



2022 ANNUAL RESEARCH CONFERENCE

Friday, March 25, 2022

9:00 AM – 9:50 AM

Panel A: Technology, Information Security and Reliability | 9:00 AM – 9:50 AM Nesbitt 3212

Dr. Ryan Hipp, Moderator

Physical Access: An old solution to a new cyber threat. Equipping soldiers with USB Rubber Duckies to collect intelligence from air gapped networks

Christian Tolbert, Faculty Mentor: Dr. Bryson Payne

Fingerprint Evidence Reliability and Validity in the Courtroom

Ansley Graham, Faculty Mentor: Dr. John Batchelder

The Evolution of Privacy and its Effects on the Criminal Justice Realm

Sheridan Porras, Faculty Mentor: Dr. John Batchelder

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<https://ung.edu/ungarc>

**Panel B: Art and Science: Using Art as an Outreach Tool for Biology | 9:00 AM – 9:50 AM
Nesbitt 3204**

Dr. Evan Lampert, Moderator

National Wildlife Refuge Poster Project

Isaac Dickson, Faculty Mentor: Dr. Jason Lang

Creating Videos for Elachee Nature Science Center

Hector Medrano, Faculty Mentor: Dr. Jason Lang

10:00 AM – 10:50 AM

Panel C: Novel Methodological Approaches in STEM | 10:00 AM – 10:50 AM Nesbitt 3212

Barbara Petersohn, Moderator

Site-specific Mutagenesis Studies of PyrD and PyrR Genes Involved in Riboflavin Biosynthesis

Andrew Esparza-Bojaca, Morelia Aguirre, Brenda Trujillo, Dr. Ghulam Hasnain
Faculty Mentor: Dr. Ghulam Hasnain

Ab Initio Calculations of a Titanium Dental Implant with Tricalcium Phosphate Applied Upon It

Wynn Kwiatkowski, Dr. Alla Balueva, Dr. Patricia Todebush, Dr. Iliia Dashevskiy
Faculty Mentors: Dr. Alla Balueva and Dr. Patricia Todebush,

Panel D: The Justice System, Community, and Bias | 10:00 AM – 10:50 AM Nesbitt 3204

Dr. Victoria Hightower, Moderator

How Mental Health is Treated in Prisons

Kristin Dyer, Faculty Mentor: Dr. John Batchelder

Unconscious Bias: An Uncomfortable but Essential Reflection in Law Enforcement Operations

Michaela Schiesser, Faculty Mentor: Dr. John Batchelder

Effectiveness of Community Style Policing and the Factors that Control Results

Samantha Cooper, Faculty Mentor: Dr. John Batchelder`

11:00 AM – 11:50 AM

**Panel E: Data Security, Social Engineering, and Current Threats | 11:00 AM – 11:50 AM
Nesbitt 3212**

Dr. Brynna Quarles, Moderator

What You See Is Not What You Know: Deepfake Image Manipulation

Cathryn Allen, Faculty Mentors: Dr. Bryson Payne, Dr. Chuck Robertson, Dr. Tamirat Abegaz, and Dr. Royce Dansby-Sparks

Hacked in the Blink of an Eye : Physical Hardware Security in the Workplace

Wil Gray, Faculty Mentor: Dr. Bryson Payne

User Interface Vs Social Engineering: Training Users In The Area Of Counterintelligence Against Social Engineering

Obulu Anetor, Faculty Mentor: Dr. Bryson Payne

**Panel F: Victimization, Recidivism and the Criminal Justice System | 11:00 AM – 11:50 AM
Nesbitt 3204**

Dr. Esther Morgan-Ellis, Moderator

Risk Factors of Sexual Assault That Lead to Further Re-victimization

Brookelyn Simmons, Faculty Mentor: Dr. John Batchelder

Exploring the Utility of Intermediate Sanctions for Violent and Non-Violent Offenders: Which Type Would be Best Served?

Lauren Reynolds, Faculty Mentor: Dr. John Batchelder

Poster Session 12:00 PM – 1:00 PM (Nesbitt 3110 AB)

1. *The Effects of Environmental Temperature Fluctuations on Physiology of Eastern Box Turtles (Terrapene carolina carolina).*

Michael Gibson. Faculty Mentors: Dr. Abigail Neyer, Dr. Natalie Hyslop, and Dr. Jennifer Mook

2. *The Effects of Warmer Winter Temperatures on Ornate Box Turtle Hibernation and Physiology.*

Kaili Boyes, Gwendolyn Bachman Faculty Mentor: Dr. Abigail Neyer

3. *Brown Anole (Anolis sagrei) Hoxa5: Insights into the Divergence of Hoxa5 Gene Expression Across Evolutionarily Divergent Gnathostome Vertebrates.*

Jennifer Lange. Faculty Mentor: Dr. Adam Davis

4. *Brown Anole (Anolis sagrei) Hox Paralog Group 4 Genes Exhibit Conserved Gene Expression and Regulation with Evolutionarily Divergent Gnathostome Vertebrates.*

Braxton B Turner IV, Ben S. Wortman, John B. Fernando. Faculty Mentor: Dr. Adam Davis

5. *Novel Technique for the Isolation of Bacteriophage from Environmental Samples.*

Jared Oenick, Kendall Carr. Faculty Mentor: Dr. Alison Kanak

6. *Histological Characterization of the Freshwater Crustacean, Daphnia magnus.*

Emily Munoz, Carly Griffin; Muhammad Mahendra; Jasmine Montero; Devanshi Patel, Jessica Nix. Faculty Mentor: Dr. Cathy Whiting

7. *The Effects of Polypeptide Growth Factors on Oviductal Growth in the Ovariectomized Mediterranean Gecko, Hemidactylus turcicus.*

Jessica Nix, Josie Ayers; David Dennard; Emily Harris; Forest Hardman; Emily Munoz. Faculty Mentor: Dr. Cathy Whiting

8. *A Comparison of the Efficacy of Four Brands of Mouthwash Antiseptics to Inhibit Bacterial Growth using Staphylococcus aureus and Streptococcus mitis.*

Kennedy Dubose, Rene Morales. Faculty Mentor: Dr. Davison Sangweme

9. *Identifying Microorganisms Associated with Brood X Cicadas.*

Cielo Acosta, Katherine Earl, Jessica Carruth, Madison Bunch, Paul Johnson, Dobrusia Bialonska, and Evan Lampert. Faculty Mentor: Dr. Dobrusia Bialonska

10. *Post-Mortem Observations On The North Georgia Population Of Brood X Periodical Cicadas.*
Gaby Perez, Sydney Marie Jones. Faculty Mentor: Dr. Evan Lampert

11. *The impact of temperature on the development of Lucilia coeruleiviridis.*

Deven Hutton, Daleana Reyes Alejo. Faculty Mentor: Dr. Evan Lampert

12. *Oviposition of Brood X periodical cicadas in Georgia.*

Sydney Marie Jones. Faculty Mentor: Dr. Evan Lampert

13. *Abstract Cloning and expression of functional domains of PyrD and PyrR as a bifunctional enzyme for potential use in the biofortification of Riboflavin in plants.*

Mai Tran. Faculty Mentor: Dr. Ghulam Hasnain

14. *No Difference Found in Percent Lichen Cover When Comparing Tree Species, Canopy Cover, Cardinal Direction, and Diameter at Breast Height.*

Elizabeth Taylor. Faculty Mentor: Dr. Jason Lang

15. *The Application of Fruit Flies in Studying Human Neurodegenerative Diseases.*

Ranah Ocampo, Summer Gibson. Faculty Mentors: Dr. Jo Qian and Dr. Adam Davis

16. *Impacts of development on surface water quality in North Georgia.*

William Reeves. Faculty Mentors: Dr. Lauren Oliver and Dr. Abigail Neyer

17. *Prolonged Human Disturbance Effects On White Blood Cell Profiles Of Anaxyrus americanus In Northern Georgia.*

Chloe Allen, Lauren Oliver and Abigail Neyer. Faculty Mentor: Dr. Lauren Oliver, Dr. Abigail Neyer, Dr. Mark Davis, and Dr. Alexandra Tremblay

18. *Minnow trap survey of the Walnut Creek fish assemblage with notes on trap type biases and habitat type associations.*

Casey Collum, Cameron Mallin, J. Alex Choi, Mike Saunders, and Margi Flood. Faculty Mentor: Dr. Michael Bender

19. *Changing Electron Donating Groups to Shift Maximum Absorption of Caged Compounds.*

Kathryn Monheim. Faculty Mentor: Dr. Jeremy Olson

20. *Heavy Metals and Vaping.*

Sean Tolman. Faculty Mentor: Dr. John Leyba

21. *Quantification of Heavy Metals in Professional Hair Dye.*

Mackenzey McCormack, Mason Barrett. Faculty Mentor: Dr. John Leyba

22. *USBadBehavior: A look at how USB devices can be used in hacking a system.*

Trey Coker. Faculty Mentor: Dr. Bryson Payne

23. *Behavior Modeling for Policy Audit: Using Monterey-Phoenix to Predict Emergent Behavior in Policies and Procedures.*

Benjamin Bradley. Faculty Mentor: Dr. Bryson Payne

24. *Traffic Light Manipulation: Discovering the Vulnerabilities within SCADA and Industrial Control Systems.*

Ty Minton. Faculty Mentor: Dr. Bryson Payne

25. *Withdrawn*

26. *FakeBugs: Buggy Software for More Security.*

Jacob Elder. Faculty Mentor: Dr. Bryson Payne

27. *Election Integrity: Protecting National Security through Infrastructure Hardening.*

Gavin Kirksey. Faculty Mentor: Dr. Bryson Payne

28. *Car Hacking: Capturing Radio Waves.*

Steven Peterson. Faculty Mentor: Dr. Bryson Payne

29. *Withdrawn*

30. *Creating a Research/Data Portal for the Chicopee Woods Nature Preserve.*

Parker Clark. Faculty Mentor: Dr. Jacob Bateman McDonald

31. *Searching for the Unicoi Wagon Trail.*

Brittany Lee Mann, Katelynn Comer. Faculty Mentor: Dr. Jacob Bateman McDonald

32. *Effect of Acute Static Stretching Prior to Resistance Training on Amount of Weight Lifted.*

Bryce Esco. Faculty Mentor: Dr. Ryan Hipp

33. *Mapping the Cosmic Web: Capturing Extragalactic Structures with Zooniverse.*

Destin Encardes. Faculty Mentor: Dr. Amanda Moffett

34. *CARRIND Laboratory (EE).*

Kevin Carranza. Faculty Mentor: Dr. David Slutzky

35. *How First and Continuing-Generation College Students Cope with College Adjustment, Stress, and Anxiety.*

Melanie Palacios-Reyes. Faculty Mentor: Dr. Amanda Halliburton

36. *Treatment Factors for Obstructive Sleep Apnea Hypopnea.*

Jessica Cisneros Lerma. Faculty Mentor: Dr. Clayton Teem

37. *Psilocybin in the Treatment of Depression: A Meta-Analysis.*

Destiney Dempsey, Clayton Teem II. Faculty Mentor: Dr. Clayton Teem

38. *Assessing The Impact Of Gender And Sexting Behavior On Condom Use And Intention.*

Valeria Jimenez, Evelyn Tello-Mendoza. Faculty Mentor: Dr. Efren Velazquez

39. *Sexual Preference, Gender, And Empathy Following Sexual Assault.*

Hailey M. Rueden. Faculty Mentor: Dr. Kelly Cate

40. *When Love Hurts: How romance depictions in film contribute to relationship abuse.*

Alexandria Hatten. Faculty Mentor: Dr. Stephen Smith

41. *Site-specific Mutagenesis Studies of PyrD and PyrR Genes Involved in Riboflavin Biosynthesis*

Andrew Esparza-Bojaca, Morelia Aguirre, Brenda Trujillo, Dr. Ghulam Hasnain

Faculty Mentor: Dr. Ghulam Hasnain

1:00 PM – 1:50 PM

Panel G: The Victorian Era and the Occult: Panel I | 1:00 PM – 1:50 PM Nesbitt 3204

Dr Anita Turlington, Moderator

Sub-Saharan Africa and the Victorian Occult

Drake Laskey, Faculty Mentor: Dr. Phillip Guerty

Racial Othering in Bram Stoker's Dracula: a Victorian Gothic Novel

Payton Tolbert, Faculty Mentor: Dr. Phillip Guerty

Native American Spirits in Victorian England Séances

Kenneth Moses, Faculty Mentor: Dr. Phillip Guerty

Panel H: Who is Seen and Who is Heard? Representation in Literature, Anthropology and Music | 1:00 PM – 1:50 PM Nesbitt 3212

Dr. Kathryn Quinto, Moderator

Representing Identity in Songbooks Through Repertoire

Bailey Bullard, Faculty Mentors: Dr. Esther Morgan-Ellis

Voices from Tohoku: Oral Narrative Translation Project

Cursten Howard, Faculty Mentor: Dr. Robin O'Day

Panel I: Sentencing Bias and Deterrence in the Criminal Justice System | 1:00 PM – 1:50 PM Nesbitt 3217

Nathalia Ingles, Moderator

A Two-Pronged Strategy for Ameliorating Juvenile misbehavior: Addressing Risk-Factors and Treating Mental Health Issues to Increase Program Effectiveness

Caroline Skrip, Faculty Mentor: Dr. John Batchelder

Racial Differences vs The Criminal Justice System: Majority Class Members' Perceptions of Minority Class Members as Potential Offenders

Sofiya Karimova, Faculty Mentor: Dr. John Batchelder

2:00 PM – 3:00 PM

Panel J: Literary Approaches to New and Old Media | 2:00 PM – 2:50 PM Nesbitt 3212

Amy Boone, Moderator

Suffering in Silence: The Presence of Pain in the Witcher Universe

Ashley Gibson, Faculty Mentor: Dr. Derek Thiess

The Effects of Technology In The Publishing Industry

Gloria Aragon, Dr. Bonnie Robinson, Faculty Mentor: Dr. Bonnie Robinson

Who Really Wears the Pants?: Power Dynamics in Matthew Lewis' 'The Monk'

Michaela Smith, Faculty Mentor: Dr. Diana Edelman

Panel K: The Victorian Era and the Occult: Panel 2 | 2:00 PM – 2:50 PM Nesbitt 3204

Dr Anita Turlington, Moderator

Spring-heeled Jack: The Diverging Character of an Urban Monster

Leah Jarrett, Faculty Mentor: Dr. Phillip Guerty

Urban Society and the Modern Monster

Patrick McKinney, Faculty Mentor: Dr. Phillip Guerty

The Beast and the Maenads: The Relationship Between Aleister Crowley and Maenads from Greek Mythology

Mary Abbott, Faculty Mentor: Dr. Phillip Guerty

*CURCA would like to thank the following UNG students, faculty,
and staff for making ARC 2022 possible:*

The CURCA Administrative team: Allison Grundel and Hannah Johnson

Allison Galloup, and the UNG libraries

ARC Planning Committee (moderators and workshop leaders):

Anita Turlington, Amy Boone, Esther Morgan-Ellis, Brynna Quarles, Ghulam Hasnain, Evan Lampert, Ryan Hipp, Barbara Petersohn, Nathalia Ingles, Victoria Hightower, Kathryn Quinto, Diogo Pinheiro (Chair)

ARC faculty reviewers:

Melissa Lockaby, Michael Lanford, Lisa Diehl, Katherine Rose Adams, Joshua Martin, Abby Meyer, Ami Everett, Matthew Horton, Clayton Teem, Evan Lampert, Toralf Zschau, Rebecca Rose, Jeanelle Morgan, Sam Rohrer, Miriam Moore, Bhawani Sigdel Regmi, Johanna Luthman, Tamika Sterrs-Howard, Supriya Reddy, Gregory Feiden, Cenate Pruitt, Rebecca Johnston, Kristie Waterfield, Joseph D. Pecorelli, Elizabeth Williams Durbin, Dobrusia Bialonska, Andrew James Jakiel, Rana Gautam, Ryan Shanks, Tiffany Kearney, John Dewey, Kelly Long, Ghulam Hasnain, Jill Schulze, Margaret Smith, Tashia Caughran, Jason Lang, Victora Hightower, Kathryn Quinto, Michael Bender, Hannah Johnson

