

THE 12TH ANNUAL
CENTER FOR RESEARCH &
CREATIVITY SYMPOSIUM



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**MISSION STATEMENT OF THE METHODIST UNIVERSITY
CENTER FOR RESEARCH AND CREATIVITY**

The mission of the Methodist University Center for Research and Creativity is to establish educational opportunities that are collaborative and inquiry-based with the intention that every Methodist University student has access to exploratory learning across the curriculum.

“Faculty research and creativity are at the heart of the academic endeavor. Not only do these activities help to create new knowledge and new experience, but they add tremendously to teaching and learning. This work models for students the academic rigor and care involved in knowledge production, engages students in the process itself, and helps students become more critical information consumers for the rest of their lives — a vital skill in today’s environment.”

– Dr. Stanley T. Wearden
President

WEEK AGENDA | APRIL 11-14, 2023

Tuesday | April 11

1-3 p.m.	Sixth Annual Nursing Research & Community Symposium	Nursing Building
3:30-5:30 p.m.	STEAM Week Event - "Revving up STEAM Week"	The Quad (Berns Student Center if Inclement Weather)

Wednesday | April 12 (See full Symposium Day schedule below)

8 a.m.	"Are You Booked for Lunch? Breakfast?" With Dr. Eric See and Sarah See	Davis Memorial Library
9-11 a.m.	The 12th Annual Center for Research & Creativity Symposium: Morning Presentation Session	See Program for Locations
11 a.m. - Noon	CIRCUIT: Serving, Thriving, and Being Present in Costa Rica	Matthews Ministry Center
Noon - 1 p.m.	Cape Fear New Music Festival Lectures "Geography Inspiring Music: The Music of Special Places" by Dr. Keith Dippre "Not from One Place; A Little Bit from Everywhere" by Dr. Javier Pabón	Chorus Room G2, Reeves Fine Arts Complex
1-3 p.m.	The 12th Annual Center for Research & Creativity Symposium: Afternoon Presentation Session	See Program for Locations
2-3 p.m.	The 12th Annual Center for Research & Creativity Symposium: Poster Session*	Berns Student Center
3:30-5 p.m.	University Awards Ceremony	Huff Concert Hall
5 p.m.	"Justice-Involved Scholars: When Second-Chance Students Succeed, We All Succeed" with Dr. Noel Adam Vest	Yarborough Auditorium, Clark Hall
6 p.m.	Phi Kappa Phi Induction Ceremony	Physician Assistant Auditorium, Medical Lecture Hall
7:30 p.m.	Ninth Annual Cape Fear New Music Festival: "Musical Geocache: the Music of Special Places"	Matthews Ministry Center

Thursday | April 13

3:30-5:30 p.m.	STEAM Week Event - "STEAMing Toward Tomorrow"	The Quad (Berns Student Center if Inclement Weather)
7 p.m.	B.F. Stone Lyceum - "Who's Gonna Carry the Boats?: Breaking Out of the 'In Crowd' in Service to Others"	Physician Assistant Auditorium, Medical Lecture Hall

Friday | April 14

10 a.m.-Noon	Free Professional Headshots (Dress Professionally)	Berns Student Center
11 a.m.	Succ It Up And Start Your Research! Free succulents! Ask librarians questions you have about the research process.	The Quad (Berns Student Center if Inclement Weather)
6 p.m.	Class of 2024 Pinning Ceremony, Doctor of Occupational Therapy Program	Huff Concert Hall

Saturday | April 15

8:30 a.m.-5 p.m.	Fourth Annual Occupational Therapy Student Scholarship Symposium	Physician Assistant Auditorium, Medical Lecture Hall
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* Posters will be displayed in the Upstairs Lobby of Berns beginning at 9 a.m. Students will be available for questions during the afternoon Poster Session.

MORNING SESSION

INTERDISCIPLINARY: STUDENT AND FACULTY DIGITAL INTERFACE | HENDRICKS 122

9-9:20 a.m.	Wikipedia Editing and Digital Mis/Disinformation: Student and Faculty Perspectives	Jordan Matheney Duncan Harling Brice Herring
9:20-9:40 a.m.	Design & Implement a User-Centered Student Portal	Kalkidan Gebrehiwot
9:40-10 a.m.	Improving the Design and Functionality of the Faculty myMU Portal Tabs	Sarah Davis Kalkidan Gebrehiwot
10-11 a.m.	Q&A	

INTERDISCIPLINARY: MATERIALS AND HUMAN INTERACTION | HENDRICKS 222

9-9:20 a.m.	Investigation of the Influence of Lower-Limb Dominance on Postural Balance	Andrew Topoly Kit Allman Sean Coleman
9:20-9:40 a.m.	Redesign of Fayetteville's Kuraray Plant Storage System	Ian Davis Jesse Leyble Wesley Faw
9:40-10 a.m.	Evaluating Potential Tetrachromacy in the MU Community Using Gas-Discharge Tubes	Rebekah Haigler
10-11 a.m.	Q&A	

MEDICINE & CULTURAL CONFLICT: RESPONDING TO *THE SPIRIT CATCHES YOU AND YOU FALL DOWN* | NURSING 103

9-9:20 a.m.	They Did Their Best	Mikhail Garrett Baldwin
9:20-9:40 a.m.	Lost Identifies: Fear, Compromise, and Cultural Conflict in a Medical Context	Iqbal Ahmed Ismaciil
9:40-10 a.m.	The Problematic Plight of Cultural Supremacy	Matthew Parker
10-11 a.m.	Q&A	

INTERDISCIPLINARY: GLOBAL ECONOMICS AND POWER | YARBOROUGH AUDITORIUM | CLARK HALL

9-9:20 a.m.	The Hundred Years War and the Development of Colonial Europe	Stephen Atwell
9:20-9:40 a.m.	The Positive Economic Impact of Immigrants in the U.S. Economy	Luciana Forma Noguera
9:40-10 a.m.	Examining the Effects of Mortgage Rates on the Economy of Developing Countries	Lydivine Nduwawe
10-11 a.m.	Q&A	



AFTERNOON SESSION

THE ECONOMICS OF TRANSPORTATION | HENDRICKS 122

1-1:20 p.m.	The Relationship Between Oil Prices and Crime Rates: Exploring the Effects of Fluctuating Fuel Costs on Criminal Activities	Astridah Lombe
1:20-1:40 p.m.	Railway Viability in the U.S.A	Stephen Atwell
1:40-3 p.m.	Q&A	

COMPUTER SCIENCE: FINANCES AND EMERGENCY PREPAREDNESS | HENDRICKS 222

1-1:20 p.m.	Personal Expense Tracker	Rahmah Mahdi
1:20-1:40 p.m.	The Science of Programming: The Creation of a Publishing Company Application	Abigail McCandless
1:40-2 p.m.	Program Ready for Emergency Preparation (P.R.E.P.)	Charles Gaffney
2-3 p.m.	Q&A	

INTERDISCIPLINARY: COMPETITION AND SUPPORT | NURSING 103

1-1:20 p.m.	Using Competition to Teach Leadership Skills in “The Room”	Alyssa Hansell Cheyenne Ferrin Dr. John Edwards
1:20-1:40 p.m.	Service Animal or Emotional Support Animal, Which One is It?	Anthony Adelizzi
1:40-3 p.m.	Q&A	

INTERDISCIPLINARY: ETHICS AND ABSURDITY IN MATH AND ENGLISH | YARBOROUGH AUDITORIUM | CLARK HALL

1-1:20 p.m.	NCICU Ethics Bowl	Asemahle Mgayi Adriana DeMercurio Matthew Parker
1:20-1:40 p.m.	Mathematical Absurdism	Jackson Barriger
1:40-2 p.m.	Make Ethics Great Again: Analyzing Octavia Butler’s “Parable of the Talents” Through the Lens of John Stuart Mill’s Ethics	Jordan Matheney
2-3 p.m.	Q&A	



POSTER SESSION | 2-3 P.M.

Posters will be on display beginning at 9 a.m. in the Berns Student Center and are listed below in the relative order in which they will be displayed. Students will be available for questions during the afternoon poster session.

Posters

- Evaluation of the Library Redesign**Matthew Kabi, Kaleb Thomas, Joseph Do, Ana Rivera De León
Engineering
Advisors: Dr. Denise Bauer
- Playing Under the Lights: Redesign of Monarch Stadium**.....Lavon Aiken, Montravious Willoughby,
Zamon Palmer, Dustin Splawn
Engineering
Advisor: Dr. Denise Bauer
- The Monarch Way and How to Improve It**.....Braylon Cushinberry, Ryan Steele, Jamil Young, Tafari Taylor
Engineering
Advisor: Dr. Denise Bauer
- Recruitment at Methodist University**Kristen Spiegel, Preston Jacocks, Ashton Hammonds
Engineering
Advisor: Dr. Denise Bauer
- Evaluating the Student and Faculty myMU Portal Interface at Methodist University**..... Sarah Davis, Kalkidan Gebrehiwot
Engineering
Advisor: Dr. Denise Bauer and Dr. Girish Upreti
- Validation of Balance Machine Through Dominant-Leg Balance Testing** Andrew Topoly, Kit Allman, Sean Coleman
Occupational Therapy & Physical Therapy
Advisor: Dr. Upreti Girish, Dr. Matthew Foreman, Dr. John Fox
- Redesign of Fayetteville’s Kuraray Plant Storage System** Ian Davis, Jesse Leyble, Wesley Faw
Engineering
Advisor: Dr. Denise Bauer
- Detection of Heavy Metals in Common Commercial Foods**Victoria Martin
Chemistry & Physical Science
Advisors: Dr. Stephanie Hooper Marosek
- The Importance of Error Analysis in Understanding Student Performance**.....Geneva Barriger
Mathematics
Advisor: Dr. Kathleen Fick
- The Science of Reading: Success Rates Among K-5 Learners**.....Caroline Stubblefield
Education
Advisor: Dr. Patricia Fecher
- Integrating Sensory Learning in the Elementary-Aged Classroom**Epiphany Serenity, Rena McGirt
Education
Advisor: Dr. Patricia Fecher
- In What Ways is the Economic Status of the Individual Affected by their Education Level?** Astha Khatri
Accounting & Financial Economics
Advisor: Dr. Robert Gmeiner

Economic and Humanitarian Crisis in Afghanistan under the New Government	Asifa Noori Accounting & Financial Economics Advisor: Dr. Robert Gmeiner
The Role of Neocolonialism and the Exploitation of African Resources by Western Countries	Degnet Soto Accounting & Financial Economics Advisor: Dr. Robert Gmeiner
How does the Possibility of a Recession and Increase in Costs, Taxes, and Interest Rates Affect the Future of Consumerism and the Overall Economy?	Daniel Cross III Accounting & Financial Economics Advisor: Dr. Robert Gmeiner
The Utility of Art Therapy Mindfulness Interventions in Reducing the Impact of Learned Helplessness Task Exposures and Perceived Stress	Carl Douglas Jr., Jemorieana Golombeski, Phatthaporn Kaewwongsa, Madison Brunson, Ava Broussard, Saleiya Lowery, Mahogany Williams Psychology Advisor: Dr. Katharine Snyder
The Impact of College Student Drinking on Academic Resilience and Emotional Wellness	Tatiana Lourenco Shiber, Micaiah Kluttz, Adriana DeMercurio, Savannah Hicks, Kevin Bennett Psychology Advisor: Dr. Katharine Snyder
Exploring the Accommodation Gap at Methodist University	Adriana DeMercurio Accessibility & Disability Services Advisor: Diana Garcia
Toxic Leadership in Higher Ed	Katelyn Hernandez Accessibility & Disability Services Advisor: Diana Garcia
A Qualitative Photographic Comparative Analysis of Ballistic Projectiles Embedded in Tissue (I): Extreme Temperatures.....	Leah Momsen, Haylee Ellis, Rebecca McGaughnea, Sydney Wixtrom Criminal Justice & Forensic Science Advisor: Dr. Bryan Brendley
A Qualitative Photographic Comparative Analysis of Ballistic Projectiles Embedded in Tissue (II): Natural Conditions	Leah Momsen, Haylee Ellis, Rebecca McGaughnea, Sydney Wixtrom Criminal Justice & Forensic Science Advisor: Dr. Bryan Brendley
Luminol vs. Leuco Crystal Violet.....	Vashti Parker Forensic Science Advisor: Dr. Bryan Brendley and Dave Pauly
Perspectives of Healthcare Workers on Occupational Therapy Intervention to Increase Self-Efficacy and Participation of Caregivers of Infants in the Neonatal Intensive Care Unit (NICU)	Lauren Hadley, Samantha Styron Occupational Therapy Advisor: Dr. Charlotte Navarro

The Sixth Annual Nursing Research & Community Symposium

April 12 | 8:30 a.m.

Effects of Midwifery Care on Preterm Birth Rates Compared to Traditional Care

Joan D. Beauchamp

Preterm birth is a global health concern. One infant in ten is delivered before 37 weeks of pregnancy (Karnati et al., 2020). Nearly one million newborns die due to problems with premature delivery. There are different factors that contribute to preterm birth complications such as the overall health status of the mother, multiple deliveries, increase in the average age of mothers, and socioeconomic status. In Medicaid-eligible women ages 18-25, midwifery treatment is associated with lower preterm birth rates than conventional care. Women who received midwifery care were 16% less inclined to lose their babies and 24% less prone to undergo preterm labor, as the World Health Organization (WHO) reported (2019). The purpose of this research is to address ways to reduce preterm birth rates in Medicaid eligible women ages 18-25 and to compare the effect of preterm birth rates in patients who receive care by midwives compared to obstetricians.

The Effect of Pregnancy Education to Nulliparous Women on Caesarean and Elective Induction Rates

Aylisia Belgrove

Among nulliparous women, the peak of readiness for education is in the last trimester of pregnancy. Typically, women in this stage elect for induction due to being uncomfortable, tired, and/or having a specific birth date in mind, often without adequate education regarding the risks for morbidity and mortality. Induction of labor, which has tripled since 1990, is known to increase the cesarean section rates for women by up to 23% (Einerson & Grobman, 2020). A comprehensive literature review demonstrates barriers to adequate prenatal education which include socioeconomic status, access to care, and personal/culture barriers, which in turn, increase the elective induction and cesarean section rates. This project recommends strategies to reduce these barriers.

Birth Disparities in the African American Community

Roberta Lewis Byrd

Despite years of effort, birth disparities have been on a steady increase in the African-American community. The African-American community faces an overwhelming number of barriers in comparison to their counterparts as it relates to birthing challenges. This prevalent issue has surged over the past 10 years, despite the advancement in health care, leading to the twice as many Black and Brown women dying in comparison to other races. This epidemic impacts the quality of life in families, generates mistrust, and place this population at a great disadvantage. Implementation of a standardized universal protocol may be used when addressing patient's despite of class, color, or creed. Targeting the general population as a whole and encouraging the community's involvement by holding the health care providers accountable.

Relevance of Medical Interpreter Services on Limited-English Patients on Compliance and Their Plan of Care

Carolina Castro-Pérez

According to the Center for Immigration Studies, the United States of America has one of the highest rates of Spanish-speaking immigrants in the world. Lack of English proficiency has a profound influence on the patient's ability to comply with the plan of care in the acute-care setting. To combat this, acute care settings are required to provide interpreters according to the Patient Bill of Rights. Medical interpreters provide an important service that eliminates language barriers between medical personnel and patients with limited-English proficiency. Medical interpreters can be delivered face-to-face, virtually, digitally, or informally. This research will consist of a literature review explaining the relevance of providing formal medical interpreter services according to policies and procedures of acute care settings and the effect these services have on patient compliance during their hospitalization and in their plan of care. This paper will also discuss and explore strategies for the barriers that interfere with the proper care for limited-English patients such as the high cost of services, complex policies and procedures, and limited time of medical personnel with these patients.

Distributed Care: The Future of Health Care Delivery in Rural Bhutan

Karma Choki

Distributed health care delivery is the concept of providing decentralized health care, bringing health care resources closer to the patients. This model of care has the potential to revolutionize the way health care is delivered. This is particularly true in developing countries where access to traditional health care services is limited. This research aims to investigate the impact of distributed health care delivery as opposed to current centralized health care delivery on mortality and morbidity rates among patients living with Non-Communicable Disease (NCD) in rural Bhutan. The research will involve a quantitative analysis of mortality and morbidity rates among NCD patients in rural Bhutan, comparing those in areas with a distributed health care delivery system in similar cultural, socioeconomic, and geographical communities in South Asia and other parts of the world. Data will be collected through surveys and interviews with health care providers, patients and their families, and other stakeholders. The data will be analyzed to identify any differences in mortality and morbidity rates between the two health care delivery systems. The results of the study will be used to inform policy decisions on health care delivery in rural Bhutan.

Autism Spectrum Disorder in Adults: Health Care Transition Barriers

Yolanda Cofield

Autism Spectrum Disorder (ASD) occurs among all races, ethnic, and socio-economic groups. Traditionally, early childhood interventions have been used to promote health intelligence that are clinically driven to reduce chronic health outcomes among this diverse population. As these children reach young adulthood, they face barriers when transitioning from pediatric to adult care. There is a need for ongoing health care management support. The aim of this research is to identify strategies to strengthen provisions of health care in the ASD population.

Parental Vaccine Hesitancy

Jace Estremera

Despite being recognized as one of the greatest medical achievements, vaccines are increasingly under critical observation for numerous reasons. Parental vaccine hesitancy is on the rise due to a wide range of concerns regarding vaccines and is believed to be responsible for decreasing coverage of many childhood vaccines. Parents who support vaccine hesitancy give several justifications for their position. Some of these include the composition of the vaccines, loss of faith in doctors and the entire immunization procedure, as well as the emergence of post-vaccination illnesses (Henrikson et al., 2021). The threat to herd immunity caused by poor vaccine uptake increases the risk for the reappearance of vaccine-preventable diseases. Pediatric primary health care providers can respond to the increasing prevalence of vaccine hesitancy by providing education related to vaccines to ensure the safety and health of the population. The purpose of this research is to provide an understanding of the benefits of vaccination, examine the common concerns of vaccine-hesitant parents, and outline strategies for health care providers to address concerns with parents in the clinical setting.

Misconceptions of Perceived Effects of Electronic Cigarettes (Vaping) over Tobacco Cigarettes

Freddy Wendji Fodop

There has been an increase in the use of electronic cigarettes, also known as e-cigarettes, over the use of tobacco products

among adolescents and young adults in the past years. The CDC reports that in 2022, 2.55 million middle school and high school students reported having used e-cigarettes in the past 30 days. Among adults, e-cigarette smokers who had never smoked cigarettes has increased from 23.6% in 2019 to 56% in 2022 (CDC, 2022). Although risk factors and consequences of smoking are already known, there seems to have been a misunderstanding and misconception of the perceived effects that e-cigarettes have over tobacco smoking. Youths seem to move in the direction of e-cigarette smoking thinking that they are less harmful, or even more beneficial, than tobacco smoking. This perception is often a result of misinformation. This paper will use a systematic review approach to analyze how college students between the age of 18 and 25 years old perceive the risks of e-cigarette smoking over tobacco smoking and ways to mitigate any misconceptions associated with e-cigarette use.

The Need for Further Screening of Anaphylactic Syndrome During Pregnancy

Penha Anna Lemos

Anaphylactic syndrome of pregnancy, formerly known as amniotic fluid embolism, is a worldwide phenomenon with a death rate of 60-80%. The etiology of this deathly occurrence remains largely undefined. The lack of knowledge on the etiology and pathology of anaphylactic syndrome of pregnancy, increases anxiety in pregnant women. An increase of anxiety during pregnancy and labor potentiates a multitude of negative outcomes for the mother and fetus. Some of these unfavorable outcomes include preterm labor, increased pain, and low birth rate. The need for further research is substantial. A better understanding of this pathology would allow for medical professionals to detect risk factors associated with this disease process. An increase in knowledge on this undefined disease process would allow for early detection. Early detection would expand autonomy in targeted pregnant women, allowing for them to decide whether they want to terminate their pregnancy. Early testing should be done during the first trimester of pregnancy, such as allergy screening and retrieval of pertinent past medical history. This would allow for early intervention and detection of high-risk mothers.



Endometriosis: The Diagnosis of Exclusion

Quanisha Myles

Endometriosis is a common and challenging disease of the female reproductive system. It is commonly considered a diagnosis of exclusion, often leading to misdiagnoses and prolonged suffering for most affected women of reproductive age. The disease is often confused with other gynecologic disorders such as pelvic inflammatory disease and uterine fibroids, which delays diagnosis by 8-12 years. During this time, many women suffer from chronic pain, infertility, depression due to infertility, patient fatigue, and patient-provider relationship strain. This paper proposes early aggressive screening for women who might have endometriosis as the primary diagnosis rather than diagnosis of exclusion. Providing a tool to help aide in a timely diagnosis for women suffering with endometriosis will decrease infertility, depression, patient fatigue, which in turn may improve patient-provider relationships.

The Concept of Milk-Siblings in Islam: The Relation to Epigenetic Programming Through Breast Milk

Ladiba Said Nafe

The concept of milk-sibling is an ancient Islamic concept, occurring when a woman feeds her breast milk to an infant other than her own. This practice is believed to establish consanguinity although the infants are not blood-related. There has been an increase in the number of western hospitals that have established the use of breast milk banks to provide pasteurized donor human breast milk (HBM) to infants in need. Numerous studies have demonstrated that HBM is the richest source of nutrients for a newborn. It also contains a copious amount of bioactive factors such as immunoglobins, hormones, cytokines, leukocytes, lactoferrin, microbiota, stem cells, and epithelial cells. Further, HBM also contains microRNAs which are single standard, small, non-coding molecules, control gene expression, and changes phenotype through a concept known as epigenetics. It is not yet understood what influence the bioactive factors may have on epigenetic programming in the recipient infant. However, it is possible that the bioactive factors found in the HBM may create consanguinity through the epigenetic programming of the recipient infant. If it is the case that the HBM alters the epigenetics of the recipient infant, it would mean that hereditary traits may be transferred to the infant through donated breast milk. Thus providing a rationale for the ancient custom of milk-siblings in the Islamic faith. This could be a threat to future generations because of the possibility of consanguineous marriages that can result from milk-siblings not knowing they are related. Therefore, an investigation into this matter is necessary.

Sex-Based Differences in Acute Myocardial Infarction Symptomatology: A Research Proposal

Aaron Quinn

Women who present to Emergency Departments (ED) who are experiencing Acute Myocardial Infarctions (AMI) are less likely to be diagnosed than their male counterparts. If the women

happen to have the comorbidities of being obese with type two diabetes mellitus (T2DM), the rate of misdiagnoses is even higher. Ischemic heart disease is the number-one killer of adults in the world. Knowing the differences in how men and women present with AMI is critical in recognizing the disease pattern and initiation of lifesaving steps in treatment times from door to catheterization lab. The study will be randomized and will consist of both men and women and will demonstrate sex-based differences and sensitivity of typical symptoms, defined as chest pain or discomfort, diaphoresis, arm or shoulder pain, dyspnea, in the diagnosis of AMI. Patients diagnosed with AMI will be assessed for exertional symptoms of chest pain prior to an AMI in their History of Present Illness report. The result of this study will show how women present atypically in comparison, and those with T2DM are misdiagnosed with exacerbation(s) of that disease leading to increased avoidable deaths and “<30day” readmission. These findings will help providers quicken catheterization times for women providing their hearts with the oxygen it requires to function and decrease the risk of thrombolytic complications.

Neonatal Abstinence Syndrome

Max Roche

Neonatal abstinence syndrome (NAS) occurs when newborns are exposed to narcotics and barbiturates in utero. Associated complications of NAS include the inability to adequately feed, insomnia, respiratory distress, seizures, and failure to thrive. The standard of care for NAS has been the use of methadone and morphine for the management of the symptoms. However, these drugs have potential side effects, and there is growing interest in using non-pharmacological approaches, such as the “Eat, Sleep, Console” approach. The study’s main aim is to compare the effects of the “Eat, Sleep, Console” approach to methadone and morphine on neonatal abstinence syndrome within six months. The study will be a randomized controlled trial that will be conducted in a tertiary care hospital. A sample of 200 neonates diagnosed with NAS will be randomly assigned to receive either the “Eat, Sleep, Console” approach or methadone/morphine to treat the symptoms. The study’s primary outcome will be the severity of the NAS symptoms as assessed by the Finnegan Neonatal Abstinence Scoring System. Secondary outcomes will include side effects of the treatments, length of hospital stay, and weight gain. The results of this study will provide valuable information on the effectiveness of the “Eat, Sleep, Console” approach in managing neonatal abstinence syndrome. The findings will inform clinical practice and help Health Care providers make informed decisions about the treatment of NAS. The study will also contribute to advancing knowledge in this area and provide a basis for future research.

Opioid Dependency Post-Surgical Hospitalization

Sina M. Sluyterman van Langeweijde

Opioids are the most commonly prescribed medications in the postoperative setting. Long-term use of opioids, defined as three months or more, is associated with an increased risk for opioid dependency. Post-operative patients often are not treated effectively for their pain due to fear of dependency. The addition

of alternative pain management approaches, such as non-narcotics and non-pharmacological options (massage therapy, acupuncture, and guided imagery) have shown to decrease the need for long-term use of opioids, thereby decreasing the risk of dependency; however, they are rarely employed as a standard of care. Improved patient education on opioid use in the pre-operative phase can enhance comfort while mitigating the fear of opioid dependency and improve pain management. The establishment of clear guidelines on how to effectively manage pain with the addition of alternative methods, could solve the problem of opioid overprescription in the hospital setting.

Nurses with Depression and Patient Safety

Madeline Wilson

Literature has shown that nurses who are experiencing depression are more likely to consciously engage in possibly unsafe “work-arounds” and commit medical errors. Nurses who hold themselves to the rigorous standards of “nursing perfectionism” may fast-track themselves to burn out, and later depression, which contributes to higher rates of patient safety events. This paper seeks to investigate the efficacy of an adaptable early recognition depression screening tool (ERDST) in nursing staff to identify when nurses experience depression and its effect on patient safety. Previously implemented models of evidence-based protocols for health care workers who experience occupation-precipitated or exacerbated depression ultimately contribute to lower rates of patient safety events. This paper reviews the literature of previously implemented mental health programs for nurses and seeks to determine the relationship between these programs and rates of patient-safety events within the units over a year’s time. The early recognition depression screening tool is a comprehensive questionnaire conducted by a mental health specialist designated for each unit and/or floor. The questionnaire is given when the nurse first begins the job to establish a baseline in mental health and resilience. The questionnaire is then performed routinely at three-week intervals to establish individual trends. Literature on mental health programs, such as mindfulness in-service events for nursing units, suggest that nurses who are taught how

to practice mindfulness at work have reported higher levels of focus while completing high-stress duties and lower rates of moral injury. The literature reflects that when work conditions are safer for nurses in terms of perceived stress, the number of patient-safety events decreases.

Obesity in Cumberland County, N.C.

Mohammad AL-Hawwari, Nicolas Parker Arley, Alyssa Hansell

This community health nursing project will assess the prevalence of obesity in Cumberland County, North Carolina. Aspects of diet and physical activity as they relate to obesity will be examined. Health program planning will be used to identify and develop recommended public health interventions aimed at reducing obesity rates in this population. Moreover, a proposed plan with key metrics for outcome evaluation will be delineated.

Curable Sexually Transmitted Diseases in Cumberland County, N.C.

Ashley Garson, Erika Wilson, Chris Howe, Aire Cook

Sexually transmitted diseases are a threat to the individuals of our community. This community health nursing project will examine the incidence and recidivism rates of curable sexually transmitted diseases in Cumberland County, North Carolina. Health program planning will be used to identify and develop targeted interventions aimed at decreasing the rates of sexually transmitted diseases in Cumberland County, North Carolina. Moreover, a proposed plan with key metrics for outcome evaluation will be developed and provided.

Reducing Suicide Rates in Active-Duty Military Personnel

Catherine Hinton, Kimeesha Whitlock, Maria Kollar, Mariah Ingham

This community health nursing project will examine the incidence of completed suicides in active-duty military personnel. Health program planning will be used to identify and develop recommended nursing interventions aimed at reducing



suicide rates in this population. Moreover, a proposed plan with key metrics for outcome evaluation will be provided.

Disparities in Accessibility of Breast Cancer Screening Among High and Low Socioeconomic Populations **Seung Hyup Lee, Collette LeFavor, Anna Kathryn Shankle, Kayleigh Raynor**

This community health nursing project will examine disparities in accessibility of breast cancer screening among high and low socioeconomic populations. Comparisons will be made between populations in Fayetteville, North Carolina, the State of North Carolina, and the United States. Health program planning will be used to identify and develop recommended nursing and public health interventions aimed at increasing accessibility of screening for breast cancer. Moreover, a proposed plan with key metrics for outcome evaluation will be delineated.

The Vaping Epidemic Among North Carolina's Young Adults **Bridget Simiyu, Frances Iyere, Geraldo Sibinde, Nailea Torres**

This community health nursing project will examine the prevalence and health impact of vaping among North Carolina's young adults. Health program planning will be used to identify and develop recommended nursing and public health interventions to reduce the use of vaping among this population. Moreover, a proposed plan with key metrics for outcome evaluation will be outlined.

Ameliorating Viral Hepatitis in Cumberland County, N.C. **Emily VanLoon, Nadeen Davalos, Alyzabeth Ward, Payton Calloway**

This community health nursing project will examine the incidence of viral hepatitis in Cumberland County, North Carolina. Health program planning will be used to identify and develop recommended nursing and public health interventions aimed at education and behavioral modification reducing viral hepatitis in this population. Moreover, a proposed plan with key metrics for outcome evaluation will be delineated.



The 12th Annual Center for Research and Creativity Symposium

April 12 | 9 a.m. - 3 p.m.



MORNING SESSION | HENDRICKS 122

INTERDISCIPLINARY: STUDENT AND FACULTY DIGITAL INTERFACE

9-9:20 a.m.

Wikipedia Editing & Digital Mis/Disinformation: Student and Faculty Perspectives

Jordan Matheny | Junior; English; Sanford, N.C.
Duncan Harling | Junior; Mass Communications; Fayetteville, N.C.
Brice Herring | Junior; Mass Communications; Fuquay-Varina, N.C.
Advisor: Dr. Tyler Easterbrook, Composition, Communication, & Rhetoric

This presentation provides student and faculty perspectives on doing a Wikipedia assignment in COM 4850: Media and Mis/Disinformation. Taught by Dr. Easterbrook in spring 2023, Media and Mis/Disinformation trained students to analyze and address online

mis/disinformation in various contexts. As part of their coursework, COM 4850 students worked with Wikipedia to edit articles that were outdated, incomplete, or under-researched. Students learned about Wikipedia's protocols for generating/improving content, selected articles of interest, conducted research using high-quality online sources, and edited articles in the WikiEdu dashboard. Participants in this research presentation will share what this process was like for them and what they learned about confronting mis/disinformation by working with Wikipedia. To close out the session, attendees will have the opportunity to ask questions about the project and how they might contribute to Wikipedia themselves—whether within or outside of a traditional classroom setting.

9:20-9:40 a.m.

Design and Implement a User-Centered Student Portal

Kalkidan Gebrehiwot | Senior; Engineering, Industrial & Systems Engineering; Addis Ababa, Ethiopia
Advisor: Dr. Terry House, Computer Science

The development of a system of student portal aims to address the growing need for institutions to improve their online presence and communication with their students. The primary problem this system seeks to solve is the lack of organization in current online portals, which can lead to an inefficient process, and poor student experience. To develop the system for building the student portal, a combination of Agile and Waterfall development methodologies will be used. Agile methodology will be employed during the initial stages of the project to rapidly

prototype and iterate on the design, ensuring that the portal meets the specific needs and requirements of stakeholders. Once the core feature and functionality have been established, a Waterfall approach will be adapted to ensure a smooth and organized progression through the testing and deployment stages. User Case Diagram will be used to display sequence of events and functional requirements of the system. The portal will consist of four tabs, which includes the Home page tab, Registration tab, Financial Aid tab, and Learning Resources tab. The system interface will be built using a combination of modern web technologies, such as HTML, CSS, Javascript, and AngularJS, to ensure a responsive and user-friendly interface. A secure and scalable back-end system will be created using Node.js and relational database management system will be used to store and manage students data.

9:40-10 a.m.

Improving the Design and Functionality of the Faculty myMU Portal Tabs

Sarah Davis | Senior; Engineering, Industrial & Systems Engineering; Saint Stephens Church, Va.
Kalkidan Gebrehiwot | Senior; Engineering; Industrial & Systems Engineering; Addis Ababa, Ethiopia
Advisor: Dr. Denise Bauer and Dr. Girish Upreti, Engineering

The faculty myMU portal's purpose is to streamline communication, collaboration, and access to resources for faculty. It is designed to support faculty members by providing a secure interface for activities such as submitting grades, viewing advisee information, and completing

ConnectU reports. Currently, the faculty portal consists of about 11 different tabs such as Forms and Documentation, Admissions, Faculty, ConnectU, and Human Resources. Our team will evaluate the design and functionality of these tabs to improve user experience. In preliminary interviews, faculty mention that it can be difficult to find specific forms and documents within the portal; thus, we will start our evaluation with the Forms and Documentation tab, which includes such forms as those from the Registrar Office, advisor changes, grade change requests, and course substitutions, as well as documents such as the faculty manual and advising guide. Our team will evaluate the faculty myMU portal and suggest better ways to organize/design it for ease of use. Data will be collected through a survey sent out to faculty to learn more about their experience utilizing the portal. After creating options for the redesign, we will hold focus groups to test which solution may be the best option.

MORNING SESSION | HENDRICKS 222
 INTERDISCIPLINARY: MATERIALS AND HUMAN INTERACTION

9-9:20 a.m.

Investigation of the Influence of Lower-Limb Dominance on Postural Balance

Andrew Topoly | Senior; Engineering, Industrial & Systems Engineering; Smithfield, N.C.

Kit Allman | Senior; Engineering, Industrial & Systems Engineering; Wilmington, N.C.

Sean Coleman | Senior; Engineering, Industrial & Systems Engineering; Fayetteville, N.C.

Advisors: Dr. Girish Upreti, Engineering; Dr. Matthew Foreman, Occupational Therapy; Dr. John Fox, Physical Therapy

The purpose of this study is to investigate the effects of leg dominance on postural balance in young, healthy adults. Evidence shows postural control mediated by leg dominance can help train athletes or assist in interventions for neuromuscular control of the lower extremities. Using Methodist University's motion analysis lab, data will be collected using the center of pressure tests with the Neurocom Balance Master in comparison with Bertec force plates.

The center of pressure data of each foot will be collected and analyzed through specific predetermined balance exercises. We will use analytical techniques and processes, such as descriptive, diagnostic, predictive, and prescriptive analysis, to remove unnecessary data, contextualize the data, and visualize the results. Our team will use tools such as MATLAB and Excel to analyze and plot the data to draw results from it effectively. These students are conducting research in coordination with with the Occupational Therapy Department. This research presentation will describe how the students analyzed the data using MATLAB and Excel program collected using the center of pressure tests with the Neurocom Balance Master in comparison with Bertec force plates. As a requirement in the Engineering Program, they must present their research to a wide audience to demonstrate that they are able to communicate their findings and ideas to others. The CRC research presentation will allow the students to interact with students, faculty, and staff from across the campus and give them the opportunity to speak to varying levels of topic understanding.

9:20-9:40 a.m.

Redesign of Fayetteville's Kuraray Plant Storage System

Ian Davis | Senior; Engineering, Industrial & Systems Engineering; Myrtle Beach, S.C.

Jesse Leyble | Senior; Engineering, Industrial & Systems Engineering; Jacksonville, N.C.

Wesley Faw | Senior; Engineering, Industrial & Systems Engineering; Sumter, S.C.

Advisors: Dr. Girish Upreti and Dr. Denise Bauer, Engineering

The Kuraray Plant is a producer of Polyvinyl Butyral (PVB) sheeting which is used as a glass interlayer in car windshields and architectural windows. The PVB sheet is held to an extremely high quality and must be free from all flaws. The material that does not meet the standards is recycled, stored, or shipped to another Kuraray as retirement. Currently, there is no system for sorting, storing, or categorizing recycles by type. Our team will collect data by observing the factory through its daily process. The floor plan will be developed into a system that will categorize, organize, and efficiently store, retrim, and recycle material while minimizing the cost of storage. The new system will be implemented on the factory floor to test if our solutions effectively reduce costs on storage, increase organization, and increase the flow of work.

9:40-10 a.m.

Evaluating Potential Tetrachromacy in the MU Community Using Gas-Discharge Tubes

Rebekah Haigler | Sophomore; Biology & Psychology; Cameron, S.C.

Advisor: Dr. Vijay Antharam, Chemistry

Vision, a mechanical function that varies for everyone, is classified into diverse types: monochromacy, dichromacy, trichromacy, and tetrachromacy. Monochromatic vision describes seeing only gray-scale images. Dichromacy is an umbrella term for colorblindness, whether it is red-green or blue-yellow colorblindness, while trichromacy describes average color vision where people can view all colors. Deviation from these main vision types causes a vision abnormality known as tetrachromacy. Tetrachromacy is a visual enhancement where people can see additional color nuances in the electromagnetic spectrum,

meaning that they can distinguish between colors more proficiently than an average person. Tetrachromacy is a genetic condition carried on the X chromosome, in which a person has four cone cell-types instead of the normal three. The degree and effect of preliminary tetrachromacy was evaluated on Methodist University community students by having participants view the excitation of a gas-discharge tube containing either nitrogen gas, mercury gas, and helium gas. By measuring perception of the excitation spectrum for nitrogen, mercury, and helium gas, an approximate average of 8% in the MU community that was surveyed showcased enhanced color nuances potentially linked to tetrachromacy. The results and preliminary data reported here reflects how the MU community possess differential observations based on viewing excitation spectrum of these three gases. The potential for tetrachromacy within the MU community at large will be explored.

MORNING SESSION | NURSING 103
MEDICINE AND CULTURAL CONFLICT: RESPONDING TO
THE SPIRIT CATCHES YOU AND YOU FALL DOWN

9-9:20 a.m.

They Did Their Best

Mikhail Garrett Baldwin | Sophomore; Mass Communications; Charlotte, N.C.
Advisor: Dr. Karen Kletter, History

This paper discusses the factors that led to the unsuccessful treatment and eventual brain death of Lia Lee, a young Hmong girl whose family came to the U.S. from Laos as refugees. Through an analysis of the narrative of Lia's treatment and her family's history, the paper questions whether her fate could have been averted. The thesis of this paper is that, ultimately, Lia's physical condition worsened due to the mutual inability of her parents and the doctors who cared for her to communicate or reach across cultural differences, and the norms of the American health care system.

9:20-9:40 a.m.

Lost Identifies: Fear, Compromise, and Cultural Conflict in a Medical Context

Iqbal Ahmed Ismaciil | Sophomore; Pre-Nursing; Hargeisa, Somaliland
Advisor: Dr. Karen Kletter, History

This paper considers the perspectives of Lia Lee's family, whose views of Lia's illness are incompatible with those of the doctors who treated her in the United States. The paper examines medicine and cultural conflict in the context of ideas of endogenous development, suggesting that the Lee family viewed her treatment within the American medical establishment as a challenge to their Hmong identity.

9:40-10 a.m.

The Problematic Plight of Cultural Supremacy

Matthew Parker | Senior; History; Fayetteville, N.C.
Advisor: Dr. Karen Kletter, History

This paper frames the life and treatment of Lia Lee in the larger historical context of the consequences of ideology and cultural restrictions formed during the Cold War. The author examines how the plight of the Lee family is intertwined with nationalism and notions of cultural supremacy that were engendered by Cold War tensions.

MORNING SESSION | YARBOROUGH
INTERDISCIPLINARY: GLOBAL ECONOMICS AND POWERDOWN

9-9:20 a.m.

The Hundred Years War and the Development of Colonial Europe

Stephen Atwell | Senior; Financial Economics; Mbabane, Eswatini
Advisor: Dr. Carl Dyke, History

This paper and presentation will cover the social, political, and economic impacts of the Hundred Years War in Europe, and more specifically, how this century of open conflict between England and France changed Europe and laid the groundwork for the colonial age

by both destroying the established centers of power while also working to emancipate the common man. This conflict involved every state and polity in western Europe, and the results were equally widespread, leading to weakened states and institutions, and also creating pivotal technological and economic innovations before, during, and after the conflict. The aim of this project is multipronged, it will show how the power of the colonial states we know today is a relatively recent development and a result of key developments beyond the control of their main benefactors.

9:20-9:40 a.m.

The Positive Economic Impact of Immigrants in the U.S. Economy

Luciana Forma Noguera | Senior; Financial Economics; Mexico City, Mexico
Advisor: Dr. Robert Gmeiner, Accounting & Financial Economics

The United States has more immigrants than any other country in the world, currently having 40-million people living in the U.S. that were born in another country. Immigration has been a topic of debate

for decades amongst the U.S. population. Although many fear that immigrants will take away jobs from Americans and lower wages, immigration fuels the U.S. economy. In this study, data show that immigration to the United States has had and will have a positive impact on the U.S. economy. This positive economic output of the U.S. economy is reflected in the increase in the labor force, productivity, GDP, and innovation. This information will be useful in order to better understand how the U.S. economy greatly benefits from immigrants in the long run by how they increase the country's competitive advantage.

9:40-10 a.m.

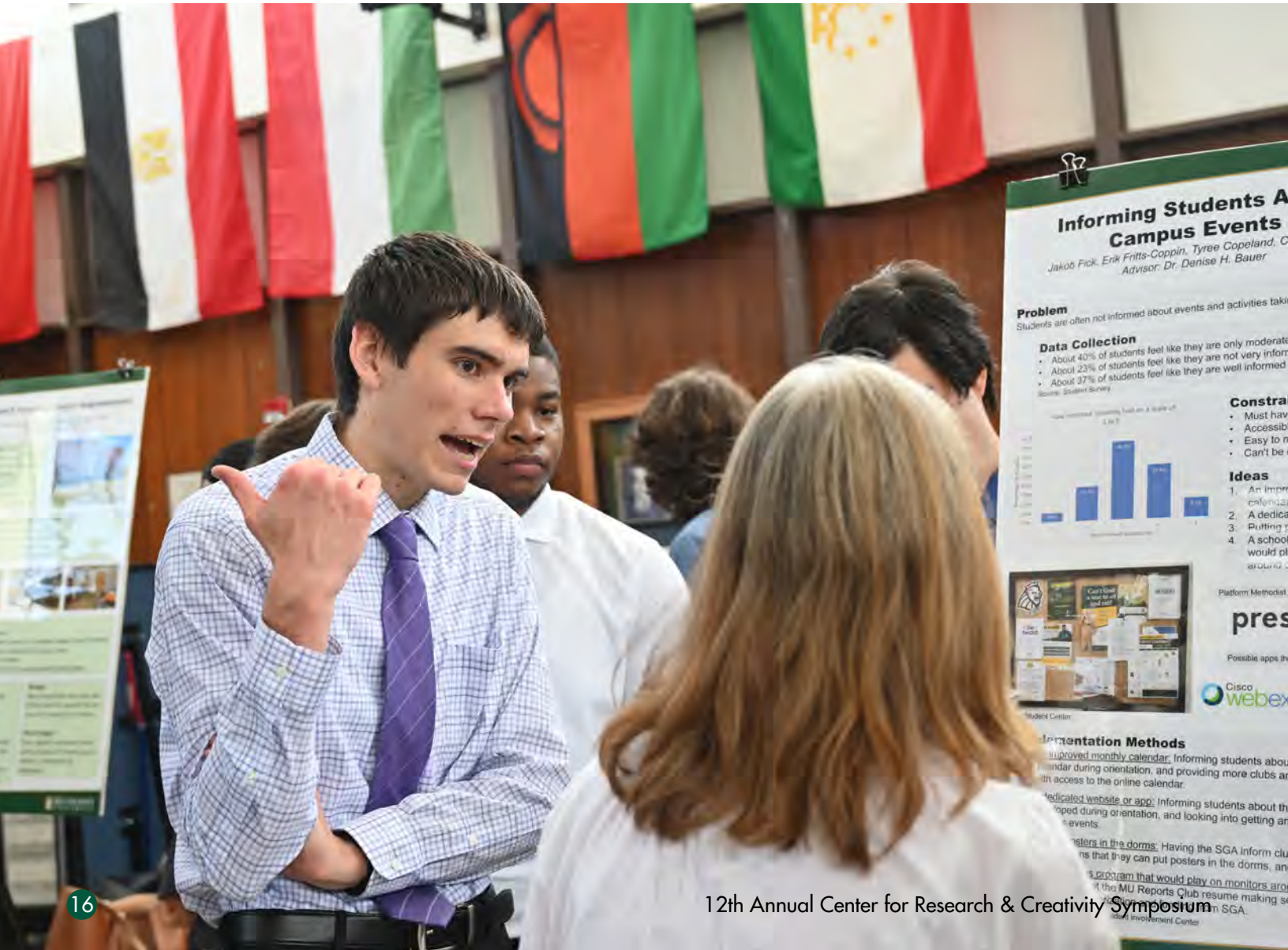
Examining the Effects of Mortgage Rates on The Economy of Developing Countries

Lydivine Nduwawe | Senior; Financial Economics & Marketing; Gicumbi, Rwanda

Advisor: Dr. Robert Gmeiner, Accounting & Financial Economics

This research paper intends to present the significance of land market and mortgage rates on economic development of developing or emerging countries of Africa, Asia, and Central America. It will also examine the main challenges that hinder the development of mortgage markets, with a comparative analysis of certain land laws, and major economic events such the 2008 mortgage crisis and how they impacted developed and developing countries differently. The research will also focus on mortgage financing and a study of rules and regulations regarding realstate mortgages will be done to examine the importance and the effects they have on the economy of developing countries.

CIRCUIT | 11 A.M. | MATTHEWS CHAPEL SERVING, THRIVING, AND BEING PRESENT IN COSTA RICA



**AFTERNOON SESSION | HENDRICKS 122
THE ECONOMICS OF TRANSPORTATION**

1-1:20 p.m.

**The Relationship Between Oil Prices and Crime Rates:
Exploring the Effects of Fluctuating Fuel Costs on
Criminal Activities**

Astridah Lombe | Senior; Financial Economics; Lusaka, Zambia
Advisor: Dr. Robert Gmeiner, Accounting & Financial Economics

This paper will focus on the relationship that exists between oil prices and crime rates. While many studies have explored the economic factors that contribute to crime, few have focused on the role oil prices have on crime rate. This paper will focus on analyzing past data to assess the relationship between oil price rates across different regions and time periods. The areas of crime to be explored include different types of crimes like theft, property crime, and violent crime.

1:20-1:40 p.m.

Railway Viability in the U.S.A

Stephen Atwell | Senior; Financial Economics; Mbabane, Eswatini
Advisors: Dr. Robert Gmeiner, Accounting & Financial Economics

The U.S. is a large country. Its expansion of the states and its centralization as a modern country has historically depended on its rail network as a means of moving people and goods across the country in a time sensitive and cost-efficient manner. Today, the U.S. is highly dependent on cars and roads for these, but this paper seeks to investigate the extent and viability of expanding American railways today. The historical and economic merits as well as weakness of this policy will be

explored at the symposium. First, the current state will be investigated and compared to various cases of extent, including the expansion in certain areas and even replacement of major roadways in this manner. Besides the direct advantages of rail travel and its potential for gain, this study will focus on detriments we can avoid by converting some of the population to rail travel and away from motor vehicles. Things like the environmental impact, wider economic surplus and social implications will be studied. The end goal is to decide whether rail, which currently carries a negligible portion of annual commuters can compete with air and motor travel, and make a recommendation, with all the benefits and disadvantages evident.

**AFTERNOON SESSION | HENDRICKS 222
COMPUTER SCIENCE: FINANCES AND EMERGENCY PREPAREDNESS**

1-1:20 p.m.

Personal Expense Tracker

Rahmah Mahdi | Sophomore; Accounting & Computer Information Technology; Baghdad, Iraq
Advisor: Dr. Terry House, Computer Science

The goal of this project is to create a personal expense tracker program that allows individuals to input, categorize, and track their daily expenses. The program will provide an overview of their spending and enable users to generate financial reports to gain a deeper understanding of their financial situation. Users will be able to easily input their expenses, including the amount, date, and category. Also, the program allows users to take a picture of their receipts and automatically extract the relevant data to track expenses. This is known as optical character

recognition (OCR) technology, which uses machine-learning algorithms to recognize and extract text from images. With OCR technology, users can simply take a picture of their receipt and the data, such as the date, amount, and vendor name, will be automatically extracted and populated into the expense tracker. This eliminates the need for manual data entry and reduces the risk of errors. Personal expense tracker can be useful in several ways: users can see where their money is going and make informed decisions about their spending. They can use the data to create and stick to a budget, helping them save money and stay financially responsible. Also, it can make it easier to prepare tax returns by keeping track of deductible expenses and providing a record of all spending. The target audience are individuals who are looking for an effective and convenient way to track and manage their daily expenses like college students.



1:20-1:40 p.m.

The Science of Programming: The Creation of a Publishing Company Application

Abigail McCandless | Senior; Computer Science; Fayetteville, N.C.
Advisor: Dr. Terry House, Computer Science

As part of my semester long project, I have set out to design a program for a publishing company to handle the selling and distribution of books. During the planning stages of this project, I conducted research on multiple publishing companies (Penguin, Harper Collins, Hachette Book Group, and Macmillan), and found common areas for improvement, such as how they market and promote

their products and the products themselves. Using JGrasp and upper-level programming language, Java, I intend to address and make improvements to the areas needed. The publishing industry is not seeing much financial growth, but continues to provide jobs and keep the public both entertained and educated. The reasoning for building this program is not to bring revolution nor is the reasoning to re-invent the publishing industry. The goal for the program is provide solutions issues I have observed as a consumer. A big goal of the program is to support the publishing industry in easy-to-use and easy-to-navigate format. To accomplish this, we can supply employees in the field with information regarding the current market that will assist them in making informed decisions; and find ways to better promote the books published by the company to customers.

1:40-2 p.m.

Program Ready for Emergency Preparation (P.R.E.P.)

Charles Gaffney | Junior; Computer Science, Mathematics; Fayetteville, N.C.
Advisor: Dr. Terry House, Computer Science

Multiple tornados in a severe thunderstorm have just struck Fayetteville, N.C. Emergency personnel leaders and community leaders have just met together to determine what needs to be done. Damage is ongoing as reports continue to come in. These reoccurring disasters demand that leaders be able to easily connect and receive updates on current news. However, thankfully, this disaster was just a simulation. Project: P.R.E.P. seeks to help these leaders through a website application allowing for simulation of disasters as well as tools that update in

real time to an ongoing disaster. The program will have the following features: a login page to verify a user's access, a system to send and receive messages to other leaders and headquarters, a map to display information about the local area including damage reports and shelter data, a page to view the data visualized on the map in a table format, and a switch from simulation to real time data. Project: P.R.E.P. will be programmed in Python to make use of the modules Flask, Geopandas, and Pandas. Flask will be used to allow the program to be interacted with via a website. Geopandas will be used for the creation of maps based on real world data. Pandas will be used to manipulate some data sets. External data for this program will be stored in different formats including Pandas dataframes and spreadsheets.

AFTERNOON SESSION | NURSING 103 INTERDISCIPLINARY: COMPETITION AND SUPPORT

1-1:20 p.m.

Using Competition to Teach Leadership Skills in "The Room"

Alyssa Hansell | Junior; Nursing; Fayetteville, N.C.
Cheyenne Ferrin | Alumna; Pembroke Pines, Fla.
Advisor: Dr. John Edwards, Applied Communication

Active learning and problem-based learning have been popular educational tools for decades. In recent years, the Collegiate Leadership Competition (CLC) has taken active learning a step further by introducing competition as a learning tool in leadership education.

This activity is an original activity created by the authors that models a competitive approach to learning practiced by the CLC. Student teams compete to complete specific tasks found within the online game "The Room" within a given time frame. Teams are scored based on following the leadership processes learned in class and on completion of the task. Team process and results scores are combined to determine total scores and a winner is declared. Research on this process has shown that competition increases student motivation to learn and student learning. Anecdotal accounts indicate that students enjoy competing to learn. The learning competition approach can be used across many disciplines and subjects, even if this specific game is not used.

1:20-1:40 p.m.

Service Animal or Emotional Support Animal: Which One is It?

Anthony Adelizzi | Sophomore; Business Administration;
Yarmouthport, Mass.
Advisor: Brock White '07, 14M, PGA Golf Management

Have you ever been at a shop, restaurant, or taken an airlines flight, and experienced unusual behavior coming from a service animal? Or

at least what you thought was a service animal? As I was researching service animals and emotional support animals, I found an abundance of interesting information that I would like to share with you, so you can make an informative decision whether it is a service animal or an emotional support animal: the definition, tasks, and classifications of a service animal as defined by the Americans with Disabilities Act; the definition of an emotional support animal and the requirements needed by a mental health professional; and the key distinction between a service animal and an emotional support animal.

AFTERNOON SESSION | YARBOROUGH AUDITORIUM
 INTERDISCIPLINARY: ETHICS AND ABSURDITY IN MATH AND ENGLISH

1-1:20 p.m.

NCICU Ethics Bowl

Asemahle Mgyai | Sophomore; Political Science, Financial Economics; Johannesburg, South Africa
Adriana DeMercurio | Junior; Psychology; Washington, N.C.
Matthew Parker | Senior; History; Spring Lake, N.C.
Advisor: Dr. Kevin Hoffman, Philosophy & Religion

The panel will focus on the structure of the Ethics Bowl Competition and how, as first-time participants, it felt to experience that structure during the competition. It will also focus on the other elements of competition which caused the experience to be of which we are excited to return to next year. Lastly, it will be an opportunity to take one of the topics which we had discussed at the Ethics Bowl in order to break it down the same way we did in the competition, showing how it feels to have been competing.

1:20-1:40 p.m.

Mathematical Absurdism

Jackson Barriger | Sophomore; Engineering, Industrial & Systems Engineering; Stuttgart, Germany
Advisor: Dr. Robert Gmeiner, Accounting & Financial Economics

The concept behind this presentation is to question the philosophy of math, and more specifically, the philosophies behind infinity. The cosmic horror behind something being truly infinite is something that not many people choose to face. While looking into this, I actually changed my own perspective on what math is. I grew up thinking that math is this incorruptible, perfect thing when it is actually an imperfect, incomplete

mess, and I go into depth as to why that is. Absurdism is defined as “the philosophy that existence is generally absurd and the world lacks a higher purpose or meaning and is not fully intelligible by reason.” Whereas Nihilism is defined as “the belief that all life is meaningless.” In other words, absurdists believe that despite no inherent meaning, things can be given a purpose whereas Nihilists believe that because of a lack of inherent purpose, nothing has meaning. I argue that mathematics is a great practical application of absurdism, and call to question whether math is created or destroyed and whether or not math is created by the historical figures we praise with discovery or if they simply discovered a concept that would exist regardless of humanity. My goal is to have the audience question their own beliefs regarding mathematics.

1:40-2 p.m.

Make Ethics Great Again: Analyzing Octavia Butler’s Parable of the Talents through the Lens of John Stuart Mill’s Ethics

Jordan Matheney | Junior; English; Sanford, N.C.
Advisor: Dr. Kelly Walter Carney

Octavia Butler is a pioneer of Afrofuturism, a genre in which futuristic themes are examined through the lens of Black culture, a twist on the science-fiction genre that often investigates real-world ethical standards. John Stuart Mill, an Enlightenment-era philosopher, explored similar philosophical concepts as described in his three works *Utilitarianism*, *On Liberty*, and *The Subjection of Women*. Butler’s book, *Parable of the Talents*, is a science-fiction novel set in the post-apocalyptic United States in which she explores religious persecution,

political tyranny, and totalitarianism. The central conflict involves Earthseed, a fledgling spiritual community, and Christian America, the fundamentalist sect endorsed by a president who vows to “make America great again.” Both Earthseed and Christian America require some sacrifice of personal liberty to benefit the larger population, reflecting Mill’s ideas about ethics. Characters debate the ethics of their communities and assert their respective position as morally right. This interdisciplinary study compares the principles of Earthseed and Christian America according to Mill’s ethical standards to analyze personal liberty and government intervention in Butler’s fictional society. An application of philosophical ethical standards to the text identifies a universality of conflict between Mill’s 19th-century England, Butler’s dystopian United States, and current American reality. The lasting relevance of Butler’s work allows the reader to use Mill’s ethical principles to evaluate the rules of conduct in contemporary society.



**B.F. STONE LYCEUM | APRIL 13
7 P.M., PA AUDITORIUM MEDICAL LECTURE HALL**

The mission of the B.F. Stone Lyceum is to foster scholarly interaction among faculty, students, staff, and community residents. The endowed lecture series began in 1998 with a generous gift from the estate of B.F. (“Doc”) Stone, a pharmacist from Elizabethtown, N.C. He was a respected and active member of the Methodist Church and a longtime supporter of Methodist University. The Lyceum, which consists of a lecture, two responses, and a question-and-answer period, takes place each spring and is free and open to the public.

**Who’s Gonna Carry the Boats?:
Breaking Out of the “In Crowd” in Service to Others**



DR. MARK KLINE
Head, Social Sciences Division; Psychology



DR. GEORGE HENDRICKS
Senior Director for Legacy Planning; Social Work

- PAST B.F. STONE LYCEUM PRESENTATION TITLES**
- “Our Diversity is Our Strength: Addressing Race and Gender in Higher Education” (2022)
 - “What’s an Ecological Society?: A Multi-disciplinary Conversation” (2020)
 - “The Biology of Monogamy” (2019)

Responses by:



REV. KELLI TAYLOR
Vice President of Mission Integration & Student Well-Being; Chaplain



GAVIN MYRICK
Director, Student Belonging & Inclusion



AN UPDATE FROM THE CENTER FOR RESEARCH & CREATIVITY

Dr. Cameron Dodworth, Director



Dodworth

The annual Methodist University Center for Research and Creativity Symposium has successfully rebounded from the COVID-19 pandemic, and will hopefully continue to grow and develop even further in the years to come. Along with the annual spring Symposium, the CRC has also become the organizing body of the annual B.F. Stone Lyceum, which has been moved to Symposium Week as the centerpiece event featuring faculty research and creativity at MU. This year, the CRC will also be bringing the Monarch Review out of hiatus, providing our MU students with a unique opportunity to publish their research and creative work in an online, interdisciplinary, multimedia, student-run journal. The CRC will also continue to sponsor and fund student research at MU, in the form of student grants for conference presentations and research materials. Due to a comparatively much smaller budget than years past, as a result of the tightening of university finances post-pandemic, these opportunities have decreased over the past few years, but will hopefully increase in funding as MU grows as a university in the coming years.

With all of the above in mind, the CRC would like to further encourage faculty, staff, and students to consider and produce more and more research-based and creative opportunities for our students. Collaborate with students on research and creative projects, encourage students to present those projects at academic conferences, encourage students to submit written or multimedia versions of those projects to the Monarch Review each year, and encourage - and perhaps even require - students to present their work each year at the CRC Symposium. Each student that creates a capstone project within their major is producing work that could potentially be published in the Monarch Review, if not at least be presented in-person and/or as a poster at the Symposium each spring. These are opportunities and projects that should go beyond receiving just a letter grade for a capstone course. The CRC - with its funding opportunities, the Monarch Review, and the spring Symposium - provides meaningful evidence of student work, beyond the classroom, in CVs and resumés, and that work can continue to be displayed online for students to showcase well after receiving their degrees from MU. All these students need is a member of faculty or staff to give them a little extra encouragement and motivation, and to also perhaps serve as a sponsor or advisor for a student's work. Thank you so much to all of you that have taken advantage of these opportunities, on behalf of our students, but further effort is still needed to provide our students with these valuable experiences and evidence of their success at MU - and potentially in their postgraduate careers and/or academics.

The MU CRC would like to sincerely thank everyone that has worked very hard to make this year's 12th Annual Symposium possible, particularly Binh Nguyen (Senior Graphic Designer), Christian Naranjo (Marketing Content Producer), Michael Molter (Webmaster & Canvas Administrator), and Brad Johnson (Director, Marketing & Communications). Once again, please also keep in mind that posters and presentation materials will be made available as links to the Symposium program for all posterity.