



FRIDAY, MARCH 21, 2025

COTTRELL CENTER, DAHLONEGA CAMPUS

9:00 - 10:00 AM

PANEL A: EXPLORING CULTURE AND REGIONAL DIFFERENCES

Cottrell Center, Room 320 | Moderator: Brooke Scherer

CULINARY REGIONALISM IN CHINA

Eros Doty, Mentor: Dr. Matthew Higgins

WHAT DRIVES ELECTION TURNOUT DIFFERENCES ACROSS STATES: A COMPARATIVE ANALYSIS

Christopher Jones, Mentor: Dr. Eugene Van Sickle

PANEL B: BIAS, BITS, AND BRAINS: NAVIGATING THE FUTURE IN COMPUTER SCIENCE

Cottrell Center, Room 379 | Moderator: Mary Sanders-Tucker

THE HIDDEN BIAS IN YOUR DATA: FIXING ALGORITHMS BEFORE THEY FAIL US

Annah Fenchak

FROM BITS TO QUBITS: A BEGINNER'S GUIDE TO QUANTUM COMPUTING

Aliou Aboubakar

9:00 - 10:00 AM

PANEL C: INSIGHTS INTO INEQUITIES

Cottrell Center, Room 420 | Moderator: Miguel Tinoco

~~THE FAILURE OF THE WAR ON DRUGS: THE RACIAL DISPARITIES WITHIN THE WAR~~

~~Ashley Frank~~

SERVING THOSE WHO SERVE: THE IMPACT OF MILITARY SERVICE ON MENTAL HEALTH AND CULTURAL CONSIDERATIONS IN ADDRESSING MILITARY MENTAL HEALTH NEEDS

Taylor Graves

10:00 - 11:00 AM

PANEL D: POWER, MIGRATION, AND STRATEGY IN A SHIFTING GLOBAL LANDSCAPE

Cottrell Center, Room 379 | Moderator: Michael Guerrero

STRATEGIC ANALYSIS ON MEXICO'S WAR AGAINST THE DRUG CARTELS

Jorge Romero

REFUGEES IN EUROPE: A CONSTRUCTIVIST PERSPECTIVE

Sara Gonzalez Gonzalez

CLEARING THE FOG OF WAR: ISR-STRIKE IN THE RUSSO-UKRAINIAN WAR

Chad Wright, Mentor: Dr. Bibek Chand

PANEL E: SPORTING SUCCESS ON THE TRACKS AND ON THE STANDS

Cottrell Center, Room 420 | Moderator: Emily Reedy

THE PATH TO VICTORY: ANALYZING THE INFLUENCE OF EXPERIENCE FOR INDYCAR DRIVERS

Logan Fossum, Mentor: Dr. Joel Potter

DETERMINANTS OF UNG MEN'S BASKETBALL ATTENDANCE

JoJo Peterson, Mentor: Dr. Joel Potter

11:00 AM - 12:00 PM

PANEL F: EXPLORING THE COSMOS AND THE CLASSROOM

Cottrell Center, Room 379 | Moderator: Caroline Kent

EVALUATING THE CHRONOLOGICAL DISTRIBUTION OF LATE PLEISTOCENE FOSSIL-BEARING LOCALITIES AND MEGAHERBIVORE SPECIES IN SOUTHEASTERN NORTH AMERICA

Mary Dickens and Bricen Popko, Mentors: Dr. Christopher Seminack, Dr. Alfred J. Mead (GCSU), and Dr. David B. Patterson

CONFIRMATION OF TESS HOT JUPITERS AT THE UNG OBSERVATORY

Jack Vogel, Mentor: Dr. Gregory Feiden

MATHEMATICAL MODELING AND ATOMISTIC CALCULATIONS OF CHEMICAL REACTION OF TRICALCIUM PHOSPHATE COATING WITH TITANIUM DENTAL IMPLANT

Katia Gonzalez-Adame, Mentors: Dr. Alla Balueva and Dr. Patricia Todebush

PANEL G: EXPLORING HEALTH AND ENVIRONMENT

Cottrell Center, Room 420 | Moderator: Kaitlyn King

DETECTION OF ANTIBIOTIC-RESISTANT GENES IN GEORGIA WATERWAYS USING EDNA ANALYSIS

Dulce Ruiz and July Morning, Mentors: Dr. Jeanelle Morgan, Dr. Swapna Bhat, and Professor Margi Flood

THE UNIVERSITY OF NORTH GEORGIA HERBARIUM: CONTRIBUTIONS OF SOUTHEASTERN FLORA

Alicia Rodriguez, Mentor: Dr. James T. Diggs



12:00 - 1:00 PM: POSTER SESSION #1

Cottrell Center Ballroom, Room 172, Volunteer: Eric Guo

1. Vanadium dioxide (VO₂) sol-gel synthesis | **Janelviz Tejada and Evelyn Khang**. Mentors: Dr. Anota Ijaduola and Dr. Hoang Pham
2. Drug Penalties to Prison Pipeline: Assessing the Degree to which States with Stiffer Drug Penalties Have Higher Incarceration Rates of Non-White Prisoners | **Fatima Santillan**. Mentor: Dr. Bibek Chand
3. Economic Incentives for Migration into the United States from Mexico | **Mary Johnson**. Mentor: Dr. Diogo Pinheiro
4. Effect of chestnut cultivation on soil microbial communities at the Hurricane Creek Field Station | **Grace Scott and David Morris**. Mentors: Dr. Dobrusia Bialonska and Professor Karrie Ann Fadroski
5. Comparing Sexting Behavior Between Pre- and Post-COVID Emerging Adults | **Steffani Pass, Cindy Gonzalez, and Xitlally Miguel**. Mentor: Dr. Efren Velazquez
6. Impacts of *Sarcophaga bullata* Puparium Volume on *Nasonia vitripennis* Parasitic Success | **Carolina S. Alvarez Ortiz**. Mentor: Dr. Emilia Sola Gracia, Dr. Amanda Reynolds, and Dr. Amy Anderson
7. One is the loneliest number: The switch from group to solitary response in the cabbage looper, *Trichoplusia ni* | **Asha Kara**. Mentors: Dr. Erin Barding, Dr. Ryan Shanks, and Dr. Margaret Smith
8. Leafing cabbage behind: kale's nutritional edge for cabbage loopers | **Danielle Burkman and Evan Bilson**. Mentors: Dr. Erin Barding, Dr. Ryan Shanks, and Dr. Margaret Smith
9. Test of color preferences of forensically important arthropods | **Karielly Castaneda, Aidan Bonn, and Clara Stump**. Mentor: Dr. Evan Lampert
10. In-Situ Development of Parasitoid *Copidosoma floridanum* in Caterpillar Host | **Rediate Degu, Kaitlyn Timmons, and Elizabeth Taylor**. Mentor: Dr. Evan Lampert
11. Necrophagous Arthropods Found on Periodical Cicadas | **Clara Stump**. Mentor: Dr. Evan Lampert
12. Hacking and Securing the Industrial Internet of Things | **Autumn Hollers**. Mentor: Dr. Hyungbae Park
13. Catalyst-Free Gas-Phase Synthesis of Pyrones: A Novel Approach Utilizing Acetoacetate Derivatives via Gas Chromatography- Mass Spectrometry | **Fernando Garcia**. Mentors: Dr. Isaac Agyekum and Dr. Patricia Todebush
14. Catalyst-Free Gas-Phase Aldol Condensation of Hexanal: A Sustainable Pathway to 2-Butyl-2-Octenal | **Alexandra Frusina and Fernando Garcia**. Mentor: Dr. Isaac Agyekum
15. Bioinformatic Analysis of the PRNP Gene | **Casey Torgesen**. Mentor: Dr. Jeanelle Morgan
16. Exploration of the VUS 308 V>M in the BMP2 Human Gene | **Mallorie Butler**. Mentor: Dr. Jeanelle Morgan
17. Detecting Snake Fungal Disease in GA Waterways Using eDNA Analysis | **Jiselle Gonzalez and Hanna Busche**. Mentors: Dr. Jeanelle Morgan, Dr. Swapna Bhat, and Professor Margi Flood
18. Enhancing Cyber Threat Detection with Bias-Resilient Machine Learning Models | **Austin Johnson**. Mentor: Dr. Murthy Rallapalli

12:00 - 1:00 PM: POSTER SESSION #1

Cottrell Center Ballroom, Room 172, Volunteer: Eric Guo

19. The Effects Of A Carbohydrate And Sodium Supplement On Brazilian Jiu-Jitsu Performance | **Connor McKay**. Mentor: Dr. Parker Hyde
20. Molecular Docking Analysis of Alpha-Synuclein Interactions with Adderall and Levodopa in Parkinson's Disease | **Hasten Veal and Dominique Cunningham**. Mentor: Dr. Rosi Gunasinghe
21. Influence of SWIFT on the Hegemony of the US Dollar | **Jenna Gardner**. Mentor: Dr. Ruohan Wu
22. Comparison of Cost of Living Based Real Income in Georgia | **Stephanie Teran**. Mentors: Dr. Yongseung Han and Dr. Kelly Manley
23. Weight of Expectations: Weight Based Stereotype Threat and Health Behaviors | **Jessica Kimari**. Mentors: Dr. Zachary Elison and Dr. Jason Miller
24. Internal or External Loci? Objective and Subjective Socioeconomic Predictors of Classism and Social Dominance Orientation | **Brady Portillo**. Mentor: Dr. Zachary Elison
25. Psychosocial Predictors of Depression & Substance Use In Student Veterans: The Role of Belonging and Self-Efficacy | **Jennifer Bolton**. Mentor: Dr. Zachary Elison
26. Hallyu Illusions: K-Dramas, Soft Power, and the Global Gaze | **Tiffany Paquette**. Mentor: Dr. Haelim Suh
27. Confronting Adolescent Chlamydia: Investigating Sociodemographics of Chlamydia Prevalence in Georgia's Department of Public Health District 2 | **Emilee Bragg, Liza Vaitl, and Hannah Allen**. Mentors: Kailin Chen, MPH, Marie Brown, MPH, Maria Britez, MPH, and Sierra Towery, MPH, GA Dept. of Public Health and Dr. Neaam Al-Bahadili, Piedmont Healthcare
28. Effects of soil pot conditions on *Laricobius nigrinus* emergence rates | **Madelyn Gillespie**. Mentors: Professor Karrie Ann Fadroski and Professor Stacie James
29. Bridging the Gender Gap in Pharmacology: The Need for Greater Attention to Gendered Medicine in Clinical Trials | **Aidan Pavlich**
30. Computational Comparative Analysis of THC-A, THC-P, Delta-8, Delta-9, and Delta-10 on the CBI Receptor | **Emily Reedy and Dominique Cunningham**. Mentor: Dr. Rosi Gunasinghe
31. The Impact of Carceral Institutions in Southern Appalachia | **Sophie Hargis, Sara Mauldin, and Cole Belbey**
32. Assessment of a Spatiotemporal Access Control Framework Against Security Compliance Objectives | **Enoch Johnson**
33. Sherman's Legacy: The March to the Sea in Modern Times | **Aidan Kells**
34. Europe's Scrapyard Goes to War: The Israeli Armored Corps in the Six-Day War | **Eli Polk**
35. Synthesis and Application of Zeolitic Imidazolate Frameworks with Polydopamine Coatings for the Removal of Water Pollutants | **Tyler Simpson**
36. The Increase Mistrust in Media Within United States Politics | **Claudia Marban**

1:00 - 2:00 PM

PANEL H: GLOBAL MOVEMENTS, LOCAL IMPACTS

Cottrell Center, Room 320 | Moderator: Jorge Romero

U.S. INVOLVEMENT IN THE PERUVIAN POPULATION CONTROL PROGRAM OF 1996-2001

Christina Whitlock, Mentor: Dr. Alexander Wisnoski

~~*MENTAL HEALTH POLICY REFORM IN FINLAND SECONDARY SCHOOLS*~~

~~**Grace King**, Mentor: Dr. James Williams (GWU)~~

PANEL I: INTERSECTIONS OF RELIGION, EDUCATION, AND REFORM

Cottrell Center, Room 319 | Moderator: Emma Perron

SAINT RITA'S WOMEN: RELIGION AND MYTH IN CARMEN MARIA MACHADO'S HER BODY AND OTHER PARTIES

Bethany Adams, Mentor: Dr. Cameron Crawford

THE RELATIONSHIP BETWEEN EDUCATION AND HOW FREQUENTLY SOMEONE ATTENDS RELIGIOUS SERVICES

Michael Emerson

CRISIS INTERVENTION TEAM ANALYSIS AND ITS EFFECTS ON THE U.S. CORRECTIONAL SYSTEM

Madison Dewey, Mentor: Dr. Stu Batchelder

PANEL J: DIFFERENT APPROACHES TO IMPROVING COGNITION

Cottrell Center, Room 374 | Moderator: David Olsen

INVESTIGATION OF EXERCISE PRESCRIPTION ON DIET-INDUCED CHANGES IN MEMORY, COGNITION, AND HIPPOCAMPAL BDNF LEVELS

Ryan Lambert, Mentor: Dr. Abby Meyer

INVESTIGATING THE USE OF METACOGNITIVE REGULATION STRATEGIES IN READING PRIMARY SCIENTIFIC LITERATURE

Sarah Miller

1:00 - 2:00 PM

PANEL K: SYMBOLISM, STORYTELLING, AND DIVERSITY IN VISUAL CULTURE

Cottrell Center, Room 379 | Moderator: Taylor Graves

ANALYZING THE SYMBOLISM OF THE EQUINE IN ART FOCUSING ON FOUR KEY EXAMPLES

Lucy Basso

OUR GOLDEN STORIES: CURATING CULTURE THROUGH ART AT UNG

Madalyn Courson and Elizabeth Padilla Brun, Mentor: Dr. Ana Pozzi-Harris

DIVERSITY UNRAVELED: THE CONCEPTION OF LENN REDMAN'S SERIES "WHAT AM I?," LOS ANGELES, 1963-1984

Olivia Tinsley

2:00 - 3:00 PM: POSTER SESSION #2

Cottrell Center Ballroom, Room 172, Volunteer: Mary Dickens

1. Japanese Medaka *Hoxa1a* Shows Divergent Gene Expression and Regulation from Evolutionarily Divergent Gnathostome Vertebrates | **Elizabeth Taylor**. Mentor: Dr. Adam Davis
2. Genes Involved in Lysogenic Lifecycle of Lysogen Precious 2A | **Audrey Nesbit**. Mentor: Dr. Alison Kanak
3. Parenting Styles and Their Impact on Mindset in Relation to Academic Self-Concept | **Chloe Wilson, Caydence McElligott, Carson Teems, and Gabriel Holgate**. Mentor: Dr. Amanda Halliburton
4. Preliminary Analysis of the Impact of Incubation Temperature on Sex Ratios, Emergence Rate, and Post-emergence Metabolic Rates in *Nasonia vitripennis* Wasps | **Diana Girard**. Mentors: Dr. Amanda Reynolds, Dr. Emilia Sola Gracia, and Dr. Amy Anderson
5. Neoliberalism, Land Development and Indigenous Autonomy: Looking into Oaxacan Resistance against the Interoceanic Corridor of Tehuantepec | **Rubi Islas**. Mentor: Dr. Bibek Chand
6. Investigating Thieno[3,4-c]furan-4,6-dione (TFD) as a substitute for Thieno[3,4-c]pyrrole4,6-dione (TPD) in Direct Arylation Polycondensation Reactions for Optoelectronic Applications | **Michael Guerrero**. Mentor: Dr. Brynna Quarles
7. Investigating the Effects of Short-Term E-Cigarette Exposure on Small Intestine Histology and Immunolocalization of Inflammatory Response Proteins in the House Mouse, *Mus musculus* | **Emily Reedy, David Cholewinski, and Lindsey Malcolm**. Mentors: Dr. Cathy Whiting and Ms. Josie Ayers

2:00 - 3:00 PM: POSTER SESSION #2

Cottrell Center Ballroom, Room 172, Volunteer, Mary Dickens

8. The Safety of Oyster Consumption: Assessing Bacterial Concentrations and Antibiotic Resistance of *Vibrio* Species in Oysters from Georgia's Coast | **Alyssa Pold**. Mentors: Dr. Dobrusia Bialonska, Dr. Nancy Dalman, and Dr. Paul Johnson
9. The Heart of Inclusion: Community Perspectives on Autism and Inclusive Education | **Alexis Rose Crooks**. Mentor: Efren Velazquez
10. Through the looking glass: Using plexiglass coverboards to survey recovering habitat types | **William Grinstead**. Mentors: Dr. Erin Barding and Professor Karrie Ann Fadroski
11. An expansion of late Pleistocene microvertebrate fossil remains from Clark Quarry, coastal Georgia | **Sam Hempen, Julian Buka, Grace Bowser, Alejandro Canela, Claire Cook, Austen Kuhlmann, Maya Meydan, Kimberly Nguyen, Jack Orr, Bricen Popko, and Parham Wallin**. Mentors: Dr. Erin Barding, Dr. Al Mead (GCSU), Dr. Christopher Seminack, and Dr. David Patterson
12. Challenges and Benefits to EEG-based Brain-Computer Interfaces in Neurorehabilitation | **Annalise White**. Mentor: Dr. Heath Harlee
13. A Comparative Analysis of Autoencoder-Enhanced and Traditional Signature-Based DDoS Detection Using the CICDDoS 2019 Dataset | **Nicholas Ramsayer**. Mentor: Dr. Hyungbae Park
14. Buzzing Gardens and Pesticide Perils: Exploring the Marvels of Pollinators While Navigating the Delicate Balance Between Agricultural Production and Environmental Sustainability | **Madelyn Wells, Jessica Boone (UGA), Taylor Bird (UGA), Eric Rubenstein (UGA)**. Mentor: Dr. James Leaphart
15. Making The Foreigner – Public Opinion Toward Polish Migrants | **Thomas Richard Floystrop**. Mentor: Dr. Phillip Guerty
16. The power of perspective: How framing affects undergraduate student perceptions of graduate programs | **Iris Romero and Hannah Hyman**. Mentor: Dr. Ralph Hale
17. The Influence of Pathogen Diversity and Temperature on Eelgrass Wasting Disease Outcomes | **Angela Ayala**. Mentor: Dr. Rebecca Lucia Maher (UW)
18. Engineering Design Competitions for Pre-Engineering Students | **Mariam Rezai, Irvine Thor, Nhi Vu, and Mariela Alvarado Gonzalez**. Mentor: Dr. Redahegn Sileshi
19. Regenerative Farming For Cattle Operations in North Georgia | **Brandon Outler**. Mentor: Dr. Ruohan Wu
20. What is the Cause in this Case of Lower Extremity Weakness | **Ava Clavijo**. Mentor: Dr. Sabrina Fordham and Dr. Andrew Jakiel
21. Salinity Effects on *Lytechinus variegatus* Development | **Davina Kara and Isabella Laske**. Mentors: Dr. Shane Webb and Dr. Margaret Smith
22. Fictional Characters and Empathy: An Investigation of Parasocial Relationships | **Steffani Pass**. Mentor: Dr. Susann Doyle-Portillo

2:00 - 3:00 PM: POSTER SESSION #2

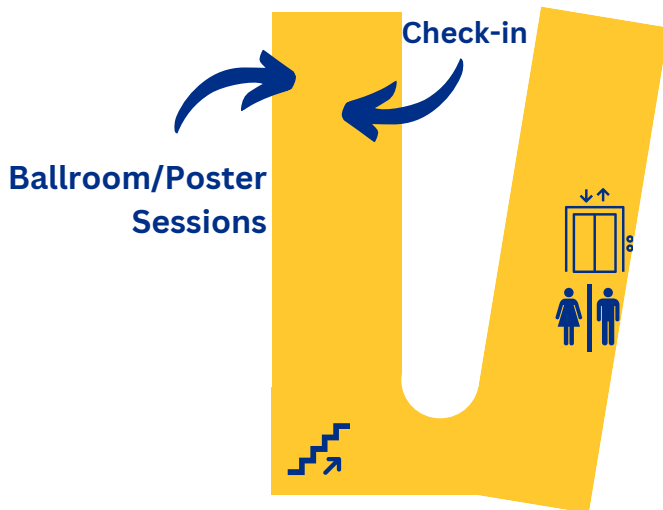
Cottrell Center Ballroom, Room 172, Volunteer: Mary Dickens

- 23. Novel or Repeated Rules: Why is Working Memory Capacity Related to Intelligence? | **Elizabeth Hawn, Kiara Rios-Burrows, and Emily Gibbs.** Mentor: Dr. Tyler Harrison
- 24. Comparing Nationalisms: Pharaonism and Zionism | **Sara Courtney.**
- 25. Characterization of Bacteriophage genes impacting *Mycobacterium smegmatis* via plasmid (pExTra) transformations | **Logan Knotts.**
- 26. Complex Analysis in Fluid Dynamics: Streamlining Flow Using Conformal Mappings | **Micah Chandler.**
- 27. A City Within a City: How Harlem Redefined Identity and Inequality | **McKenzie Pilgrim.**
- 28. Breaking Passwords: Analyzing Cracking Techniques and Security Best Practices | **John Carter.**
- 29. How has art activism contributed to the effectiveness of social and political change in various movements? | **Lauren Morris.**
- 30. Resilience and Restriction: The Complex Reality of Free Black Virginians in the Antebellum South | **Anna Hardwick.**
- 31. Watershed Jumpers: Unraveling Complex Patterns of Fish Faunal Exchange in North Georgia | **Sydney Griffith and Olivia Minor.**
- 32. Migrants to the Steel Cities: Immigration and Labor in U.S Steel Towns, 1890-1940 | **Samson Larsen.**
- 33. Vulnerabilities In BLE Devices: Implementing Attacks And Security | **Wyatt Blount.**

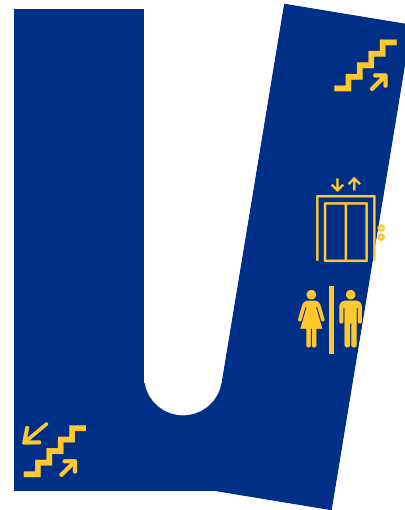


COTTRELL CENTER MAP

1st Floor



2nd Floor



No events on 2nd floor

3rd Floor



4th Floor



Stairs



Elevator



Bathroom

CURCA would like to thank the following UNG students, faculty, and staff for making ARC 2025 possible:

The CURCA Administrative team: Taylor Graves, Allison Grundel, Lauren Morris, and Diogo Pinheiro

Allison Galloup, Sarah Grace Glover, and the UNG libraries

Mary Anne Brown, William Cain, and MCCB

ARC Planning Committee and Moderators:

Brittany Barron, Mary Dickens, Michael Guerrero, Taylor Graves, Eric Guo, Victoria Hightower, Lillie Holtzclaw, Caroline Kent, Kaitlyn King, Anastasia Lin, Lauren Morris, David Olsen, David Patterson, Emma Perron, Emily Reedy, Julianne Reynolds, Jorge Romero, Mary Sanders-Tucker, Brooke Scherer, and Miguel Tinoco

ARC Best Paper and Best Poster Committee:

Alla Balueva, Brittany Barron, Bibek Chand, Ahmad Ghafarian, Jing He, Victoria Hightower, Andrew Jakiel, MC Whitlock

ARC Reviewers:

Isaac Agyekum, Alla Balueva, Erin Barding, Brittany Barron, Bibek Chand, Emily Cooper, Zachary Elison, Elissa Ferguson, Ahmad Ghafarian, Victoria Hightower, Matthew Horton, Andrew Jakiel, Sharon Jones, Irene Kokkala, Michael Lanford, Chelsea Marelle, Clarke Miller, Miriam Moore, Yelizaveta Moss, Brynna Quarles, Margaret Smith, and Candice Wilson

