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UNDERGRADUATE SYMPOSIUM
ON RESEARCH AND
CREATIVE ACTIVITY 2025



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI®

SCHEDULE OF EVENTS

Saturday April 26, 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: AMY DONHAUSER Director of Global Programs at We Care Solar
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, Southern Miss 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 include a keynote address, an arts showcase, and well 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 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 in the Southern Miss Alumni Hall of Fame.

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

ABOUT OUR KEYNOTE SPEAKER



AMY DONHAUSER received her BA in international studies and French from The University of Southern Mississippi, and she is a Southern Miss Honors College graduate who went on to receive her MA in international relations from Tufts University.

Currently, Amy is the director of global programs at We Care Solar, where she leads a diverse team across six countries to deliver energy solutions to remote healthcare facilities. In this role, she drives the organization's five-year strategic direction and builds impactful coalitions to ensure that healthcare workers and patients across the world have access to reliable electricity. Amy and her team lead initiatives that have long-lasting, transformative effects for both healthcare providers and the communities they serve.

Early in her career, Amy served with the U.S. Peace Corps in Senegal, where she led projects focused on food security and environmental sustainability in rural communities. She went on to work with the U.S. Agency for International Development (USAID) and then the International Organization for Migration (IOM). Amy helped establish programs that addressed migration policy, humanitarian assistance and human trafficking. She successfully launched IOM offices in Madagascar and Malawi, secured key USAID funding, and facilitated the development of MigApp, a mobile application designed to assist migrants. Amy is a passionate advocate for collaborative approaches to global challenges.

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.

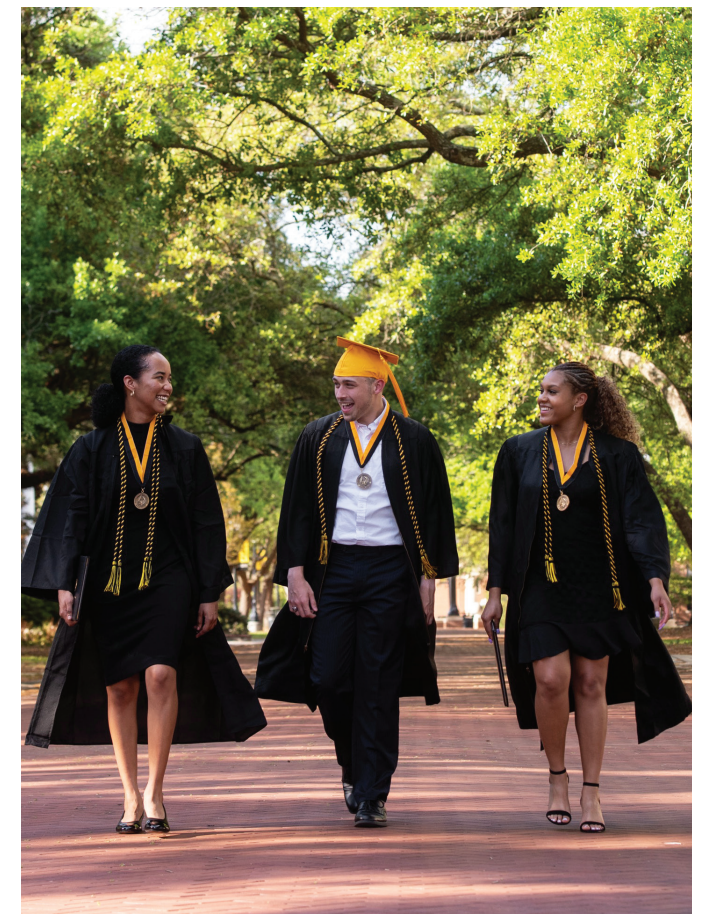


DCUR works with undergraduate students to identify potential faculty mentors and sponsors competitive programs to assist students in their independent scholarship activities. These include the Eagle Scholars Program for Undergraduate Research (Eagle SPUR), which provides funds to support travel, to purchase 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.

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/honors or contact us at honors@usm.edu.



THANK YOU!

THE 2025 SYMPOSIUM PLANNING COMMITTEE

This year's Symposium was organized and developed through the hard work of a university-wide committee, which met throughout the 2024-25 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!

- Dr. Laurie Benvenuti Sutphin, HONORS COLLEGE
- Dr. Katja Biswas, SCHOOL OF MATHEMATICS AND NATURAL SCIENCES
- Dr. Jennifer Brewington, SCHOOL OF HUMANITIES
- Dr. Allen Chen, SCHOOL OF PERFORMING AND VISUAL ARTS
- Dr. Nicholas Ciraldo, SCHOOL OF MUSIC
- Dr. Jeremy Deans, SCHOOL OF BIOLOGICAL, ENVIRONMENTAL AND EARTH SCIENCES
- Dr. Sabine Heinhorst, DRAPEAU CENTER FOR UNDERGRADUATE RESEARCH
- Ms. Jaide Hollingsworth, HONORS COLLEGE
- Mr. Jared Hollingsworth, SCHOOL OF MEDIA AND COMMUNICATION
- Dr. Joyce Inman, HONORS COLLEGE
- Ms. Brianna Jahn, SCHOOL OF PERFORMING AND VISUAL ARTS
- Ms. Tegi Jenkins-Rimmer, OFFICE OF THE VICE PRESIDENT FOR RESEARCH
- Dr. Elena Stepanova, SCHOOL OF PSYCHOLOGY
- Dr. Joanne Tran, SCHOOL OF MARKETING
- Dr. Rebecca Tuuri, HONORS COLLEGE
- Dr. Alexandra Valint, SCHOOL OF HUMANITIES
- Ms. 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.

- | | | |
|--|--|--|
| Mac Alford, BIOLOGICAL SCIENCES | Bridget Hayden, ANTHROPOLOGY | Gero Nootz, OCEAN ENGINEERING |
| Dale Autry, UNIVERSITY LIBRARIES | Sabine Heinhorst, BIOCHEMISTRY | Derek Patton, POLYMER SCIENCE |
| Kaitlin Baudier, BIOLOGICAL SCIENCES | Shohreh Hemmati, CHEMICAL ENGINEERING | Julie Pigza, CHEMISTRY |
| Alyssa Belgiovine, HEALTH PROFESSIONS | Jeff Hirschy, LIBRARY AND INFORMATION SCIENCE | Margaret Powell, PSYCHOLOGY |
| Katja Biswas, PHYSICS | Andrew Huebert, PSYCHOLOGY | Bob Press, POLITICAL SCIENCE |
| Hali Black, UNIVERSITY LIBRARIES | Mark Huff, PSYCHOLOGY | Nick Rahimi, COMPUTER SCIENCE |
| Kelsey Bonfils, PSYCHOLOGY | Luis Iglesias, ENGLISH | Aaron Ridall, MARINE BIOLOGY |
| Jennifer Brewington, ENGLISH | Joyce Inman, ENGLISH | Ramesh Rijal, BIOLOGICAL SCIENCES |
| Alyson Brink, PALEONTOLOGY | Brianna Jahn, DANCE | Maureen Ryan, ENGLISH |
| Heather Broadhead, POLYMER SCIENCE | Shahid Karim, BIOLOGICAL SCIENCES | Bernd Schroeder, MATHEMATICS |
| Nikki Camlin, BIOLOGICAL SCIENCES | Erica Kennedy, RESEARCH ADMINISTRATION | Partha Sengupta, COMPUTER SCIENCE |
| Gordon Cannon, BIOCHEMISTRY | Matthew Kennedy, MOLECULAR BIOLOGY | Ahmed Sherif, COMPUTER SCIENCE |
| Matthew Casey, HISTORY | Hyunmin Kim, PUBLIC HEALTH | Kayla Stan, GEOGRAPHY |
| Nicholas Ciraldo, MUSIC | Melissa Kossman, REHABILITATION SCIENCES | Elena Stepanova, PSYCHOLOGY |
| Tristan Clemons, POLYMER SCIENCE | Brian LaPierre, HISTORY | Alexis Stoner, MARKETING |
| Kate Cochran, ENGLISH | Robert Leaf, FISHERIES | Kevin Stott, CHILD AND FAMILY SCIENCES |
| Stacy Creel, LIBRARY AND INFORMATION SCIENCE | Kelly Ferris Lester, DANCE | Richard Swearingen, FORENSIC SCIENCE |
| Nakita Davis, HEALTH PROFESSIONS | Ujunwa Madububa Mbachu, COMPUTER SCIENCE | Haiyan Tian, MATHEMATICS |
| Jeremy Deans, GEOLOGY | Alexandre Marques, BIOLOGICAL SCIENCES | Joanne Tran, MARKETING |
| Lila de Tantillo, NURSING | Ashley Marshall, LIBRARY AND INFORMATION SCIENCE | Rebecca Tuuri, HISTORY |
| Ali Dogru, MANAGEMENT | Jose Martinez Cruz, COMPUTER SCIENCE | Alexandra Valint, ENGLISH |
| Matt Donahue, CHEMISTRY | Katya Maslakowski, HISTORY | Jessica Valles, SOCIOLOGY |
| Elif Filiz, ECONOMICS | Douglas Masterson, CHEMISTRY | Kelly Vera, BIOLOGICAL SCIENCES |
| Qingguang Guan, MATHEMATICS | Michelle McLeese, SOCIOLOGY | Amanda Walsh, COMMUNICATION |
| Melissa Gutierrez, BIOLOGICAL SCIENCES | Marcus Michels, VISUAL ARTS | Wei Wang, MARKETING |
| Timothy Gutmann, PHILOSOPHY | | Hao Xu, BIOLOGICAL SCIENCES |
| Leila Hamdan, MICROBIOLOGY | | Sharon Young, ANTHROPOLOGY |
| | | Tisha Zelter, UNIVERSITY LIBRARIES |

THANK YOU

OUR CAMPUS SPONSORS

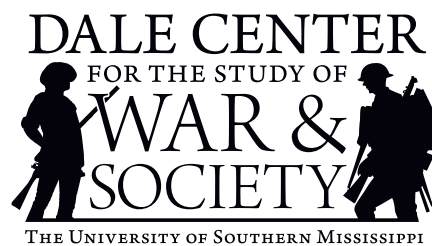
We would like to extend a special thank you to the College of Business and Economic Development for opening the doors of Scianna Hall to the Symposium, and to these sponsors for their generous support.

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	Barnes & Noble

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 Virginia Culpepper Award



Best Community-Engaged
Research or Creative Activity



The Women's and Gender Studies Prize

Partners
for the Arts
Arts Showcase Awards

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!



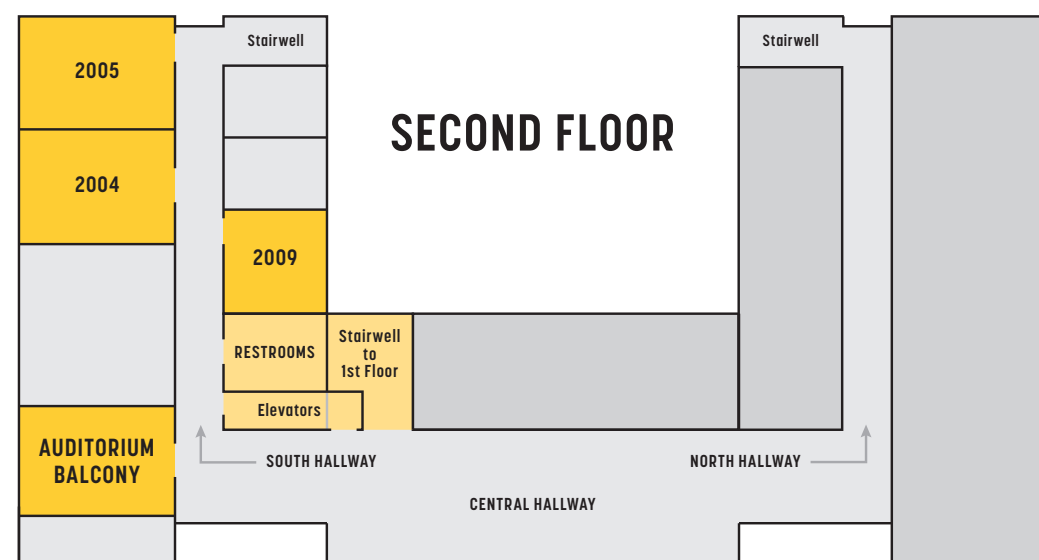
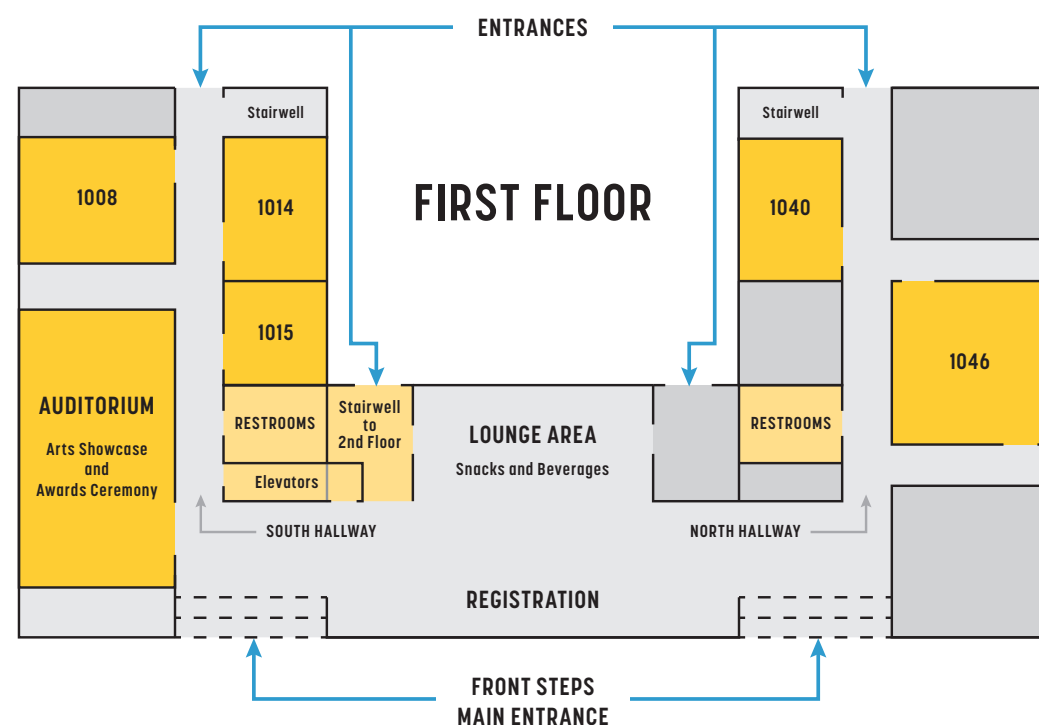
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SPECIAL THANKS

to American Graphics for their especially generous support!



SCIANNA HALL



SCHEDULE OF SESSIONS

SATURDAY, APRIL 26

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

SCI 1008 IMPROVING EDUCATIONAL OUTCOMES

A

MODERATOR: MCKENZIE GUNTER, SCHOOL OF PSYCHOLOGY

Filipino Music in the Sphere of Multicultural Music Education: A Survey of Preservice Teachers

LAUREN JOHNSON, MUSIC EDUCATION (INSTRUMENTAL LICENSURE)

Using WebMO to Introduce Computational Chemistry at USM

SADIE PITRE, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

SCI 1014 ART AS PRACTICE: REFLECTIONS ON CREATIVE WORK

B

MODERATOR: CASANDRA O'ROURKE, SCHOOL OF PSYCHOLOGY

Finding a Choreographic Relationship Between Music and Dance Performance

GRACE DUGAS, DANCE (PERFORMANCE AND CHOREOGRAPHY)

"If I Be Waspish, Best Beware My Sting": Women's Role in Stage Combat

KYLIE PRICE, THEATRE (ACTING)

Chemistry of Crystal Glazes

KAYLA BEELES, ART (SCULPTURE)

Middle Eastern - A Poem

HASAN BUKHARI, COMPUTER SCIENCE

SCI 1015 CHEMICAL SYNTHESIS AND CHARACTERIZATION

C

MODERATOR: LEAH CASE, SCHOOL OF MATHEMATICS AND NATURAL SCIENCES

High-Yield, Environmentally Friendly and Sustainable Synthesis of Silver Nanowires Using Tannic Acid and Their Application in Conductive Ink Preparation: Economic Analysis and Rheological Investigation

FINLEY NEAL, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

The Synthesis and Testing of Halofuginone Derivatives for the Treatment of Tick-Borne Diseases

ABIGAIL TAYLOR, CHEMISTRY (BIOCHEMISTRY)

The Effect of a Targeting Ligand on Transfection Efficiency of Polymeric Nanoparticles to Dendritic Cells

ANTHONY RADKA, POLYMER SCIENCE AND ENGINEERING

SCI 1040 DATA SCIENCE

D

MODERATOR: ANIL KATWAL, SCHOOL OF MATHEMATICS AND NATURAL SCIENCES

Predicting COPD Risk from PFAS Exposure Using Machine Learning Models

BIPUL ADHIKARI, COMPUTER SCIENCE, MATHEMATICS

Model Order Reduction by Deep Neural Network for the Continuous-Time Markov Chain Model

LUKE FONTAN, MATHEMATICS

Heuristical Comparison of Vision Transformers Against Convolutional Neural Networks for Semantic

Segmentation on Remote Sensing Imagery

ASHIM DAHAL, COMPUTER SCIENCE

Adversarial Machine Learning for Robust Password Strength Estimation

PAPPU JHA, COMPUTER SCIENCE

HANZLA HAMID, COMPUTER SCIENCE

SCI 2004 SPACE, CULTURAL DISLOCATION AND VIOLENCE

E

MODERATOR: BRIDGET O'NEIL, SCHOOL OF PSYCHOLOGY

Aesthetic Violence in *Anthology of the Killer*

OLIVIA PIERCE, ENGLISH

The Erosion of Authenticity in a Post-COVID Culture as Seen Through Lorenzo Redaelli's *Mediterranean Inferno*

LEE JOHNSON, ENGLISH (ENGLISH EDUCATION)

Spatiality to Psychogeography

BILLIE MOORE, ENGLISH (ENGLISH EDUCATION)

SCI 2005 MATHEMATICAL SOLUTIONS

F

MODERATOR: PEYTON CHAMPION, SCHOOL OF MATHEMATICS AND NATURAL SCIENCES
Ghost-Point Enhanced Meshless Methods for Solving Eigenvalue Problems
BIMARSH BHUSAL, MATHEMATICS (MATHEMATICS EDUCATION)
An Enhanced Localized Method of Approximate Particular Solutions (LMAPS) for Solving Two-Dimensional Incompressible Navier–Stokes Equations
NIRUPAM KHANAL, MATHEMATICS, PHYSICS
GUNJAN SAH, MATHEMATICS, COMPUTER SCIENCE
Asymmetric Differentiation in Quasi-Metric Spaces
PRAJWAL NEUPANE, MATHEMATICS, PHILOSOPHY
There Are 88 Advance Paths That Allow a Knighted Pawn's Tour
MORGAN WILSON, MATHEMATICS

SCI 2009 HISTORICAL MEMORY

G

MODERATOR: ARELI OROZCO, SCHOOL OF PSYCHOLOGY
Southern Punk: Hattiesburg's Music Scene, 1980-99
TYLER SPERRY, ANTHROPOLOGY, HISTORY
Brian Epstein, The Beatles and a Quick Buck: Evaluating the Reliability of Autobiographies in the Face of Queer Scandal
PIERRE BOMHOLD, ANTHROPOLOGY
“Sel All You Can Spare”: The Economic Hardships of Families in the Confederacy Through the Eyes of the Belchers
GRACE CHANDLER, HISTORY (SOCIAL STUDIES EDUCATION)

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

SCI 1008 CYBERSECURITY AND PRIVACY

H

MODERATOR: CLYDE RAIBLE, SCHOOL OF PSYCHOLOGY
Key-Based Authentication Scheme for Drones Using Chaotic Maps
SAMIR BHATTARAI, COMPUTER ENGINEERING
Examining the Implementation and Effectiveness of the Oculus Permissions Framework
SUVI LAMA, COMPUTER SCIENCE, SOCIOLOGY
Higher Education Cybersecurity: A Vulnerability Assessment of the U.S. South’s Institutional Websites
VIVI VO, COMPUTER SCIENCE
Insider Threat Detection Using Principal Component Analysis
SURAMYA ANGDEMBAY, COMPUTER SCIENCE, MATHEMATICS

SCI 1014 BLACK BEAUTY, CULTURE AND APPROPRIATION

I

MODERATOR: KAMERON YATES, SCHOOL OF PSYCHOLOGY
The Politics of Beauty: Black Hair and the Fight for Identity, Respect and Empowerment
ASHLYNN STEINER, HISTORY
Grills: How Jewelry Marks the Progression of Cultural Appropriation
JASMINE BARNER, ART

SCI 1015 EXPLORING MOLECULAR MECHANISMS IN BIOLOGY

J

MODERATOR: KAREN ROBLES LOPEZ, SCHOOL OF BIOLOGICAL, ENVIRONMENTAL AND EARTH SCIENCES
Transcriptional Analysis of Inflammatory Responses of Mouse Trophoblast Stem Cells to Interferon Gamma
ARNAZ MARYAM TARIQ, BIOLOGICAL SCIENCES (MICROBIOLOGY)
Exploring Immune Mechanisms and Vaccine Potential of Qb-Tc85pep in Chagas Disease Pathogenesis
SYED MOHAMMED ASHFAQUE UDDIN, BIOLOGICAL SCIENCES (MICROBIOLOGY)
Mouse Trophoblast Stem Cells Are Deficient in the TNF- α -Activated NF- κ B Signaling Pathway and Inflammatory Response
YESEUL BAE, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
Investigation of the Molecular Basis of Growth Defects in Yeast Cells Containing Overexpressed NIPP1
NETA NNABUENYI, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)

SCI 1040 EXPLORING OUR ENVIRONMENT

K

MODERATOR: GABRIEL HESKETH, SCHOOL OF OCEAN SCIENCE AND ENGINEERING
A Comparison of Evaporation Effects on Groundwater and Open Water Isotope Ratios
DEVIN SCHNEIDER, MARINE SCIENCE
Carbonate and Serpentine Vein Growth Related to Extension and Hydration of the Oceanic Lithosphere, Atlantis Massif, Mid-Atlantic Ridge
LYNDSEY TUTOR, GEOLOGY
PAYTON TOWNSEND, GEOLOGY
From Wildfires to Oceans: Exploring the Link Between Aerosols and Algal Blooms
AYDEN KING, OCEAN ENGINEERING
Forensic Search Methods: Comparing Effectiveness and Efficiency in Grassland Environment
ROBERT BROWN II, FORENSICS (CRIMINAL JUSTICE)

SCI 2004 VERTEBRATES, INVERTEBRATES AND THEIR HABITATS

L

MODERATOR: MUSA RABIU, SCHOOL OF BIOLOGICAL, ENVIRONMENTAL AND EARTH SCIENCES
Tree Size and Species as Factors in Nest Site Choice of Trap-Jaw Ant *Odontomachus haematodus*
CAROLINE MARLEY, BIOLOGICAL SCIENCES
Habitat Analysis of the Smalltooth Sawfish (*Pristis pectinata*) Along the Coast of the Gulf of Mexico
HANNAH PARKER, BIOLOGICAL SCIENCES
Contrasting the Distribution of Aquatic Macroinvertebrates in Relation to a River Impediment
NATALIE SANTIAGO, MARINE BIOLOGY

SCI 2005 NOVEL ENVIRONMENTAL TECHNIQUES AND DEVICES

M

MODERATOR: KRISTIN ROBINSON, SCHOOL OF BIOLOGICAL, ENVIRONMENTAL AND EARTH SCIENCES
Gentle, Soft Robotic Gripper for Safe Handling of Marine Life
GAVIN FRIEND, OCEAN ENGINEERING
Cellular Telemetry for Real-Time River Flow Velocity Data from Fluvial Acoustic Tomography Loggers
JOSHUA SEYMOUR, OCEAN ENGINEERING
Secure and Privacy-Aware AI-Based Agricultural Monitoring Using Internet of Drones
BEN HOSSAIN, COMPUTER SCIENCE
Using Terrestrial Laser Scanning to Evaluate the Impacts of Forestry Management Practices on the Understory Complexity of a Longleaf Pine Savanna in Southern Mississippi
NOAH WILLIAMSON, BIOLOGICAL SCIENCES (CONSERVATION BIOLOGY), GEOGRAPHY

SCI 2009 RELIGION, VIRTUE AND HUMAN BEHAVIOR

N

MODERATOR: SPENCER SHUMATE, SCHOOL OF PSYCHOLOGY
Judgement and Doom: Apocalyptic Anxiety and Rhetoric in Anglo-Saxon England
LAUREN COGHLAN, HISTORY
Where God Meets Mother Earth: Spirituality and Its Impact on Environmental Stewardship
MATTIE SPEARS, ENGLISH (ENGLISH EDUCATION)
Political Virtues and Non-Ideal Theory
JACOB SLOAT, PHILOSOPHY

1-2:30 P.M. POSTER PRESENTATIONS

SCI FIRST FLOOR, NORTH HALLWAY

1. Identifying Novel Cytotoxic Mycobacteriophage Xavia Genes 1–23 with Antibacterial Potential Against *Mycobacterium smegmatis*
ABIGAIL BROOKS, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
HAYLEY WHITE, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
MADELYN FUTRAL, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
DAPHNE FAIRCHILD, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
KAYCI WALLACE, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
ISABELLE KRONENBERG, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
SAMANTHA GRAVES, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
NATALIE TAYLOR, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
ANNA HOBEN, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
KACEY NGUYEN, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
2. A Survey of Accounting Department Leaders Dealing with Faculty Summer Compensation
ABBY BOX, ACCOUNTING
3. Implementing Storytelling Into the Elementary School Classroom: A Best Practice Guide with Adaptable Lessons
CALI REINHART, ELEMENTARY EDUCATION
4. Smoking and Oral Health in the Tipu Maya: A Study of Nicotine in Dental Calculus
EMILY BYRD, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
5. Mathematical Melodies: The Exploration of Music Using Fourier Signal Analysis
COURTNEY FRANCOIS, MATHEMATICS
6. Stress, Depression and Health Perception Among Hypertensive Population
IBTESHAM AHMED, PSYCHOLOGY
NEONTA MAHJABIN, PSYCHOLOGY

7. Secreted Phosphate Polymer Regulates Cellular Pathways and Bacteriolysis in an Amoeba Model for Immunity
JAELYN DAVIS, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)

8. Exploring a Filter System to Reduce Degradation Rates of Cellulose Acetate Archival Films
ADDISON BOYETTE, POLYMER SCIENCE AND ENGINEERING

9. Synthesis of Azomethine Imines for Use in Organocatalyzed Addition Reactions
BRANDON PULLIAM, CHEMISTRY (BIOCHEMISTRY)

10. Molecular Responses of Young Honey Bees to Nosema Infection
ASTRID GOMEZ, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)

11. Relationships Between the Social Deprivation Index and Mental Health Outcomes in Sexual and Gender Minority Adults
B. TWILBECK, PSYCHOLOGY, SOCIOLOGY

SCI FIRST FLOOR, SOUTH HALLWAY

12. Elevating an Orthopedic Practice: A Journey Toward Becoming a Premier Center of Excellence
MADELYN HARRIS, PUBLIC HEALTH (ALLIED HEALTH)

13. The Sexual Assault Survivor Experience of Medical Forensic Examinations
BRIELLE SIMONSEN, FORENSICS (BIOLOGICAL SCIENCES)

14. Identifying Novel Cytotoxic Mycobacteriophage Xavia Genes 48–71 with Antibacterial Potential Against *Mycobacterium smegmatis*
PARKER YARBOROUGH, BIOLOGICAL SCIENCES
JUSTIN ADONIS, BIOLOGICAL SCIENCES
MADELINE BENT, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
TAYLOR JOHNSON, BIOLOGICAL SCIENCES (MICROBIOLOGY)
SERGIO VALDIVIA, BIOLOGICAL SCIENCES (MICROBIOLOGY)
GIAVONNA STRENGTH, BIOLOGICAL SCIENCES (MICROBIOLOGY)

15. A Study of Compositional and Physical Properties to Elucidate Depositional Conditions at the Coon Creek Type Section
SAM CHAPMAN, GEOLOGY
MAKAYLA CAPASSO, GEOLOGY

16. Polyphosphate and *Mycobacterium tuberculosis* Alter Macrophage Immune Responses Differently in Males and Females
ELLA KING, BIOLOGICAL SCIENCES (MICROBIOLOGY)
ERIC HARDING, BIOLOGICAL SCIENCES (MICROBIOLOGY)

17. Supplementation of Magnesium Glycinate: Testing the Acute Effects of Magnesium Glycinate on the Stress Levels of College Students
MEAGAN BUBECK, KINESIOLOGY (EXERCISE SCIENCE)

18. Environmental Indicators of Lemon Shark Nursery Habitats
MIKAYLA CAULEY, MARINE BIOLOGY

19. Synthesis, Photophysical and Electrochemical Studies of Oxime-Functionalized Coumarin-Quinoline Molecular Probes
NISHRENIKA POKHREL, CHEMISTRY (ACS-CERTIFIED CHEMISTRY)

20. Chemotaxis of the Beneficial Rhizosphere Bacterium *Pseudomonas synxantha* 2-79 to the Plant-Derived Osmolyte Glycine Betaine
GARRETT MANNS, BIOLOGICAL SCIENCES (MICROBIOLOGY)

21. Blood Pressure Responses During Dynamic Metaboreflex Activation in Metabolic Syndrome
CARSTELL LEE, KINESIOLOGY (EXERCISE SCIENCE)

22. Designing a Flowmeter for Measuring Flow in Natural Bodies of Water
MATT ANDERSON, OCEAN ENGINEERING

SCI SECOND FLOOR, NORTH HALLWAY

23. *Nosema ceranae* Infection of the Honey Bee (*Apis mellifera*) Suppresses Antimicrobial Peptide Expression
LONDON MURIN, BIOLOGICAL SCIENCES (MICROBIOLOGY)

24. A Spectroscopic Survey of Super-Earths
LUKE BRUST, PHYSICS

25. The Mere Presence of Smartphones, Even When Silenced, Can Be Costly to Attentional Control
COLIN BRUFF, PSYCHOLOGY

26. Targeting Vector: Identification of the α -Gal Epitope in *Aedes aegypti* for Transmission-Blocking Immunological Strategies
TABASSUM SIDDIQUE, BIOLOGICAL SCIENCES (MICROBIOLOGY)

27. Harnessing Random Linear Motion: An Educational Wave Energy Conversion System
CHARLES HEATHERLY, OCEAN ENGINEERING

28. Directed Forgetting Works to “Forget” Associative False Memories, Especially for Speeded Memory Responses
VIVIAN CHANDLER, PSYCHOLOGY

29. Evolution of Four-Body Central Configurations from Unequal Masses to Equal Masses: A Numerical Study of Concave Forms
RUPAK RAUT, MATHEMATICS, COMPUTER SCIENCE
NISHAN POUDEL, MATHEMATICS, COMPUTER SCIENCE

30. Fraternity and Sorority Recruitment: The Queer Experience
EMILY CRANDALL, PSYCHOLOGY

31. Comparative Survival Analysis of Sheepshead (*Archosargus probatocephalus*) Between Sub-Basins in the Mississippi Sound
LOGAN BUFKIN, MARINE BIOLOGY

32. Performance Comparison of Machine Learning and Federated Learning for Intrusion Detection in Vehicular Ad-Hoc Networks
TIM LEONHARDT, COMPUTER SCIENCE

33. Generating Drawings Enhances the Drawing Effect Relative to Replicating Drawings
ELIZE JACKSON, PSYCHOLOGY
HALLIE CULPEPPER, PSYCHOLOGY

SCI SECOND FLOOR, CENTRAL HALLWAY

34. Analysis of the Site of the Most Complete Dinosaur Through the Description of Non-Dinosaurian Material, from the Coffee Formation (Late Cretaceous, Campanian)
KEISHAWN SMITH, GEOLOGY

35. Contrasting the Abundance of Fish Eggs Above and Below the Sill in the Bouie River
SARA HARLEN, MARINE BIOLOGY

36. Tough Love or Just Tough? The Effect of Juvenile Military Boot Camps on Externalizing Behaviors
PARIS LABADIE, PSYCHOLOGY

37. Periwinkle Perception of Predators
AMELLIA OLLIS, MARINE BIOLOGY

38. Framing the Creative Struggle: The Mythic and Cinematic Language of Elsewhere
AMANDA MYRICK, MEDIA AND ENTERTAINMENT ARTS (VIDEO ARTS)

39. Identifying Novel Cytotoxic Mycobacteriophage Xavia Genes 24–47 with Antibacterial Potential Against *Mycobacterium smegmatis*
COURTNEY FOXWORTH, BIOLOGICAL SCIENCES
SHIKELYA CHAMBLISS, BIOLOGICAL SCIENCES
CARSON WARD, BIOLOGICAL SCIENCES
PAIGE WILSON, BIOLOGICAL SCIENCES (MICROBIOLOGY)
DEISY LEMUS, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
JALYN BROWN, BIOLOGICAL SCIENCES
KAMIYA GIVAN, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)
KENDRICK KELLY, BIOLOGICAL SCIENCES (BIOMEDICAL SCIENCE)

40. Self-Healing Nanofiber Scaffolds to Promote Skin Regeneration
JESSICA SHRESTHA, POLYMER SCIENCE AND ENGINEERING

41. The Interplay Between Attribution Bias and Psychotic-Like Experiences: The Roles of Social Media and Sleep
JORDAN LEGGETT, PSYCHOLOGY

42. Influence of Adiposity on Tissue Oxygenation Responses to Dynamic Exercise in Individuals With Versus Without Metabolic Syndrome
RHETT SCHIMPF, KINESIOLOGY (EXERCISE SCIENCE)

43. Living Shorelines
LEILANIE MARTINEZ, OCEAN ENGINEERING

44. The Effects of Chamber Configuration on Ozone Stability
SALLIE ANN SCHMIDT, PHYSICS
EVA CHALONA, PHYSICS

45. When a Song Feels Familiar: Is There Sequential Significance?
MAKAYLA STEWART, PSYCHOLOGY
SUZANNA HADDOX, PSYCHOLOGY
SCARLETT SCOTT, PSYCHOLOGY

46. Effects of Postural Sway and Illumination on Affordance Perception
PRATIMA RAJBANSHI, COMPUTER SCIENCE

47. Phosphate Polymer Secreted by *Mycobacterium tuberculosis* Links Lysosomal Storage Disease Pathways to Bacterial Pathogenesis in Macrophages
MADDIE MORESI, BIOLOGICAL SCIENCES
ETHAN SMITH, BIOLOGICAL SCIENCES

48. Free Clinics Bridge Healthcare Gaps
MAKAYLA LEIGH HERBERGER, NURSING

SCI SECOND FLOOR, SOUTH HALLWAY

49. A Systematic Review: Technology-Mediated Versus Traditional Interventions for Improving Whole Number Operation Skills
REBECCA ROWAN, PSYCHOLOGY
BJ BRUMLEY, PSYCHOLOGY
DELILAH CHAMBERLAIN, PSYCHOLOGY, SOCIOLOGY

50. Studying the Energy Landscapes of Spin-Glasses on the Elongated Triangular Lattice
BRADFORD SMITH, PHYSICS

51. circRNA Accumulation on Neurodegeneration and Fitness in *Drosophila melanogaster*
JOSEPH SERIO, BIOLOGICAL SCIENCES

52. Improved Thermal Conductivity of UV-Curable Thiol-ene Composites with Boron Nitride Filler
CONNOR COCHRAN, POLYMER SCIENCE AND ENGINEERING

53. Investigating the Role of Sleep Quality in the Link Between Stressful Childhood Experiences and Loneliness
AIMEE SCHACHERER, PSYCHOLOGY, SOCIOLOGY

54. Paralympic Athletes’ Perspectives on Necessary Factors to Improve the Health and Performance Among Team USA
HEATHER THORNHILL, KINESIOLOGY (EXERCISE SCIENCE)

55. Turbidity Effect on Mississippi Sound Fish and Shellfish
YZABELA PEOPLES, MARINE BIOLOGY

56. Comparing Urban and Rural Mississippi Residents' Health Literacy of Sexually Transmitted Infections
LEAH TUCKER, BIOLOGICAL SCIENCES

57. From Home to Screen: The Influence of Parenting Styles on Cyberaggression in Young Adults
LAUREN RUNNELS, PSYCHOLOGY

58. Ionospheric and Meteorological Response to Total Solar Eclipses
PRITESH THAKUR, PHYSICS, MATHEMATICS

59. Bicyclic Bio-Based Building Blocks for Epoxy-Amine Thermosets
ALIYA PURYEAR, POLYMER SCIENCE AND ENGINEERING

60. Motives and Mistakes: Factors Influencing False Claims of Sexual Crimes
ZOE ROBINSON, PSYCHOLOGY

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

SCI 1008 CONSUMER BEHAVIORS AND DESIRE 0

MODERATOR: KHADIZA AKTER, SCHOOL OF PSYCHOLOGY
Unpacking Tourists' Organic Food Consumption Behavior: The Moderating Role of Consumer Consciousness and Involvement
ALONDRA ABAD, HOSPITALITY AND TOURISM MANAGEMENT, INTERNATIONAL BUSINESS
Moderators of Change: Student Engagement, Barriers and Perceptions of Consumer Activism at USM
MARCUS KIRKLAND, MARKETING
Bring Me Coffee or Tea: A Paradox of Desire
ANTHONY PANELLA, PHILOSOPHY

SCI 1014 SOCIAL MEDIA, SOCIAL PAIN AND MENTAL HEALTH P

MODERATOR: ZACH BUCKNER, SCHOOL OF PSYCHOLOGY
Evaluating the Effects of Social Ostracism on Attentional Control and Episodic Memory
AIDAN BROWN, PSYCHOLOGY, SOCIOLOGY
The Intersections of Black Identity, Media Consumption and Mental Health in the Experiences of Black American College Students
ARIANNA YOUNGER, SOCIOLOGY
A Study on How Dopamine Affects the Way Hallucinations Form in Schizophrenia
HAILEY KAY SCARDINO, PSYCHOLOGY, PEARL RIVER COMMUNITY COLLEGE

SCI 1015 COMING OF AGE NARRATIVES Q

MODERATOR: SRIVIDYA KARUTURI, SCHOOL OF MEDIA AND COMMUNICATION
Life, Death, Culture and Time: An Adolescent's Developing Concept of Reality Through Rivers
JESSICA WADE, ENGLISH
Girlhood in *This One Summer*
EMILY RUTLAND, ENGLISH
American Girlhood: A Sociological Exploration of Gender Identity
MARY CAROL DASSAU, MUSIC

SCI 1040 ORIENTALISM, DESIRE AND VISUAL IMAGERY R

MODERATOR: J. TAYLOR WRIGHT, SCHOOL OF PERFORMING AND VISUAL ARTS
Cleopatra VII Through the Eyes of the Italian Baroque
AMIRA MOUSSA, ART
Desire and Sexuality: The Lute in Baroque Paintings and Today
ROSE SERRANO, ART
Orientalism and Native Americans
CONNOR CASE, POLITICAL SCIENCE (PRE-LAW)

SCI 1046 EXPLORING PHYSICAL EFFECTS S

MODERATOR: MARWAH WALID ALI ALZARA, SCHOOL OF BIOLOGICAL, ENVIRONMENTAL AND EARTH SCIENCES
Noise in Quantum Systems: Effects on Entropy, Concurrence and State Purity
NISHANT CHAUDHARI, PHYSICS, MATHEMATICS
Time-Dependent Numerical Modeling of Quantum States Using the Crank-Nicolson Scheme
DWAYNE PROSPERIE, PHYSICS
Examination of the Underlying Chemical Physics of the Mpemba Effect in Water and Other Liquids
M.K. RAYAN, COMPUTER ENGINEERING
WARREN CUMMINGS, MARINE BIOLOGY

SCI 2004 IMPROVING HEALTH OUTCOMES T

MODERATOR: ANGELA GARRETT, SCHOOL OF PSYCHOLOGY
U.S. Adults Sex Education Experiences: The Good, Bad and Ugly
KENNEDY BURNS, SOCIOLOGY, LEGAL STUDIES (PARALEGAL)
Unhealthy Behaviors in Adult Romantic Relationships and Effects of Social Media
KAMI KIRKENDALL, PSYCHOLOGY
Perceptions and the Gender Disparity in Healthcare
COOPER LANDECHE, KINESIOLOGY (EXERCISE SCIENCE)

SCI 2005 BUILDING BETTER BUSINESSES AND COMMUNITIES U

MODERATOR: JESI PIGG, SCHOOL OF PSYCHOLOGY
Corporate Activism and Authenticity as Perceived Costliness: Consumer Perception of Firm-on-Firm Activism
JIMENA PAREDES VILLELA, STRATEGIC COMMUNICATION
Revitalizing Hattiesburg Downtown: A Brand Experience Replication and Extension
GRACIE LEWIS, MARKETING
Swiped In: Redefining Hiring
SUSHANT ARYAL, COMPUTER SCIENCE, MATHEMATICS

SCI 2009 THE NATURAL WORLD IN LITERATURE V

MODERATOR: BRITT PAGE, SCHOOL OF HUMANITIES
Radical Botanicals: Flowers as Medium in Margaret Fuller's *The Magnolia of Lake Pontchartrain*
JENNA MCCLAIN, ENGLISH
Birds and Boats: Parallel Freedom and Self-Discovery Symbolism in *Jane Eyre* and *Jane*
ERIN JORDAN, ENGLISH
The Symbolism of Rivers in Literature Focusing on *The Wind in the Willows* and *The River*
MOLLIE SELLERS, ENGLISH

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

<i>The Bear</i> BY MADALIN COSTELLA, ART (SCULPTURE)	<i>A Faint Breeze</i> BY ALEXIS DUCKSWORTH, ART (DRAWING AND PAINTING)	<i>Magnificence in the Mundane</i> BY LORIN MUSGROVE, FINANCE	<i>Homelessness in a Small Town</i> BY ADAMARI POSADAS, PHOTOGRAPHER, STRATEGIC COMMUNICATION
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Sonder (excerpt)
DIRECTION, WRITING AND EDITING BY SHRIJAL THAPA, THEATRE (ACTING)
DIRECTOR OF PHOTOGRAPHY: NISHIT THAPA
SOUND DESIGN BY NASON PARKMAN
ORIGINAL SCORE BY SHRIJAL THAPA
PERFORMED BY MAKENNA BERKA, SHRIJAL THAPA, SETH RODIVICH, SOPHIA O'NEAL, PETRON BROWN, GWYNYTH WEBER

Those Lost in the Wood (excerpt)
POETRY AND READING BY EMILY RUTLAND, ENGLISH

To Be a Woman (excerpt)
CHOREOGRAPHY BY SEANA RAINS MARTINEZ, DANCE (DANCE EDUCATION)
PERFORMED BY MARY AUSTIN CONNER, JORDAN DAVIS, ALYSE HUGUET, SEANA RAINS
MUSIC BY NANCY SINATRA, THE LITTLE DIPPERS, TAKE CARE, AMERICA FERRERA AND GRETA GERWIG

Stained Glass Heart (excerpt)
WRITTEN AND READ BY CLAIRE CADLE, DIGITAL JOURNALISM

A "Little" Solution to a Big Problem (excerpt)
PRODUCED BY SAVANNAH HUMBER, MEDIA AND ENTERTAINMENT ARTS (VIDEO ARTS) IN COLLABORATION WITH SHANNON EARWOOD
DIRECTED BY MAKAGAN MASSINGILL, MEDIA AND ENTERTAINMENT ARTS (VIDEO ARTS)

Ashes of Banhang
WRITTEN AND READ BY LAURA RENFROE, ENGLISH

Elsewhere
PRODUCED BY AMANDA MYRICK, MEDIA AND ENTERTAINMENT ARTS (VIDEO ARTS) IN COLLABORATION WITH SHANNON EARWOOD,
MEDIA AND ENTERTAINMENT ARTS (VIDEO ARTS)
PERFORMED BY PAYTON DYE, EMMA HOLSTON, SHANNON EARWOOD, AMANDA MYRICK

We Were Born to Be Radicalists and Middle Eastern – Poems on Identity, Nostalgia and Unapologetic Resistance
POETRY AND READING BY HASAN BUKHARI, COMPUTER AND INFORMATION SCIENCE

Increase (excerpt)
CHOREOGRAPHY BY GRACE DUGAS AND DANCERS, DANCE (PERFORMANCE AND CHOREOGRAPHY)
PERFORMED BY JORDAN DAVIS, ALYSE HUGUET, SEANA RAINS MARTINEZ
MUSIC BY DAVID LAND, ALARM WILL SOUND, ALAN PIERSON

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 award prizes to the top presentations of the Symposium.



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2025

Hosted by the
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