

A background image showing a stack of several thick books with their pages visible, creating a textured, layered effect. The books are in shades of grey and white.

# ugs

UNDERGRADUATE SYMPOSIUM  
ON RESEARCH AND  
CREATIVE ACTIVITY 2024



THE UNIVERSITY OF  
SOUTHERN MISSISSIPPI.



# SCHEDULE OF EVENTS

## Saturday April 20, Scianna Hall

7:30 a.m.	Registration Opens
8:30-9:45 a.m.	Concurrent Panels Session I
10-11:15 a.m.	Concurrent Panels Session II
11:30 a.m.-1 p.m.	Lunch and Keynote Address, Trent Lott Center Keynote Speaker: <b>HOPE HERRON</b> Associate Director at the Millennium Challenge Corporation
1-2:30 p.m.	Poster Presentations
2:30-3:30 p.m.	Concurrent Panels Session III
3:45-4:45 p.m.	Arts Showcase (Scianna Hall Auditorium)
5 p.m.	Awards Ceremony (Scianna Hall Auditorium)

# ABOUT THE SYMPOSIUM AND ITS BENEFACTOR



The Symposium began as an annual event in the Department of History under the direction of Dr. Phyllis Jestice. In 2011, USM alumnus Donald Drapeau began sponsoring a series of awards for student presenters, and the next year, the Symposium was expanded to include students from across campus. The Undergraduate Symposium on Research and Creative Activity has grown since that time to an event that includes a keynote address, art, dance, music, and theatre, as well as over 100 oral and poster presentations.

**DONALD DRAPEAU**, the Symposium's generous benefactor, completed his Bachelor of Science in history at Southern Miss before going on to earn a master's degree at the University of Pennsylvania. He has enjoyed great success as founder and chief executive officer

of the Man-Drapeau group of companies, which employs financial engineers and maintains offices on multiple continents. In the 1970s, he founded Drapeau and Co. and became a member of the Chicago Mercantile Exchange.

A Fulbright Fellow in Belgium and a Kress Fellow at the Harvard Business School, Mr. Drapeau is a passionate advocate of undergraduate students at Southern Miss and enjoys the opportunity to foster their sense of initiative, personal drive, and lifelong commitment to education and personal growth. His passion has led not only to his sponsorship of the prizes at the Symposium, but also to his support for the Drapeau Summer Research and Eagle SPUR Grants, which provide support for students' research and creative projects. In 2016, Mr. Drapeau announced a gift to Southern Miss that resulted in the renaming of the Center for Undergraduate Research to the Drapeau Center for Undergraduate Research. In 2019, he was inducted into the Southern Miss Alumni Hall of Fame.

The Symposium could not exist without Mr. Drapeau, whose vision for valuing expanded opportunities for undergraduates has driven this enterprise and has shaped Southern Miss and the lives of hundreds of its students. We thank him for his commitment and his generosity.

# ABOUT OUR PLENARY SPEAKER



**HOPE HERRON** is an associate director at the Millennium Challenge Corporation (MCC), a bilateral United States foreign aid agency, where she oversees the environmental and social performance of multi-million-dollar investments in support of MCC's fight against global poverty. MCC provides time-limited grants (average size of \$340 million) to the world's poorest countries that are committed to just and democratic governance, economic freedom, and investing in their populations. MCC's investments in core infrastructure and policy and institutional reforms are key interventions that are improving the lives of nearly 270 million people across 46 countries and five continents. Ms. Herron helped to develop the MCC's new Climate

Change Strategy and manages its climate change contract to implement the strategy. She is co-leading MCC's work on the President's Emergency Plan for Adaptation and Resilience (PREPARE) and represents the Agency on multiple National Security Council climate-related meetings and workstream efforts. Ms. Herron is a representative on the Agency's Executive Diversity, Equity, Inclusion, and Accessibility (DEIA) Council, where she chairs the Recruitment Working Group to expand employment opportunities for underserved communities.

Prior to joining MCC, Ms. Herron led the resilient infrastructure practice for Tetra Tech, a global provider of consulting and engineering services. She provided strategic guidance to Tetra Tech's corporate initiatives and project management and technical expertise to a wide range of international development agencies and multilateral clients. As the senior thought-leader for resilient infrastructure, Ms. Herron led many of the company's innovative flagship climate change risk assessment and adaptation projects.

Ms. Herron received a B.A. degree in English with a minor in history from The University of Southern Mississippi, a Master of Natural Resource Studies degree from the University of Queensland, Australia, and a master's degree in international communication from American University in Washington, D.C. She currently lives outside of Washington, D.C., with her wife, young son, and poorly trained dog. Ms. Herron is excited to return "home" to the USM campus. She proudly continued her family's legacy of attending USM, which began with her grandfather's attendance shortly after the school was founded. Her father was an All-American football player, her mother was a professor and director of the Center for Science and Mathematics Education, and all three of her siblings attended USM. While at USM, Hope was a member of the Honors College, captain of the women's soccer team, and vice president of the Student Athletic Council.

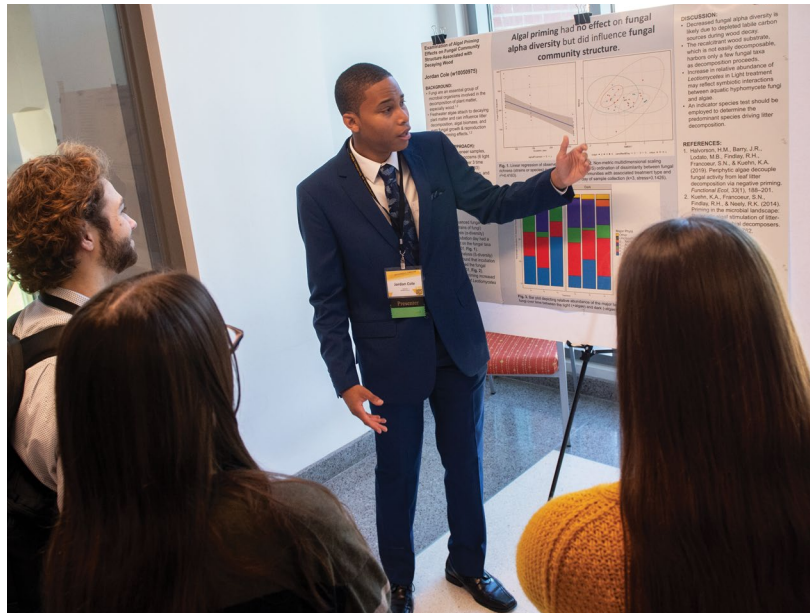
# ABOUT OUR HOSTS



## DRAPEAU CENTER FOR UNDERGRADUATE RESEARCH

### THE DRAPEAU CENTER FOR UNDERGRADUATE RESEARCH

(DCUR) was established in October 2011, assuming the name of its benefactor, Donald Drapeau, in 2016. The mission of the center is to enhance the undergraduate experience by promoting and supporting student-faculty collaborations in research, creative projects, and scholarship. The benefits of active participation in faculty-mentored research are myriad both to the student experience and the university community at large.



DCUR works with undergraduate students to identify potential faculty mentors and sponsors competitive programs to assist students in their independent scholarship activities. These include the Eagle Scholars Program for Undergraduate Research (Eagle SPUR), which provides funds to support travel, to purchase equipment and supplies, and/or to be used as a stipend, and the Drapeau Summer Research Grants, which allow students to work full-time on their projects during the summer. You may learn more about these programs at [usm.edu/undergraduate-research/drapeau-center.php](http://usm.edu/undergraduate-research/drapeau-center.php).



# THE UNIVERSITY OF SOUTHERN MISSISSIPPI HONORS COLLEGE

The first honors college in Mississippi and one of the oldest in the nation, the Southern Miss Honors College was founded in 1976 in an effort to offer enhanced educational experiences for high-achieving students. From its founding, the Honors College has required every student to undertake original research in the form of an Honors thesis, making the college a fitting host for the Undergraduate Symposium.

Through a supportive and challenging intellectual community and by valuing engaged and active learning, the college encourages its students to seize opportunities and boldly determine their own paths—both at the university and beyond. Upon graduation, Honors Scholars have the independence and confidence to pursue their passions, the knowledge and tools with which to chart a fulfilling future course, and a lifelong commitment to using their capacities for the public good. For more information about the Honors College, visit [usm.edu/hc](https://usm.edu/hc) or contact us at [honors@usm.edu](mailto:honors@usm.edu).



# THANK YOU!

## THE 2024 SYMPOSIUM PLANNING COMMITTEE

This year's Symposium was organized and developed through the hard work of a university-wide committee, which met throughout the 2023-24 academic year to put this event together. These faculty and staff members gave of their time and energy so that students and faculty could enjoy a successful Symposium. Thanks to all of them for their service!

[Allen Chen](#), SCHOOL OF PERFORMING AND VISUAL ARTS

[Nicholas Ciraldo](#), SCHOOL OF MUSIC

[Jeremy Deans](#), SCHOOL OF BIOLOGICAL, ENVIRONMENTAL AND EARTH SCIENCES

[Brad Dufrene](#), SCHOOL OF PSYCHOLOGY

[Sabine Heinhorst](#), DRAPEAU CENTER FOR UNDERGRADUATE RESEARCH

[Jaide Hollingsworth](#), HONORS COLLEGE

[Jared Hollingsworth](#), SCHOOL OF MEDIA AND COMMUNICATION

[Joyce Inman](#), HONORS COLLEGE

[Tegi Jenkins-Rimmer](#), OFFICE OF THE VICE PRESIDENT FOR RESEARCH

[Kelly Lester](#), SCHOOL OF PERFORMING AND VISUAL ARTS

[Joanne Tran](#), SCHOOL OF MARKETING

[Rebecca Tuuri](#), HONORS COLLEGE

[Alexandra Valint](#), SCHOOL OF HUMANITIES

[Cyndi Wyles](#), OFFICE OF THE VICE PRESIDENT FOR RESEARCH



THE SYMPOSIUM TAKES A GREAT DEAL OF PLANNING AND SUPPORT, AND WE WANT TO THANK ALL OF THOSE WHO HAVE CONTRIBUTED TO THE EVENT!

## FACULTY JUDGES

We are grateful to the following Southern Miss faculty members for volunteering their time and energy to the UGS.

**Rabab Abdelfattah**, COMPUTER ENGINEERING

**Mac Alford**, BIOLOGICAL SCIENCES

**Katie Angus**, FOREIGN LANGUAGES

**Diana Bernstein**, MARINE SCIENCE

**Katja Biswas**, PHYSICS

**Catharine Bomhold**, LIBRARY AND INFORMATION SCIENCE

**Kelsey Bonfils**, PSYCHOLOGY

**Alyson Brink**, PALEONTOLOGY

**Heather Broadhead**, POLYMER SCIENCE

**Quincy Brown**, HUMAN CAPITAL DEVELOPMENT

**Sean Buckelew**, HISTORY

**Gordon Cannon**, BIOCHEMISTRY

**Matthew Casey**, HISTORY

**Nora Charles**, PSYCHOLOGY

**Tristan Clemons**, POLYMER SCIENCE

**David Cochran**, GEOGRAPHY

**Jennifer Courts**, VISUAL ARTS

**Jeremy Deans**, GEOLOGY

**Kim de Mutsert**, MARINE SCIENCE

**Matthew Donahue**, CHEMISTRY

**Brad Dufrene**, PSYCHOLOGY

**Ian Dunkle**, PHILOSOPHY

**Jacob Esplin**, CHILD AND FAMILY SCIENCES

**Alex Flynt**, BIOLOGICAL SCIENCES

**Gabe Goldstein**, CONSTRUCTION AND DESIGN

**Helen Greene**, GEOGRAPHY

**Melissa Gutierrez**, BIOLOGICAL SCIENCES

**Timothy Gutmann**, PHILOSOPHY

**Bridget Hayden**, ANTHROPOLOGY

**Sabine Heinhorst**, BIOCHEMISTRY

**Karlie Herndon**, UNIVERSITY LIBRARIES

**Jeff Hirschy**, LIBRARY AND INFORMATION SCIENCE

**Mark Huff**, PSYCHOLOGY

**Luis Iglesias**, ENGLISH

**Joyce Inman**, ENGLISH

**Joann Judge**, KINESIOLOGY

**Shahid Karim**, BIOLOGICAL SCIENCES

**Christy Kayser**, INTERDISCIPLINARY STUDIES

**John Kmiec**, HUMAN CAPITAL DEVELOPMENT

**Melissa Kossman**, REHABILITATION SCIENCES

**Deepak Kumar**, BIOLOGICAL SCIENCES

**Kelly Ferris Lester**, DANCE

**Ashley Marshall**, LIBRARY AND INFORMATION SCIENCE

**Katya Maslakowski**, HISTORY

**Marcus Michels**, VISUAL ARTS

**Gero Nootz**, OCEAN ENGINEERING

**Derek Patton**, POLYMER SCIENCE

**Nadine Phillips**, UNIVERSITY LIBRARIES

**Julie Pigza**, CHEMISTRY

**Maureen Ryan**, ENGLISH

**Bernd Schroeder**, MATHEMATICS

**Jeremy Scott**, PHYSICS

**Ahmed Sherif**, COMPUTER SCIENCE

**Ery Shin**, ENGLISH

**Diana Simpson**, UNIVERSITY LIBRARIES

**Kayla Stan**, GEOGRAPHY

**Alexis Stoner**, MARKETING

**Kevin Stott**, CHILD AND FAMILY SCIENCES

**Richard Swearingin**, FORENSIC SCIENCE

**Joanne Tran**, MARKETING

**Rebecca Tuuri**, HISTORY

**Kelly Vera**, BIOLOGICAL SCIENCES

**Wei Wang**, MARKETING

**Zhifu Xie**, MATHEMATICS

**Gallayanee Yaoyuneyong**, MARKETING

**Sharon Young**, SOCIOLOGY

**Tisha Zelner**, UNIVERSITY LIBRARIES

**Fan Zhang**, CONSTRUCTION AND DESIGN

# THANK YOU

## OUR CAMPUS SPONSORS

We would like to extend a special thank you to the College of Business and Economic Development for opening the doors of Scianna Hall to the Symposium, and to these sponsors for their generous support.

Vice President for Research	College of Nursing and Health Professions
Vice President for Student Affairs and Enrollment Management	Graduate School
College of Arts and Sciences	University Libraries
College of Business and Economic Development	Southern Miss Alumni Association
College of Education and Human Sciences	Southern Miss Athletics

We'd like to extend a special thank you to these donors for their kind support of our student scholars.



Best Presentation on a Biomedical Topic  
Loan of easels and boards



The Jack Lucas Award



Best Community-Engaged  
Research or Creative Activity



Arts Showcase Awards

## THE SOUTHERN MISS WOMEN'S AND GENDER STUDIES PROGRAM

The Women's and Gender Studies Prize

THE SYMPOSIUM TAKES A GREAT DEAL OF PLANNING AND SUPPORT, AND WE WANT TO THANK ALL THOSE WHO HAVE CONTRIBUTED TO THE EVENT!

## OUR COMMUNITY SPONSORS

Please help us thank our local sponsors by letting them know that Hattiesburg appreciates their support of student achievement at Southern Miss!

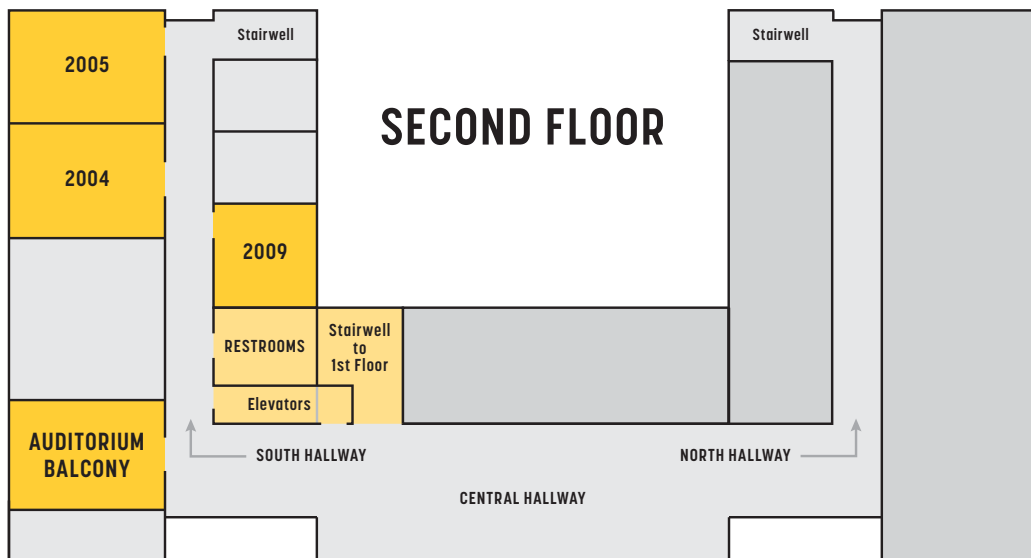
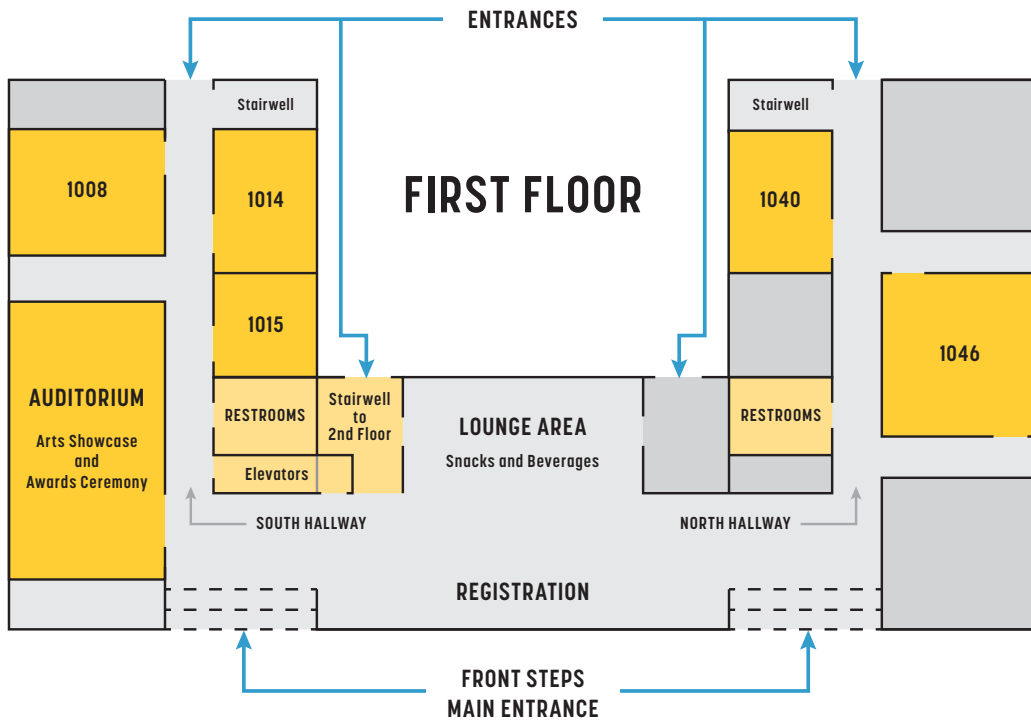


## SPECIAL THANKS

to American Graphics for their especially generous support!



# SCIANNA HALL



# SCHEDULE OF SESSIONS

## SATURDAY, APRIL 20

### 8:30-9:45 A.M. CONCURRENT PANELS SESSION I

#### SCI 1008 A WOMAN'S PLACE IN A CHANGING WORLD

**A**

MODERATOR: KATHRYN MCKENZIE, SCHOOL OF HUMANITIES

Hand-Holders of Tipu, Belize

REAGAN STECKBECK, ANTHROPOLOGY

A "Revolutionary" Portrait: A Lesser-Known Portrait's Place in the Struggle for Women's Equality in France During the French Revolution

MORGAN MYRES, ART, WORLD LANGUAGES (SPANISH)

The Unequal Marriage: Women and Status in 19th-Century Russia

KAYLEE SELLE, ART

The Azalea Trail Maids: White Women's Contributions to the Lost Cause in Mobile, Alabama

EMMA RAWLS, HISTORY, ENGLISH

#### SCI 1014 TRANSLATION, TRANSFORMATION, AND LIBERATION IN TEXT, ON STAGE, AND IN FILM

**B**

MODERATOR: FAITH NNENNA OMULU, SCHOOL OF HUMANITIES

Not If It's You: A Historiographical Evaluation of Common Problems in Translation Methodology and Their Solutions Through the Lens of Euripides' *Orestes*

KALEIGH LANDERS, WORLD LANGUAGES (FRENCH)

Becoming the Mask: Performance as Parasitism in Ben Jonson's *Volpone*

JENNA MCCLAIN, ENGLISH

A *Raisin in the Sun* Book and Film Comparison

MAYA WOOD, ENGLISH

Liberation in *Dune*

AMIN WHITMORE JR., CRIMINAL JUSTICE

#### SCI 1015 CHEMICAL SYNTHESIS

**C**

MODERATOR: LEAH CASE, SCHOOL OF MATHEMATICS AND NATURAL SCIENCES

Synthesis of Piperidines via the Intramolecular Prins Cyclization of N-Sulfonyl Alpha-Aminoacetals

DAMIEN COOPER, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

Addition of Masked Acyl Cyanides to Substituted Benzylic Acetimidates

MACKENZIE PIERCE, CHEMISTRY (BIOCHEMISTRY)

Synthesis of Substituted Pyrroles from N-Sulfonyl Enamines

DREW ROWELL, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

N-Methylpyridinium as a Novel Charged Acidifying Group for Squaramide Organocatalysts

AIDEN LEISE, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

#### SCI 1040 ART AS PRACTICE: REFLECTIONS ON PURSUING THEATRE AND DANCE PROJECTS

**D**

MODERATOR: AMELIA MOREHEAD, SCHOOL OF PSYCHOLOGY

And So, My Heart Became a Void—A Dance Film

GRACE DUGAS, DANCE (PERFORMANCE AND CHOREOGRAPHY)

An Opportunity for the Dance Educator

EMMA DUNAWAY, DANCE (DANCE EDUCATION)

Undergraduate Devised Theatre Showcase

SETH RODIVICH, THEATRE (ACTING)

#bookedandblessed: A Theatrical Job Search

GEORGIA LEMING, THEATRE (GENERAL THEATRE)

#### SCI 2004 HOW GEN Z NAVIGATES MEDIA, IDENTITY, AND BELONGING

**E**

MODERATOR: ALEXA TRINGALI, SCHOOL OF PSYCHOLOGY

The Truth from Her Red Lips?: Taylor Swift and the Emerging Phenomenon of Celebrity Political Influence

KYLIE PRICE, THEATRE (ACTING)

"And You're Watching Disney Channel!": Disney, Gender, and Gen Z

EMILY SMITH, HISTORY, SOCIOLOGY, PEARL RIVER COMMUNITY COLLEGE

Groomer Discourse: A Transgender-Sensitive Critical Discourse Analysis of Queerphobic Hate Speech on Twitter  
WILLIAM EVANS, COMPUTER SCIENCE  
The Beautiful, the Messy, and the Sad  
EZABELLE JANSSEN, ENGLISH

### SCI 2005 MATHEMATICAL SOLUTIONS

F

MODERATOR: MEAGAN STANLEY, SCHOOL OF MATHEMATICS AND NATURAL SCIENCES  
Integral Sequences of Legendre Polynomials  
LUKE FONTAN, MATHEMATICS  
The Numerical Method for Finding All the Zeros of a Function  $f(x)$  on an Interval  $[a,b]$   
FRANISSA SIMON, MATHEMATICS  
Component-Wise Backward Differentiation Formulas for Stiff Systems of Ordinary Differential Equations  
ANZHELIKA VASILYEVA, MATHEMATICS  
Exact Calculation of the Probability of  $\text{Li-7}(p, \alpha)\text{He-4}$  Reactions in a Thick  $\text{LiF-Target}$   
MAXIMILIAN ALBERTH, PHYSICS

### SCI 2009 TESTING DEMOCRACY'S LIMITS

G

MODERATOR: AUGUST JOSEPH NAMUTH, SCHOOL OF PSYCHOLOGY  
Jury Duty and Justice: An Analysis of the Shortcomings of Jury Duty in the United States  
MARLENA TESTON, LEGAL STUDIES (PARALEGAL), PHILOSOPHY  
The Fragility-Necessity Correlation in Democratic Systems  
CAM FARVIN, PHILOSOPHY, POLITICAL SCIENCE  
Equal Conditions, Unequal Outcomes  
TERESA DIGEROLAMO, POLITICAL SCIENCE, WORLD LANGUAGES (SPANISH)

## 10-11:15 A.M. CONCURRENT PANELS SESSION II

### SCI 1008 CIVIL RIGHTS, POLITICS, AND MEMORY IN MISSISSIPPI

H

MODERATOR: CYNTHIA MYLES, SCHOOL OF HUMANITIES  
"Where Is Bud Strong?": The Lost Martyr of the Mississippi Civil Rights Movement  
MICAH LYNN, HISTORY  
Freedom Summer: McCain Scared Red  
JOSEPH REOSTI, HISTORY, POLITICAL SCIENCE (PRE-LAW)  
Omissions Are Not Amends: Evelyn Gandy's Racial Politics and Legacy, 1920-2008  
KYLE SIMPSON, HISTORY  
A History of Mississippi Segregation Academies and How They Serve as Agents of Socialization in Students' Political Affiliations  
HANNA ALLEN, POLITICAL SCIENCE

### SCI 1014 THE IMPORTANCE OF INCLUSION IN EDUCATION

I

MODERATOR: SABA SHAHID, SCHOOL OF PSYCHOLOGY  
The Case for Educational Equity in Mississippi: An Analysis of Mississippi's Social Emotional Learning Standards from a Critical Lens  
MADISYN KILLOUGH, ELEMENTARY EDUCATION  
An Analytical Study on the Role of Pedagogy on Racial Achievement Gaps in America  
ALY GONZALEZ, SOCIOLOGY, POLITICAL SCIENCE  
Inclusive Policies, Diverse Perspectives: Affirmative Action and the Model Minority Among University Students  
JANNIE NGUYEN, POLITICAL SCIENCE  
Sense of Belonging, the Institution, and the University Writing Center  
JAYLIN JONES, ENGLISH

### SCI 1015 EXPLORING MOLECULAR MECHANISMS IN BIOLOGY

J

MODERATOR: ALEX MELVILLE, SCHOOL OF PSYCHOLOGY  
The Impacts of PFAS Exposure on Expression of  $\text{PPAR}\alpha$  and  $\text{PPAR}\gamma$  in Larval Sheepshead Minnows  
SOPHIE VORIS, BIOLOGICAL SCIENCES  
Bioinformatic Analysis of the  $\text{NF-}\kappa\text{B}$  Pathway in Mouse Trophoblast Stem Cells in Response to  $\text{TNF}\alpha$   
YESEUL BAE, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCES)  
Redox Based Modulation of Biomolecular Condensates by Disulfide Bond Cross-Links in Designer Peptides  
LONDON LEE, CHEMISTRY (BIOCHEMISTRY)



## SCI 1040 OPERATIONAL EFFICIENCY, CONSUMER BEHAVIOR, AND SOCIAL MEDIA IN BUSINESS AND NONPROFIT ORGANIZATIONS

K

MODERATOR: AMANDA WALSH, SCHOOL OF MEDIA AND COMMUNICATION

Altaworx, LLC.: A Comparative Analysis of Liquidity, Profitability, Efficiency, and Debt Management  
ANDY WELCH, FINANCE

Bots, Branding, and Behavioral Intentions  
HAEDEN OVERBY, HOSPITALITY AND TOURISM MANAGEMENT

Film Tourist Perceptions of Congruity, Attachment, and Intentions Modeling  
PATRICK TYSON, ANTHROPOLOGY, SOCIOLOGY, WORLD LANGUAGES (SPANISH)

Exploring Nonprofit Organization Directors' Strategies in Social Media Involvement with Consumers - A Qualitative Approach  
GREYSON SWARTZFAGER, BUSINESS ADMINISTRATION (ENTREPRENEURSHIP)

## SCI 2004 EXTANT AND EXTINCT INVERTEBRATES

L

MODERATOR: JAMION BURNEY, SCHOOL OF PSYCHOLOGY

*Culex antillumagnorum*: Recording a Novel Mode of Oviposition in the Culex Mosquito Genus  
LIZ WYNNE, BIOLOGICAL SCIENCES

Contrasting the Distribution of Aquatic Macroinvertebrates Above and Below a Sill in the Lower Bouie River, Mississippi

NATALIE SANTIAGO, MARINE BIOLOGY  
Effects of Dissolved Oxygen and pH on Eastern Oyster (*Crassostrea virginica*) Growth  
KARINA LEDEZMA, MARINE SCIENCE

The Taxonomy and Survivorship of Indigenous Ostracod Fauna After the Cretaceous/Paleogene Extinction Event  
HELENA JIMENEZ ELDER, GEOLOGY

## SCI 2005 COMMUNICATION AND DEVICE ENGINEERING

M

MODERATOR: BENJAMIN GOUDY, SCHOOL OF HEALTH PROFESSIONS

Modular and Interactive Button System for Visually Impaired Children  
RANNI MIDDLETON, POLYMER SCIENCE AND ENGINEERING

Proof of Concept of Coastal Autonomous Profiling Float for Ocean Data Collection  
COREY CHAMBLEE, OCEAN ENGINEERING

Establishing a LoRaWAN Gateway at The University of Southern Mississippi  
TREVOR WHALEN, OCEAN ENGINEERING

## SCI 2009 A NEW PERSPECTIVE: VISUAL ART AS DESIGN, PROFESSION, OR MNEMONIC DEVICE

N

MODERATOR: SHIZA SHAHID, SCHOOL OF PSYCHOLOGY

How Can Fashion Be Used as a Design Tool Within Painting?  
CALAIS BATES, ART

Networking in Norman  
DONISHA EDWARDS, ART (SCULPTURE)

Drawing Both Helps and Harms Memory Depending on the Context  
HALLIE CULPEPPER, PSYCHOLOGY

## 1-2:30 P.M. POSTER PRESENTATIONS

### SCI FIRST FLOOR, NORTH HALLWAY

1. Uncovering the Role of *Amblyomma americanum* tRNA Synthetases in Hematophagy and *Ehrlichia* Infection  
ANZA ALI, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCES)
2. Landscapes and Morals in Jane Austen's *Mansfield Park*  
MONTANAH MIDDLETON, ENGLISH (LICENSURE)
3. Correlation of Scales from Gulf Menhaden (*Brevoortia patronus*)  
MICHAEL ZARSKA, MARINE BIOLOGY
4. Emotion and Ethics: Exploring Emotional Intelligence and Acquisition of Ethical Values in Undergraduate Nursing Students  
KARLEE WALDEN, NURSING
5. The Effect of Text Manipulation on Reading Comprehension Among Children with Attention-Deficit/Hyperactivity Disorder Using the Bionic Reading Method  
SHELLEY BENTZ, PSYCHOLOGY
6. Synthesis and Characterization of Bioactive Supramolecular Polymers to Promote Skin Regeneration  
JESSICA SHRESTHA, POLYMER SCIENCE AND ENGINEERING
7. How Does Fear of AI Impact the Current College Student's Career Decisions?  
JOSEPH DUNLAP, NURSING

8. Sing It Loud and Proud! But Don't Expect Singing to Produce a Large Benefit to Memory  
ELIZE JACKSON, PSYCHOLOGY  
COLIN BRUFF, PSYCHOLOGY  
AIDAN BROWN, PSYCHOLOGY
9. My Undergraduate Research Odyssey: Investigating the Time-Dependent Gene Expression of Phospholipase A2 in Tick Salivary Glands  
FATIMA KARIM, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCES)

### SCI FIRST FLOOR, SOUTH HALLWAY

10. Jed's Multimedia Alternate Reality Game Franchise  
JED GUIN, ENGLISH (LICENSURE)
11. Examining the Relationship Between Familial Affective Response and Child Externalizing Behaviors: The Role of Household Chaos  
AKIYAH BRANDON, PSYCHOLOGY
12. Erosion in Coastal Louisiana and Mississippi: A Look into Erosion and Accretion Rates Through GIS  
BAILEY LINER, BIOLOGICAL SCIENCES (CONSERVATION BIOLOGY)
13. Musselwhite: A Case Study in the Development of Modern Legend in the American South  
ELLA LAUDERDALE, LIBRARY AND INFORMATION SCIENCE
14. Inhibiting Bacterial Growth Through Electrostatic Interaction  
LENA BLAKE, POLYMER SCIENCE AND ENGINEERING
15. The Effectiveness of Mentoring for Juvenile Youth  
OLIVIA DAMPIER, PSYCHOLOGY
16. WATTS Next: The Future of the Tokamak Reactor  
SAHIL AJMERA, CHEMICAL ENGINEERING, PEARL RIVER COMMUNITY COLLEGE
17. Spray Delivery of Supramolecular Polymer Biomaterials  
LORIA DIMARTINO, POLYMER SCIENCE AND ENGINEERING
18. Knighted Pawn Tours  
MORGAN WILSON, MATHEMATICS, COMPUTER SCIENCE

### SCI SECOND FLOOR, NORTH HALLWAY

19. Drone Mapping Application for Agriculture  
NATHANIEL PARDEE, COMPUTER SCIENCE (APPLIED COMPUTER SCIENCE)  
TICAURIS STOKES, COMPUTER SCIENCE (APPLIED COMPUTER SCIENCE)
20. Is Disturbance Stridulation in the Passalid Beetle *Odontotaenius disjunctus* a Form of Social Communication?  
HALEY SCHONEKAS, BIOLOGICAL SCIENCES (CONSERVATION BIOLOGY)
21. Technical Difficulties: An Investigation of Problematic Social Media Usage and Well-Being of Emerging Adults  
SARAH SWAN, NURSING
22. Upcycling Woven Polypropylene Textiles to Carbon-Based Joule Heaters  
PARKER FRAME, POLYMER SCIENCE AND ENGINEERING
23. Individual PBSA Related to Reduced Pregaming in College Students  
SOPHIE DENTON, PSYCHOLOGY
24. Impact of Differing Levels of Dissolved Oxygen on Oyster Biomass and Survival  
JAIDYN ALLEN, MARINE BIOLOGY
25. NCAA D1 Student-Athletes' Understandings of and Attitudes Toward Mental Performance Services  
ALLIE RUDISILL, KINESIOLOGY (EXERCISE SCIENCE)
26. Assessment of a Muscadine (*Vitis rotundifolia*) Grape Mapping Population for Tolerance to Black Rot Disease Pathogen, *Guignardia bidwellii*  
TABASSUM SIDDIQUE, BIOLOGICAL SCIENCES (MICROBIOLOGY)
27. How Does Exposure to Juvenile Offenders Affect Assumptions and Biases?  
NEVAEH GRIMME, PSYCHOLOGY

### SCI SECOND FLOOR, CENTRAL HALLWAY

28. Exploring How Microclimates Shape the Relationship Between Body Size and Thermal Tolerance in a Tropical Ant Community  
CAROLINE MARLEY, BIOLOGICAL SCIENCES
29. Exploring the Collegiate Choral Musician's Values Within Ensemble Performances  
KAELYN HUNTER, MUSIC EDUCATION (CHORAL LICENSURE)
30. Impact of Training Volume on Female Athlete Triad Risk Score for Female Collegiate Track and Field Athletes  
SARAH PARNELL, KINESIOLOGY (EXERCISE SCIENCE)
31. Adaptive Security Systems: Revolutionizing Web Application Protection  
SANDESH BHATTARAI, COMPUTER SCIENCE  
ABRAHAM ABEBE, COMPUTER SCIENCE
32. Can Decision-Making Affect Your Well-Being  
EMILY JONES, PSYCHOLOGY

33. Elucidation of the Effect of Polymer Architecture on Targeting Ligand Presentation in Nucleic Acid Delivery Vehicles  
ANTHONY RADKA, POLYMER SCIENCE AND ENGINEERING
34. Juveniles' Engagement in Mentoring Programs: Do Presentation Topics and Adult Charges Impact Engagement?  
GABBY MCCROSKEY, PSYCHOLOGY
35. Quantifying School-Based Physical Activity Using a Clearinghouse Model: Physical Activity Clearinghouse in Education (P.A.C.E.)  
REAGAN DANIELL, KINESIOLOGY (EXERCISE SCIENCE)
36. The Effect of the Black Ink Red Ink Testing Method on Anxiety Levels, Test Performance, and Note-Taking Behavior Among College Students  
PEYTON MURPHY, PSYCHOLOGY
37. Opportunities in Low Temperature Photoiniferter RAFT Polymerization  
MAC MCCORMICK, POLYMER SCIENCE AND ENGINEERING, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)
38. Quality of Life in People With and Without a Sexual or Gender Minority Identity with Disabilities  
B. TWILBECK, PSYCHOLOGY, SOCIOLOGY
39. Division of Labor in Flight Behavior of Stingless Bee (*Tetragonisca angustula*) Soldiers  
JOSEPH SERIO, BIOLOGICAL SCIENCES
40. A Musician's Greatest Sense: The Impact of Hazardous Noise Levels on the Hearing Mechanism of Marching Band Students  
MAGGIE WESTBROOK, SPEECH PATHOLOGY AND AUDIOLOGY

### SCI SECOND FLOOR, SOUTH HALLWAY

41. The Influence of Social Media on Public Opinion of the Ukraine Conflict  
MARINA GOUPALOVA, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)
42. Project Juveniles' Right to Decide: A Systemic Analysis of Juvenile Plea Research  
KAYCE ALLEN, CRIMINAL JUSTICE (JUVENILE JUSTICE)
43. Designing a Filter for the Preservation of Cellulose Acetate Films  
JACOB CREEL, POLYMER SCIENCE AND ENGINEERING  
BRECKENRIDGE JONES, POLYMER SCIENCE AND ENGINEERING  
REAGAN BROWN, POLYMER SCIENCE AND ENGINEERING
44. Seated Versus Standing Blood Pressure as an Assessment in Autonomic Dysfunction in Metabolic Syndrome  
BRAEDON WALKER, KINESIOLOGY (EXERCISE SCIENCE)
45. Consumer Activism: An In-Depth Examination of Motivations and Practices Among College Students  
MARCUS KIRKLAND, MARKETING
46. Design of Electrical Heating Devices for Decarbonized Synthesis and Processing  
JESSIE GILMORE, POLYMER SCIENCE AND ENGINEERING
47. Anxiety, Loneliness, and Quality of Life Among Sexual and Gender Minorities: The Effect of Community Type  
BRADEN WAUGH, PSYCHOLOGY
48. Implementing a Modular and Interactive System for Visually Impaired Children  
JESSE JENKINS, POLYMER SCIENCE AND ENGINEERING  
DYLAN GRIFFIN, POLYMER SCIENCE AND ENGINEERING
49. Familiarity and Recollective Curiosity: Is There a Role of Agency?  
HILLARY ROMOSER, PSYCHOLOGY
50. How to Explain the Convergence Analysis of Allen-Manandhar's Method to Beginners?  
REBECCA SCARIANO, MATHEMATICS

## 2:30-3:30 P.M. CONCURRENT PANELS SESSION III

### SCI 1008 VIOLENCE, GORE, AND MONSTERS AS REFLECTIVE OF THE HUMAN CONDITION

0

MODERATOR: ANDREW BLEDSOE, SCHOOL OF PERFORMING AND VISUAL ARTS

Providing a Service

OLIVIA PIERCE, ENGLISH

Savagery, Status, and Soutine: the Exorcism of Trauma via Works of Gore

KEVIN KLAUK, ART

Rites of Shrouded Waves and Dragon Flame: The Role of Water and Fire in Purvis' *Beowulf*

KATHERINE PURVIS, ENGLISH

### SCI 1014 ADVANCING BETTER MENTAL HEALTH OUTCOMES

P

MODERATOR: NIKKIE BAILEY, SCHOOL OF PSYCHOLOGY

Gender, Body Shame, and Sexual Anxiety: A Mediational Model Among College Students

ALLISON HANBY, CHILD AND FAMILY SCIENCES

Examining Healthcare Professionals' Perceptions and Utilization of Recreational Therapy for Mental Health Care

CHRISTEN BROOME, RECREATION (THERAPEUTIC RECREATION)

The Angry Black Woman Stereotype: Investigating Associations with Mental Health Outcomes and Treatment-Seeking Behaviors in Black Women

AISJAH HICKS, PSYCHOLOGY

## SCI 1015 THE IMPACT OF GEOGRAPHY IN MISSISSIPPI IN THE 19TH CENTURY

Q

MODERATOR: LIZ LAMKIN, SCHOOL OF PSYCHOLOGY

Desperate Times: Salt and Slave Labor During the Civil War

DIPPER NOBLES, HISTORY

The Road to Secession: Attitudes About Secession in Mississippi Before and During the Civil War Era

QUINTEN WILLIAMS, COMPUTER SCIENCE

Port of Pascagoula: An Environmental History to 1900

WILLIAM PITTMAN, INTERDISCIPLINARY STUDIES

## SCI 1040 IMPROVING LAW ENFORCEMENT PRACTICES, PAST AND PRESENT

R

MODERATOR: ZACH BUCKNER, SCHOOL OF PSYCHOLOGY

Applying Pressure: How Robert Kennedy Forced J. Edgar Hoover to investigate the Mafia

KRIS MICHAELSON, HISTORY

Adults Matter, Too: An Examination of State Adult Missing Persons Policies and Procedures to Implement a Best Practices Handbook

HUNTER SMITH, FORENSICS (ANTHROPOLOGY)

Assessing the Accuracy and Precision of Crime Scene Measurements Obtained from iPhone LiDAR Scans

JASON ANG, FORENSICS (BIOLOGICAL SCIENCES)

## SCI 1046 MODELING BIOLOGICAL PHENOMENA

S

MODERATOR: CHEYENNE BRADY, SCHOOL OF LIBRARY AND INFORMATION SCIENCE

Differential Equation Modeling the COVID-19 Pandemic Using Simple SIRF and Modified SIRF-V Systems on Select U.S. States

JACOB GARDNER, MATHEMATICS

Modeling the Open Probability of Ion Channels Using Deep Neural Networks

ABEL GURUNG, MATHEMATICS

## SCI 2004 THE EFFECTS OF REGULATION AND PUBLIC POLICY ON GUN VIOLENCE, CLIMATE CHANGE, AND BITCOIN POLICIES

T

MODERATOR: ABEL UGWU, SCHOOL OF HUMANITIES

Climate Change Consensus and U.S. Senatorial Speech

BRANDON DERR, POLITICAL SCIENCE

Unrestricted Concealed Carry and Its Implications for School Shooting Incidents in the United States

BREANNA MASTERSON, APPLIED ECONOMICS, MATHEMATICS

How Bitcoin Price Reacts to United States Government Public Legislation Releases

WALTER JOHNSON, ACCOUNTING, FINANCE

## SCI 2005 CYBERSECURITY AND PRIVACY

U

MODERATOR: KHADIZA AKTER, SCHOOL OF PSYCHOLOGY

Advancing Ransomware Detection and Classification: Utilizing Neural Networks and Extensive Data Analysis

SAJIM AHMED, COMPUTER SCIENCE

Multilayer Perceptrons for Efficient and Accurate Zero-Day Attack Detection

ASHIM DAHAL, COMPUTER SCIENCE

PRABIN BAJGAI, COMPUTER SCIENCE

Hardware-Acceleration Based Privacy-Aware Authentication Scheme for Internet of Vehicles

KAYLA WHITE, COMPUTER ENGINEERING

RABEEA FATIMA, COMPUTER ENGINEERING

## SCI 2009 NEW CHEMICALS AND MATERIALS AND THEIR APPLICATIONS

V

MODERATOR: MIKAELA SADRI, SCHOOL OF POLYMER SCIENCE AND ENGINEERING

Suppressing Reactive Oxygen Species via Application of Antioxidant Supramolecular Polymers

ZACCHAEUS WALLACE, POLYMER SCIENCE AND ENGINEERING

Development of Coumarin-Enamine Based Fluorescent Sensors for Selective Detection of Silver and Heavy Metal Ions

JADEN SIERRA, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

Total Synthesis of Halofuginone Derivatives as Tick Inhibitors

OUSSAMA ERRIDA, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

# 3:45-4:45 P.M. CREATIVE AND PERFORMING ARTS SHOWCASE

## SCIANNA HALL AUDITORIUM

Join us for a celebration of creative activity by undergraduates at Southern Miss.

### Q&A and Recognition of Visual Artists

#### *The Spiral*

BY MADALIN COSTELLA,  
ART (SCULPTURE)

#### *Stages of Grief*

BY KAYLA (ASHER) BEELES,  
ART (SCULPTURE)

#### *Mississippi Magnolia Tea Set*

BY ELLA LAUDERDALE,  
LIBRARY AND INFORMATION  
SCIENCE

#### *The Seagull or How to Design It*

BY LAYDEN LACY,  
THEATRE (COSTUME DESIGN)

#### *And So, My Heart Became a Void—A Dance Film*

CHOREOGRAPHED AND PRODUCED BY GRACE DUGAS, DANCE (PERFORMANCE AND CHOREOGRAPHY)  
DIRECTED AND EDITED BY SOPHIE CARLBERG  
PERFORMED BY TATIANA JOHNSON AND GRACE DUGAS  
MUSIC BY URSINE VULPINE AND ANNACA

#### *The Emotion Experiment*

WRITTEN AND READ BY LAURA RENFROE, ENGLISH

#### *Procastinera*

PRODUCED AND DIRECTED BY AMANDA MYRICK, MEDIA AND ENTERTAINMENT ARTS (VIDEO ARTS)  
CO-PRODUCED BY ROMANIA HARRY  
PERFORMED BY NANCY BYERS, AMANDA MYRICK, CLINT MYRICK, AND FARRAH WILD

#### *Windows to the Soul*

CHOREOGRAPHED BY SEANA RAINS, DANCE (DANCE EDUCATION)  
PERFORMED BY CAITLYN DIAMOND, ANGELINA JONES, SEANA RAINS, AND PRESLEY THAMES  
MUSIC BY THE ROLLING STONES

#### *Singing Is a Sport!*

CHOREOGRAPHED AND PERFORMED BY SAM HARKINS, THEATRE (GENERAL THEATRE)  
MUSIC BY DAVID KIRSHENBAUM

#### *True Crime*

WRITTEN AND READ BY RAISA HARRIS, ENGLISH

#### *I Feel, You See: A Choreographic Project for Those with Bodies Who See Other Bodies*

CHOREOGRAPHED AND PERFORMED BY EMALIEGH OUSTERHOUT, DANCE (PERFORMANCE AND CHOREOGRAPHY)  
MUSIC: "THE SONG OF THE BIRDS" BY PABLO FERRANDEZ

#### *Beneath the Pine Needles*

WRITTEN AND READ BY CHARLIE THOMPSON, ENGLISH

#### *Out of the Box*

CHOREOGRAPHED AND PERFORMED BY CAITLYN DIAMOND, DANCE (DANCE EDUCATION)  
MUSIC: "NATURAL ANTHEM (REMASTERED)" BY THE POSTAL SERVICE

#### *Father's Rooftops, Daughter's Treetops*

WRITTEN AND READ BY DELILAH CHAMBERLAIN, PSYCHOLOGY

# 5 P.M. AWARDS CEREMONY

## SCIANNA HALL AUDITORIUM

Please join us for the Awards Ceremony as we recognize all our competitors for their hard work and dedication to research and creative activity and as we award prizes to the top presentations of the Symposium.





# ugrs

2024

Hosted by the  
*Drapeau Center for Undergraduate Research*  
and the *Honors College*  
at The University of Southern Mississippi