attentional resources available for reading. As a result, the attentional resources spent on decoding are unavailable for comprehension. It is anticipated that fluency and comprehension scores will be highly correlated once the study is complete.

### JESSICA VITALI

*Faculty Advisor: Diane Tracey*

#### The Correlation between High School Students' Performance on the ELA/ Literacy PARCC Assessment and Their Overall Academic GPA: A Descriptive Study

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The purpose of this study is to determine if there is a correlation between high school students' performance on the ELA/ Literacy PARCC assessment and their overall academic Grade Point Average (GPA). With this knowledge, school districts will be better able to determine the educational value and validity of the assessment. The results of this study should show similarities between high school students' reading/ writing skills and their overall academic achievement. All data being collected are from John F. Kennedy Memorial High School (Woodbridge Township, NJ) students in grades 9 through 11 who took the ELA/ Literacy PARCC assessment during the 2017-2018 academic year. This is a secondary analysis of pre-existing data from fully de-identified children. The original data were properly and ethically obtained through standardized public school testing.

## RECREATION ADMINISTRATION

### ANTHONY MANDUCA

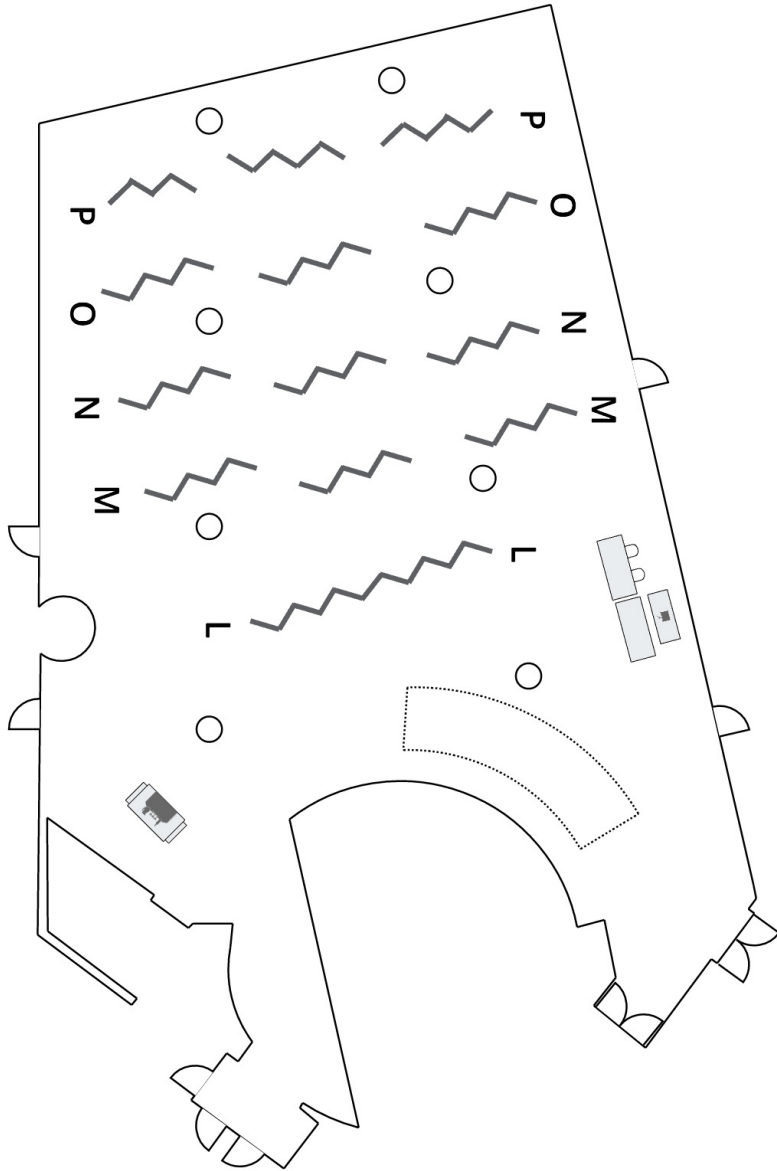
*Faculty Advisor: Kyoung Tae Kim*

#### Implementing a Successful Unified Sports Program: Lessons from Unified Sports Programs in New Jersey

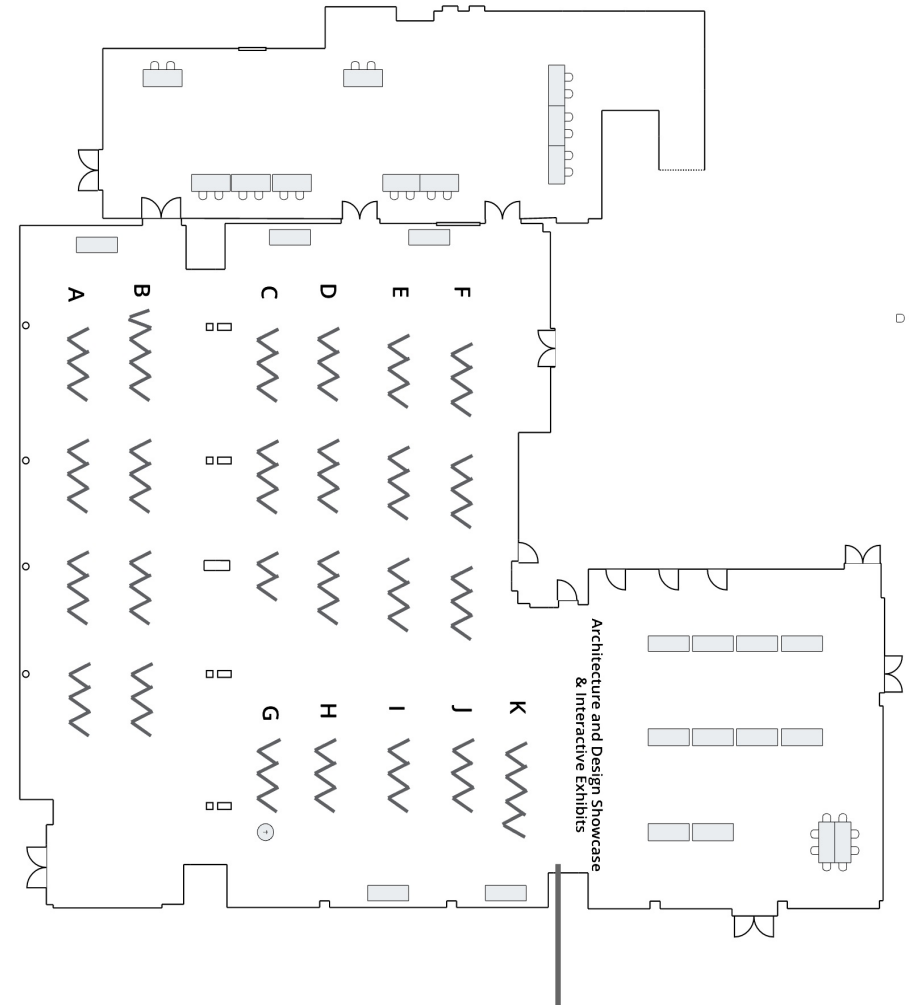
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The purpose of this study is to introduce Unified Sports programs and describe their application in school settings as community-based programs to promote sports participation for people with disabilities. In this study, Unified Sports programs from the college level and the high school level in New Jersey, the Kean University Unified Sports program, and the Old Bridge High School Unified Sports program will be focused on. Through the use of interviews, observations, and participation, the study describes the development of two Unified Sports programs the benefits of Unified Sports, plans for and implementation of programs, and the roles and responsibilities of faculty and students. This study will also discuss tips for success and lessons learned from these two programs.

GRADUATE STUDENT POSTER LOCATIONS-STEM ATRIUM



UNDERGRADUATE STUDENT POSTER LOCATIONS - DOWNS HALL





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