



AUBURN  
UNIVERSITY



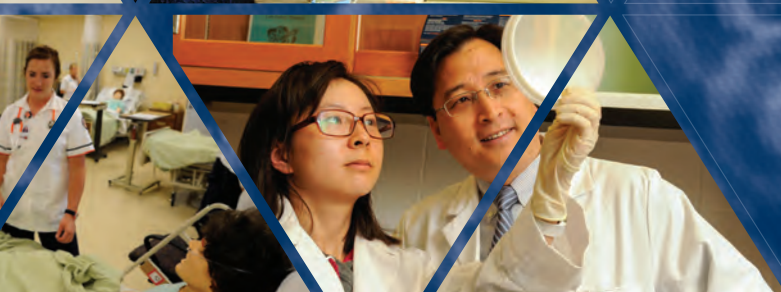
# THIS IS RESEARCH.

**STUDENT SYMPOSIUM 2016**  
A SHOWCASE OF RESEARCH AND CREATIVE SCHOLARSHIP



SYMPOSIUM: **APRIL 13**  
AUBURN UNIVERSITY STUDENT CENTER

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**SAVE THE DATE**

**THIS IS  
RESEARCH.**

**STUDENT SYMPOSIUM**

**AWARDS CEREMONY**

**MONDAY, APRIL 18, 2016**

**5:00 P.M.  
STUDENT CENTER BALLROOM**

**THIS IS  
RESEARCH.**

**FACULTY SYMPOSIUM  
SEPTEMBER 15-16, 2016**

**THE HOTEL AT AUBURN UNIVERSITY AND  
DIXON CONFERENCE CENTER**

# SCHEDULE OF EVENTS

## **8:00 a.m.**

### **Continental Breakfast**

Level 2 - beside rooms 2222 and 2223

### **Registration**

All day; Level 2 at entrance near room 2227

## **8:00 a.m. – 12:00 p.m.**

### **Oral Research Presentations**

Level 2 - rooms 2216, 2218, 2222, 2225, 2227, 2310, 2326

## **11:30 a.m. – 1:00 p.m.**

### **Undergraduate Research Opportunities Fair**

### **Morning Poster Session**

### **Networking Lunch**

Level 3 - Ballroom

## **1:00 p.m. – 4:45 p.m.**

### **Oral Research Presentations**

Level 2 - rooms 2216, 2218, 2222, 2225, 2227, 2310, 2326

## **4:30 p.m. – 6:00 p.m.**

### **Afternoon Poster Session**

Level 3 - Ballroom

# THIS IS RESEARCH.

## STUDENT SYMPOSIUM AWARDS CEREMONY

APRIL 18 at 5:00 P.M.



### KEYNOTE SPEAKER:

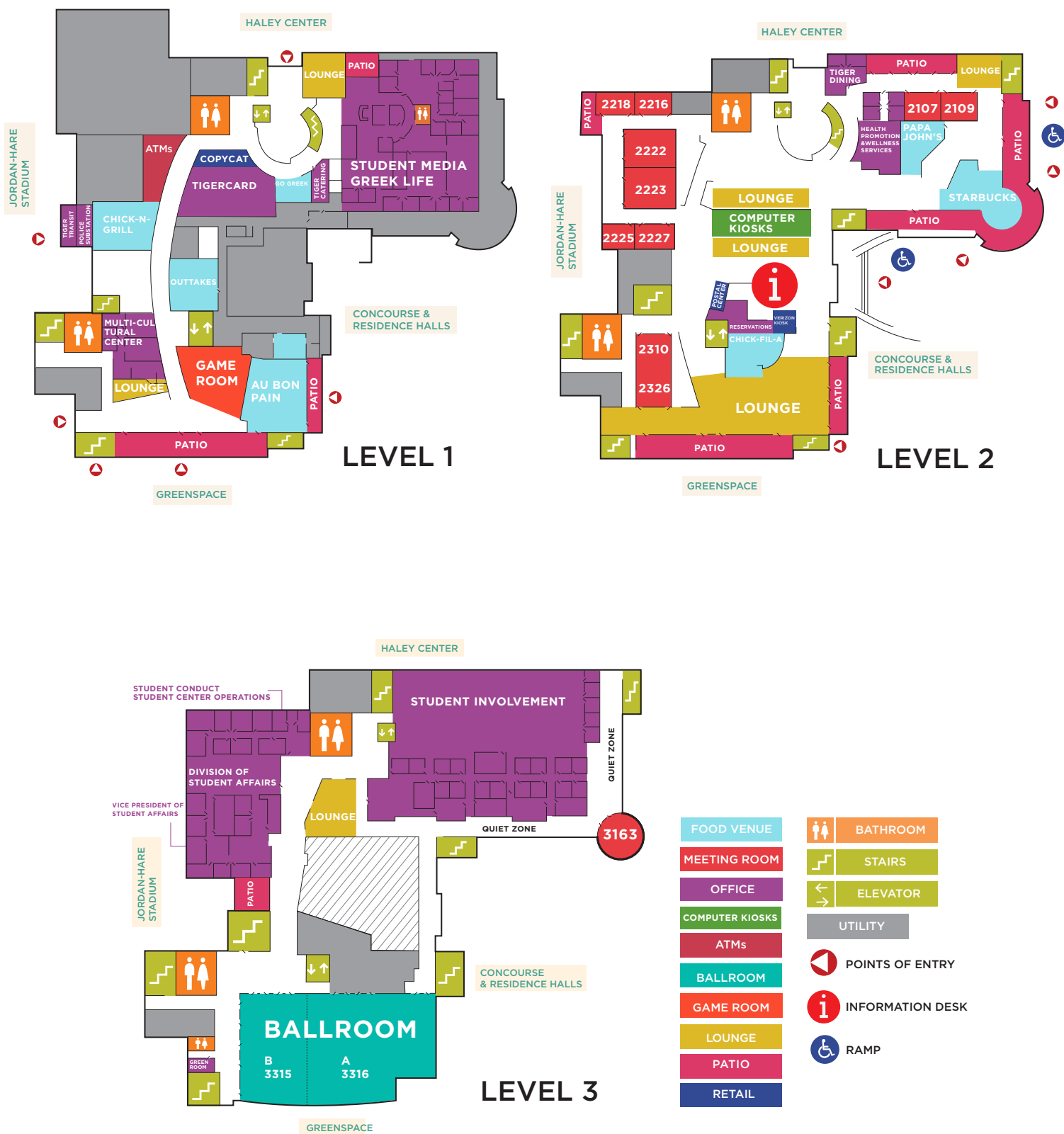
#### **MALLORY LUCIER-GREER**

ASSISTANT PROFESSOR  
DEPARTMENT OF FAMILY AND CHILD SCIENCES IN  
THE COLLEGE OF HUMAN SCIENCES  
FLORIDA STATE UNIVERSITY

### ***Most of What I Really Need to Know about Research I Learned at Auburn . . . The Rest I Learned in Kindergarten***

Mallory Lucier-Greer is an assistant professor in the Department of Family and Child Sciences at Florida State University as well as a licensed marriage and family therapist. Greer received her master's and doctoral degrees in Human Development and Family Studies at Auburn University with an emphasis in marriage and family therapy and family life education. After graduate school, she joined the Family and Community Resilience Lab at the University of Georgia as a post-doctoral research fellow. Her research examines the intersection of vulnerability and resilience. Greer examines processes that promote resilience and protect individuals and families from adverse outcomes with a focus on high-stress families, including military families, low-resource families, and stepfamilies. Identifying protective factors has direct application for promoting evidence-based practice in educational and clinical settings.

# Map of Auburn University Student Center



# Oral Research Presentations Morning Session

## Student Center Meeting Rooms

**8:00 a.m. – 8:45 a.m.**

### Room 2216 – Forestry and Wildlife Sciences

Duffie, Duston (UG) – *The search for meadow jumping mice in east-central Alabama*

George, Matthew (UG) – *Effects of door width on wild pig entrance into traps*

Williamson, Steven (UG) – *A statewide assessment of wildlife intake at Alabama's wildlife rehabilitation centers*

### Room 2218 – Physics

Mirkhani, Vahid (G) – *Effect of gamma-ray irradiation on ZnO transistors*

Yang, Zechun (Ken) (UG) – *Assigning uncertainties to diagnostics of astrophysical objects*

Ozden, Burcu (G) – *Investigation of defects in AlGaIn/GaN heterostructures*

### Room 2222 – Chemical Engineering

Hand, William (G) – *Soy protein substitution in phenol formaldehyde adhesive used in oriented strand board*

Hanley, Alan (G) – *Scalable method for producing Janus nanoparticles to develop "smarter" nanostructures*

Kelly, Alexander (G) – *Effect of pegylation on silica nanoparticle uptake and viability with Chinese hamster ovary cells*

### Room 2225 – Psychology

Silverstein, Madison (G) – *A model of risky sexual behavior on college campuses: The role of sexual victimization history, sexual sensation seeking, alcohol use, and masculinity*

Harrelson, Megan (G) – *The effect of psychoeducation on public perceptions of adolescents with illegal sexual behavior*

Walker, Erin (UG) – *Comparing coercive sexuality scores with sexual sensation seeking, hostility towards women, sexual compulsivity, and rape myth acceptance scores*

### Room 2227 – Neurology and Computer Imaging

Murphy, Jerry (G) – *Spatial smoothing and motion correction effects on sub-millimeter resolution fMRI data*

Lanka, Pradyumna (G) – *Perils of using cross-validation for performance estimation in neuroimaging-based diagnostic classification*

### Room 2310 – Biomedical Sciences

Gillen, Alex (G) – *In vitro evaluation of the forwarder knot*

Kitchens, Steven (G) – *A two year study of environmental salmonella incidence and proximal contamination in a multi-species animal facility*

Eldemery, Fatma (G) – *Characterization of binding of infectious bronchitis virus spike proteins representing vaccine subpopulations to chicken tissues*

### Room 2326 – Biological Sciences

Gilpin, Jessica (G) – *Abundance and distribution of host sea anemones, associated cleaner shrimps, and fish clients on Caribbean coral reefs at St. Thomas, US Virgin Islands*

Joyce, Kathlene (UG) – *Phylogeography of slimy salamanders in the state of Alabama*

Renfro, Bobbie (G) – *Can we swim with the fishes? Impacts of diving tourism on macroalgal grazing behavior by coral reef fishes*

**9:00 a.m. – 9:45 a.m.**

### Room 2216 – Fisheries and Wildlife Sciences

John, Rebecca (G) – *Tracking nightly movement and fidelity with fluorescent powder for green salamanders in Northern Alabama*

Gosh, Kamal (G) – *Studying the growth variability of channel-blue hybrid catfish: an integrated base approach*

Stuart, Mark (G) – *Anemone shrimp microhabitat utilization in a marine cleaning mutualistic network: Optimization for different behavioral strategies*

### Room 2218 – Human Development and Family Sciences

Kaeppler, Alex (G) – *Linking social anxiety and autonomic responses to social stress in preadolescence*

Sabey, Allen (G) – *"Lots of hugs and kisses:" Expressions of parental love as reported by mothers and their children*

Hartwick, Olivia (G) – *Social competence as a predictor of preschoolers coping tactics during dyadic peer play*

### Room 2222 – Chemical Engineering

Kelly, Jessica (G) – *Treatment of GM1 gangliosidosis via pH sensitive polymersomes*

Noor, Matthew (G) – *Comparing covalent and non-covalent lysozyme functionalized single-walled carbon nanotube dispersions and composites*

Roe, David (G) – *Effects of supercritical fluid media and a nanoscale catalyst in Fischer-Tropsch fuel production*

### Room 2225 – Psychology

Cero, Ian (G) – *Sine qua non: Modern suicide theory and the availability of lethal means*

Zuromski, Kelly (G) – *Do changes in insomnia precede changes in suicide ideation? A latent change model of community adults over a brief interval*

Pitzer, Elizabeth (G) – *Examining the relationship between PTSD symptom clusters and the acquired capability for suicide using DSM-5 criteria*

### Room 2227 – Aerospace, Mechanical, and Electrical Engineering

Moore, William (UG) – *Modeling heat transfer in the presence of linear and nonlinear acoustic waves*

Deokar, Pratik (G) – *Effect of nanoparticles aspect ratio on the two phase flow boiling heat transfer coefficient of refrigerant and nanolubricants mixtures in a 9.5 mm micro-fin tube*

Venkatasubramanian, Murali (G) – *Quest for a quantum search algorithm for testing stuck-at faults in digital circuits*



### Room 2310 – Entomology

**Ademokoya, Blessing (G)** – *Attractiveness of the Kudzu bug (Megacopta cribraria) to different legume varieties: in the quest for better management options*

**Liu, Feng (G)** – *The molecular basis of odorant reception in the common bed bug*

### Room 2326 – Biological Sciences and Biology

**Staley, Molly (G)** – *Insights into the role of host exposure in limiting disease emergence in a natural host-pathogen system*

**Godwin, Rebecca (G)** – *Systematics of the genus Ummidia: species delimitation using natural history collections*

**Benesh, Kasey (UG)** – *The range stability of Etheostoma tallapoosae and Etheostoma stigmaeum*

## 10:00 a.m. – 10:45 a.m.

### Room 2216 – Forestry and Wildlife Sciences

**Bennett, Mary (G)** – *Above the tunnels: Habitat use of the southeastern pocket gopher*

**Pruitt, Susan (G)** – *Population dynamics of the endangered prairie massasauga rattlesnake (Sistrurus catenatus tergeminus tergeminus) at Squaw Creek National Wildlife Refuge*

**Gould, Brendan (G)** – *Comparison of hen comb capillary and wing vein blood glucose via compact glucometer*

### Room 2218 – Consumer Design and Kinesiology

**Rashid, Md Sanuwar (G)** – *When do sweatshop allegations negatively impact brands? An entitativity-based account for boundary conditions*

**Wilburn, Christopher (G)** – *Quantifying the effects of athletic socks on foot function during gait*

### Room 2222 – Chemical Engineering

**Dobson, Connor (UG)** – *Development and functionalization of gold-lipid nanocomposites for cancer theranostics*

**Kaczmarek, Jennifer (UG)** – *Encapsulation and differentiation of human induced pluripotent stem cells to form engineered cardiac tissue using methacrylated gelatin*

**Passantino, Joshua (UG)** – *The effects of additives on the optical and mechanical properties of cellulose nanocrystal films*

### Room 2225 – Social Sciences and Psychology

**Petri, Jessica (G)** – *Moving beyond self-report: Construct validation of DSM-5 PTSD using the CAPS-5*

**Gauthier, Jami (G)** – *Incorporation of normative feedback into National Alcohol Screening Day: feasibility, acceptability, and short-term impact on alcohol use and related behaviors*

**Yanes, Julio (G)** – *Neurobiological impact of chronic cannabis use: a meta-analysis of functional neuroimaging studies*

### Room 2227 – Chemistry

**Narayanan, Natasha (UG)** – *Functionalization of the central benzene ring in [n]para-terphenylophanes*

**Sustarich, Jake (UG)** – *Enhanced expression of p75NTR induced by proNGF leads to neuronal apoptosis*

**Armstrong, William (UG)** – *Is a steric effect the controlling factor in rhodopsin photoisomerization?*

### Room 2310 – Health Sustainability and Nursing

**Damron, Adley (UG)** – *The effects of simulation on unlicensed nurses self-efficacy, clinical skill application, and critical thinking*

**Tumwebaze, Joel (G)** – *Community gardening to reduce food insecurity and child malnutrition in Chacraseca-Nicaragua*

**Rains, Sara (UG)** – *Identifying effective community development practices in Ecuador*

## 11:00 a.m. – 12:00 p.m.

### Room 2216 – Biological Sciences, Aquaculture, and Agriculture

**Jescovitch, Lauren (G)** – *Expanding aeration to manage water quality in split-pond aquaculture*

**Folt, Brian (G)** – *Establishing reference demography for conservation: A case study of the Alligator Snapping Turtle (Macrochelys temminckii) in Spring Creek, Georgia*

**Chen, Rui (G)** – *The impact of HACCP implementation on US fishery imports*

### Room 2218 – Humanities, History, and Justice

**Hyché, Emma (UG)** – *Inmate labor and its connections to historical systems of racial labor exploitation*

**Zinner, Max (UG)** – *When church and state collide: Mormonism and polygamy in the late 19th century*

**Jeffcoat, Jeremy (G)** – *Forgotten freedom fighters: Gee's Bend, Alabama and the voting rights movement of 1965*

**Ransom, Cale (UG)** – *Comparison of the use of common law in the United States and Sri Lanka*

### Room 2222 – Mathematics and Computer Science

**Harrell, Dexter (UG)** – *Modeling habitat fragmentation at the landscape level via reaction diffusion equations*

**Hyder, Jacob (UG)** – *3D fluid modelling using consumer based motion tracking camera*

**Motallebi, Safa (UG)** – *Sequence generation of exponents in prime factorization*

**Kim, Doyon (UG)** – *Variations of Toeplitz' conjecture*

### Room 2225 – Creative Scholarship

**Hiware, Sagar (G)** – *Urban morphology for the City of Montgomery: Building a livable future*

**Michaelson, Dawn (G)** – *Sustainable apparel practices: a zero waste design challenge*

**Merlino, Suzanne (G)** – *Pop-up urban furniture for college campuses*

**Brown, Chloe (G)** – *Starving artist*

### Room 2227 – Chemistry

**Islam, Md (G)** – *Photochemical reduction of chlorinated hydrocarbon initiated by SPEEK systems using solutions and swollen films*

**Merryman, Caroline (G)** – *A cyclophane-based approach to functionalized cycloparaphenylenes*

# Undergraduate Research Opportunities Fair, Morning Poster Session, & Networking Lunch

Student Center Ballroom  
11:30 a.m. – 1:00 p.m.

## NURSING

The AU/AUM Graduate Nursing Students culminate their three-semester EBP Course Series by disseminating the results in this poster session of their “small-test-of-change” based on their individual EBP projects.

Evidence-based practice (EBP) is based on the best available scientific evidence in conjunction with clinical expertise and patient values to help guide healthcare decisions. Although research and EBP projects have overlapping concepts, there are distinct differences. EBP is used to close the gap between findings in research and actual practice by developing and implementing practice-improvement strategies in real-world settings. EBP is the foundation for excellence in clinical practice and is known to: 1) improve clinical outcomes and quality; 2) increase satisfaction for patients/families, providers, and agencies; 3) improve efficiency and/or decrease cost; and 4) decrease healthcare disparities.

1. **Jones, Kimberly (G)** – *Enhancing education to improve patient self-management of heart failure symptoms and decrease risk for hospitalizations*
2. **Holston, Doshie (G)** – *Venous thromboembolism education in medical oncology staff nurses*
3. **Stagner, Christopher (G)** – *Increasing hand washing in the immunocompromised dialysis patient*
4. **Cole, Meghan (G)** – *Improving transition into primary care*
5. **Henderson, Kendall (G)** – *Patient care journals in intensive care units*
6. **Williamson, James (G)** – *Statin therapy for the secondary prevention of atherosclerotic cardiovascular disease in individuals 65 years of age and older*
7. **Blair, Brittany (G)** – *Timely hospice referrals in terminal cancer patients*
8. **Blankenship, Mary (G)** – *Effects of health literacy and education on hypertension management*
9. **Shirley, Pamela (G)** – *Evidence based practice and cardiac chest pain; Motivating nurses to embrace EBP versus tradition*
10. **Escobar, Manuel (G)** – *Obesity intervention in children and adolescents*
11. **Riley, Nicole (G)** – *Immunization education for parents*
12. **Thomas, Larry (G)** – *Pediatric asthma: Recommendations to reduce readmissions*
13. **McDowell, Samantha (G)** – *Improving self-care and pain management at home*
14. **Alexander, Kimberly (G)** – *Improved adherence of B12 injections with education on self-administration*
15. **King, Anetrial (G)** – *Reducing congestive heart failure 30-day readmission*
16. **Burns, Kara (G)** – *Improving outcomes and quality of life in females with chronic pelvic pain*
17. **Cannon, Ashley (G)** – *Adjunct therapy for peripheral neuropathy*
18. **Clark, Kara (G)** – *Improving cardiac rehabilitation participation to decrease heart failure readmissions*
19. **Clausell, Sekeita (G)** – *Hypertension screenings*

20. **Criswell, Brandi (G)** – *Preventing nutrition disparities in patients with head and neck cancer*
21. **Fields, Dana (G)** – *Menstrual health education for middle school girls*
22. **Finkel, Angie (G)** – *Motivational interviewing to incur therapeutic lifestyle change in the overweight and obese*
23. **Freeman, Laura (G)** – *Getting active: protect the hearts of our community*
24. **Garnett, Kaylin (G)** – *Promoting breastfeeding in adolescent mothers*
25. **Hall, Ashely (G)** – *Improving heart failure readmission rates with telephone follow-up*
26. **Hammaker, Courtney (G)** – *Improving childhood obesity with educating nursing staff*
27. **Hobbs, Jennifer (G)** – *Implementation of diabetes referral distribution in the emergency department at discharge to facilitate education in this population*
28. **Knight, Amanda (G)** – *Reducing central venous catheter-related infections in outpatient hemodialysis clinics*

## Chemical Engineering

1. **Brazel, Morgan (G)** – *Understanding cardiac arrhythmias using 3D models of hiPSCs from control and Timothy Syndrome cell lines*
2. **Cullum, Richard (G)** – *Validation and implementation of screens for targeted melanoma drug discovery*
3. **Finklea, Ferdous (G)** – *Establishing an engineered tissue model to study the effects of alcohol on human heart development*
4. **Harris, Chelsea (G)** – *Targeting of GABA receptors using functionalized nanoparticles as a method of treating cancer-related pain*
5. **Bittner, Sean (UG)** – *Controlled release of antibiotic agents from PLGA/halloysite nanocomposites*
6. **Brontson, Fraser (UG)** – *Gallium-catalyzed aqueous epoxidation*
7. **McCormack, Kaylee (UG)** – *1-/Thia-3,4-Diazolidine-2,5-Dione (TDADH) Polymers*
8. **Pickering, Christina (UG)** – *Development of gold-lipidic nanocomposites for cancer improved chemotherapeutic delivery*

## Biomedical Sciences

1. **Buckley, Rachel (UG)** – *Genome editing in non-coding regions with CRISPR*
2. **Spina, Stephanie (UG)** – *Studying the noncoding genome, specifically microRNAs, to identify novel breast cancer genetic risk factors*
3. **Gurley, Bain (UG)** – *Effects of incubation temperature on hatching success and physical development in zebra finches*
4. **Matthews, Michael (UG)** – *TrKA activity is impaired in streptozotocin induced diabetes rat brain*
5. **Shepp, Kasey (UG)** – *Exploring genetic associations between hydroxy-carboxylic acid receptors and hereditary breast cancers*
6. **Fang, Han (G)** – *Effect of niacin on nonalcoholic fatty liver disease in adiponectin knockout mice: A pilot study*
7. **Barstow, Carla (G)** – *Diagnosis and treatment of a pregnant bitch with immune-mediated polyarthritis*
8. **Sajib, Abdul Mohin (G)** – *Evaluation of tumor specific promoters for use in conditionally replicating adenovirus mediated virotherapy of canine lymphoma*
9. **Meadows, Caroline (UG)** – *Motivation and motor-preparatory brain activity independently affect response time*



## Environmental Design and Community Planning

1. **Byrne, Brendan** (UG) – *Traffic impact analysis of augmented bicycle facilities on Auburn University's campus*
2. **Cowper, Emily** (UG) – *What the frack is in our water? What the frack is in my water?*
3. **Garcia, Max** (UG) – *Noise pollution impact in a local and global context*
4. **Rush, Charles** (UG) – *Are you gonna eat that? Global and national food waste*
5. **Hiware, Sagar** (G) – *Radical regenerative planning for the city of Montgomery*
6. **Kaaur, Jaspuneet** (G) – *One square mile study*

## Entomology

1. **Ajayi, Olufemi** (G) – *Nutritional ecology and its fitness impacts in Psephenidae species (Diptera: Phoridae), parasitoids of imported fire ants (Hymenoptera: Formicidae)*
2. **Chen, Zhou** (G) – *The immune gene expression and pyrethroid resistance in house flies *Musca domestica**
3. **Feng, Xuechun** (G) – *Roles of carboxyesterases in pyrethroid resistant house flies, *Musca domestica**
4. **Yang, Liu** (G) – *Foraging orientation, oviposition preference and development of kudzu bug, *Megacopta cribraria* (Hemiptera: Plataspidae) on six legume crops*
5. **Zeng, Yuan** (G) – *Novel constitutive and inducible antibacterial activities against multidrug resistant bacterial pathogens in the Eastern Subterranean Termite *Reticulitermes flavipes**

## Pharmacy

1. **Yooket, Pattanin** (G) – *Regulation of Thiamine Transporter SLC19A3 by HIF1 $\alpha$ : a possible potential therapeutic in heart failure*
2. **Setti, Sharay** (G) – *P301L tau expression exacerbates memory deficits and tau phosphorylation in the aged brain*
3. **Aldawsari, Mohammed** (G) – *Acyclovir nanogel formulation for human skin cadaver permeation enhancement*
4. **Alrbyawi, Hamad** (G) – *Short-chain ceramides for enhanced cytotoxicity of liposome-encapsulated Doxorubicin toward human breast cancer cells (MDA-MB231)*
5. **Eggert, Matthew** (G) – *The role of secretory phospholipase A2 isoforms and PLA2 receptor expression in modulating responsive liposome nanoparticle uptake and therapeutic efficacy within prostate cancer models*
6. **Lee, Yann-Huei** (G) – *Mathematical modeling of pharmacokinetic parameters for transdermal beta blockers*
7. **Alhowail, Ahmad** (G) – *Doxorubicin alters mechanisms of memory formation in ex vivo and in vivo models of Chemobrain*
8. **Brannen, Andrew** (G) – *Segmental 360° bioluminescent imaging using the Mouse Imaging Spinner (MiSpinner) shows potential for accurate monitoring of tumor development*
9. **Pinky, Priyanka** (G) – *Prenatal nicotine exposure and mechanism of memory loss in offspring*
10. **Zhang, Lingxin** (G) – *Identification of a biased agonist for P2Y2 receptor to suppress pro-thrombotic gene expression in human coronary artery endothelial cells*
11. **Alsaqr, Ahmed** (G) – *Evaluation of diacetyl boldine loaded microemulsion formulations for topical drug delivery: preparation, characterization, in vitro release and cytotoxicity studies*
12. **Huynh, Jennifer** (G) – *Evaluation of adherence to the American Diabetes Association standards of medical care in HIV-infected patients*

13. **Wong, Ryan** (G) – *Predicting vancomycin AUC<sub>24</sub> based on plasma concentrations: A simulated evaluation*
14. **AlAsmari, Abdullah** (G) – *Elucidating the cardioprotective role of HIF-1 $\alpha$ -frataxin signaling against ischemia-reperfusion injury*
15. **Alturki, Mansour** (G) – *LC-MS Based Approach to Characterize Non-Specific Binding Inhibitors to Mycobacterium tuberculosis Shikimate Kinase (MtSK)*

## Educational Foundations

1. **Slear, Susan** (G) – *A qualitative method to promote equivalency in distance learning*
2. **Lin, Xi** (G) – *A qualitative study of Chinese students' choice of the host university in the U.S. and their decisions to stay or leave the U.S. upon graduation*

## Audiology

1. **Gehring, Cydney** (G) – *Neonatal-intensive care unit parent education on hearing loss*

## Health Outcomes

1. **Hohmann, Lindsey** (G) – *The moderating power of impulsivity: a thorough literature review examining the theory of planned behavior*
2. **Hohmann, Natalie** (G) – *Medication dispensing error learning processes in U.S. community pharmacies: a systematic literature review as seen through the four frames model of organizational theory*

## Polymer, Industrial, and Mechanical Engineering

1. **Cook, Jonathan** (G) – *Synthesis of functionalized polyaniline as a conductive curing agent for epoxy resins*
2. **Li, Mei** (G) – *Polysaccharide blended films for cationic contaminant removal from water*
3. **Nautiyal, Amit** (G) – *Conducting polymer coating on carbon steel by electrochemical method*
4. **Derhami, Shahab** (G) – *A novel optimization approach for data mining: A medical diagnosis case*
5. **Granzow, Robert** (G) – *Full shift physical activity among reforestation hand planters*
6. **Liu, Yuzhe** (G) – *Rapid and sensitive detection of *Salmonella* Typhimurium on plastic food processing plate by using wireless biosensors*
7. **Zhou, Lang** (G) – *Electrochemical proximity assay of platelet-derived growth factor with a multi-parametric/multimodal spectroscopy apparatus and its mechanisms study*
8. **Ramezan pour, Bahareh** (G) – *Exact simulation of polarized light reflectance by particle deposits*
9. **Kim, Sungil** (UG) – *A cross correlation-based stock forecasting model*

# Oral Research Presentations Afternoon Session

## Student Center Meeting Rooms

### 1:00 p.m. – 1:45 p.m.

#### Room 2216 – Forestry and Wildlife Sciences

**Cole, Andrea (G)** – *Effect of growth rate on Amylostereum spp. fungus by terpenes*

**Celikbag, Yusuf (G)** – *The role of ethanol and temperature on hydroxyl and carbonyl groups in bio-oil produced by hydrothermal liquefaction of Loblolly Pine*

**Devkota, Pratima (G)** – *Varying tolerance of mature Loblolly Pine (Pinus Taeda L...) families to root infecting fungi*

#### Room 2218 – Tourism and Hospitality Management

**Chen, Han (G)** – *Cultural tourism: An analysis of engagement, cultural contact, memorable tourism experience and destination loyalty*

**Dillette, Alana (G)** – *Experiences of wellness through tourism: A content analysis of Tripadvisor reviews*

**Stephan, John (G)** – *Examining online consumer's intention to book hotel rooms*

#### Room 2222 – Chemical Engineering

**Saha, Partha (G)** – *Low temperature fabrication process of Microelectromechanical Systems (MEMS) from a renewable and biodegradable source with unique mechanical and optical properties*

**Whitener, Ricky (G)** – *Using nucleic acid aptamers to modulate specificity, binding, and quantity of drug for personalized treatment*

**Tilton, Skyler (UG)** – *3D printing embedded circuits*

#### Room 2225 – Humanities – English

**Williford, Carson (UG)** – *War damn Iron Bowl: Possible legend and legendary possibility in a house divided*

**Skjellum, Hannah (UG)** – *"His love was in the earth...his love was faraway feeding on the rain:" Other Voices, Other Rooms and mutable queer spaces*

**Shannon, Ian (UG)** – *Value in space: the importance of literary journals and printed material in a digital age*

#### Room 2227 – Materials and Mechanical Engineering

**Chanysheva, Alina (G)** – *Organophosphorus neurotoxin detection via electrochemical methods*

**Talebinezhad, Hossein (G)** – *Energy storage properties of BaTiO<sub>3</sub>-SiO<sub>2</sub> composites*

**Vahid Mohammadi, Armin (G)** – *Freestanding electrodes of interlayer expanded 2D Ti<sub>3</sub>C<sub>2</sub> (MXene) for high performance supercapacitors*

### 2:00 p.m. – 2:45 p.m.

#### Room 2216 – Forestry and Wildlife Sciences

**Poudel, Jagdish (G)** – *Trends in species conservation banking in the United States*

**Santiago, Rafael (G)** – *Coppicing evaluation in the southeast of the U.S. to determine harvesting methods*

**Majidzadeh, Hamed (G)** – *Soil carbon beneath impervious surfaces in urban environments*

#### Room 2218 – Chemistry and Drug Discovery

**Mitra, Nirmal Kumar (G)** – *Macrocyclic 1,4-Diketones to highly bent para-Phenylenes using a mild dehydrative aromatization protocol*

**Woodie, Lauren (G)** – *Characterization of recombination-activating gene 1 function in peripheral physiology and hippocampal synaptic plasticity*

#### Room 2222 – Chemical Engineering and Chemistry

**Head, Sara (UG)** – *Gelatin methacrylate and polyethylene glycol-fibrinogen as novel biomaterials to form functional 3D human cardiac tissues*

**Sloan, Authur (UG)** – *Single-Walled carbon nanotube dispersion in an complex microbiological medium*

**Lloyd, Carter (UG)** – *Incorporation of Nucleic Acid Aptamers in Silicone Hydrogel Contact Lens for Controlled Drug Delivery*

#### Room 2225 – Pathobiology and Animal Sciences

**Liao, Chao (G)** – *Establishment and validation of RNA-based predictive models for understanding survival and susceptibility of low-temperature adapted Vibrio parahaemolyticus in oysters*

**Farjana, Saiada (G)** – *Changes in avian infectious bronchitis virus (IBV) spike proteins associated with adaptation to chicken embryonic kidney (CEK) cells do not improve attachment*

#### Room 2227 – Industrial and Systems Engineering and Natural Resources

**Huangfu, Rong (G)** – *Quantifying stairwell evacuation times*

**Baltaci, Enis (G)** – *Assessment of Rain Barrels and Permeable Pavements as LID Practices on Urban Flooding*

**Damianidis, Damianos (G)** – *Evaluating a generic drought index as a tool to predict aflatoxin contamination in corn*

### 3:00 p.m. – 3:45 p.m.

#### Room 2216 – Fisheries

**Abass, Nermeen (G)** – *Genotype-environment interactions for survival and growth rate at varying salinity for channel catfish, albino catfish, and transgenic channel catfish by cDNA growth hormone (GH).*

**Abdelrahman, Hisham (G)** – *Water temperature as a possible cause of variations in performance of Pacific white shrimp Litopenaeus vannamei in inland ponds for low-salinity culture*

**Gratz, Steven (G)** – *Economic value of recreational fishing on reservoir and tailrace sections of Millers Ferry Reservoir, Alabama*

#### Room 2218 – Nutrition and Dietetics

**Hardin, Amie (G)** – *Diabetes self-management education and medical nutrition therapy for Type 2 diabetes mellitus improves patient outcomes: a retrospective chart review*

**Reece, Jami (UG)** – *Role of sugary water consumption in adipose gene expression*

**Kothari, Vishal (G)** – *High fat western diet leads to hyperphosphorylated tau and amyloid beta in mice brain*

#### Room 2225 – Drug Discovery

**Nie, Ben (G)** – *Evaluation of in vitro and in vivo intracellular uptake and degradation of sPLA2 responsive liposome in prostate cancer by LC-MS/MS*

**Chandler, Madison (G)** – *Breast cancer susceptibility gene panel screening using next generation sequencing technology in an African-American cohort in Alabama*

Hunsberger, Holly (G) – *Suppression of glutamate uptake mediates hippocampal hyperexcitability induced by peripheral viral challenge*

#### Room 2227 – Architecture and Urban Planning

Halepaska, Anna (UG) – *On void and volume as a reinterpretation of urban infill developments*

Page, Sarah (UG) – *Pedestrian access and experience*

Katsoulis, Abigail (UG) – *Archibet*

#### 4:00 p.m. – 4:45 p.m.

#### Room 2216 – Biosystems Engineering and Geosciences

Richard, Sarah (G) – *Quantification of polycyclic aromatic hydrocarbons in biochar*

Cross, Phillip (G) – *Chemical properties of lignin that effect tar formation during gasification of biomass*

Jahan, Shakura (G) – *Origin of petroleum in the Bengal Basin, Bangladesh*

#### Room 2218 – Nutrition and Dietetics

Luo, Yuwen (G) – *Metabolic phenotype and adipose and liver features in the high fat Western diet-induced mouse model of obesity-linked NAFLD*

Willis, Amy (G) – *Mediterranean diet intervention in obese men and women using both nutrition education and supplementation of extra virgin olive oil and mixed nuts.*

Zheng, Chen (G) – *TRAF6 leads to ubiquitination and activation of Akt*

#### Room 2222 – Education & Communication

Britton, Keely (G) – *Examination of mentoring mindsets of faculty (mentors) and graduate students (protégés/mentees): Mentoring framework exploratory study*

Seung-Bickley, Rebecca (G) – *Establishing credibility through conflict: An examination of anti-vaccination rhetoric*

Powell, Stephen (G) – *A mixed methods analysis of first graders' knowledge and misconceptions of agriculture*

#### Room 2225 – Pharmacology and Drug Discovery

Gossett, Heather (G) – *Comparison of acetaminophen administration to horses through a paste and nasogastric tube*

Porter, Haley (G) – *Physicochemical characterization of Nepafenac by Hydroxypropyl-Beta-Cyclodextrin Complex for ocular delivery*

## Afternoon Poster Session

### Student Center Ballroom

4:30 p.m. – 6:00 p.m.

#### Physics

1. Edmond, James (UG) – *Ion-momentum imaging of dissociative-electron-attachment dynamics in N<sub>2</sub>O and HCCH.*
2. Wang, Martin (UG) – *Computational Study of Electrostatically Tunable Band Offsets in MoS<sub>2</sub> Multilayers*

#### Nursing

1. Beverly, Kristen (G) – *Interactive fall prevention strategies*
2. McManus, McKenzie (G) – *Medication adherence for hypertension management*
3. Kohl, Catherine (G) – *Evidence based strategies for diet and exercise compliance in Type 2 diabetes mellitus*
4. Lee, Alysia (G) – *Cardiovascular disease in women*
5. McCullough, Ruth (G) – *Improved management of hypertension with scheduled follow-up upon discharge from the emergency department*
6. McDonald, Tara (G) – *Increasing adherence to antihypertensive medications in hypertensive patients*
7. McFarland, Trevor (G) – *Anticoagulation selection and monitoring in patients with atrial fibrillation*
8. McLean, Ashley (G) – *Do vitamins work for decreasing blood pressure in women?*
9. Mollus, Tara (G) – *Compassion fatigue screening in oncology nurses*
10. Moore, Alisha (G) – *Diabetes education in Hispanic patients*
11. Newman, Tina (G) – *Improving vaccination for Human Papillomavirus through parental education*
12. Popwell, Candy (G) – *Interventions to reduce readmissions and mortality in patients with COPD*
13. Richardson, Brooke (G) – *Urinary tract infections: prevention and management*
14. Root, Michelle (G) – *Bydureon (exenatide QW) in Type 2 diabetes mellitus*
15. Sparks, Minju (G) – *Healthy heart lifestyle intervention for women at high risk and/or diagnosed coronary heart disease*
16. Spencer, Robin (G) – *Improving health literacy in type II diabetic patients*
17. Stacey, Melanie (G) – *Adolescent restraint and seclusion educational process improvement initiative*
18. Stokes, Stacie (G) – *Sexually transmitted disease education for college students*
19. Williams, Christalyn (G) – *Distress screening in adult oncology*
20. Williams, Candy (G) – *Heart failure readmission prevention*
21. Woodfin, Elizabeth (G) – *Comprehensive screening for suspected hypothyroidism*
22. Young, April (G) – *Evidence based practice for an asthma action plan*
23. Dean, Terrica (G) – *Group-based medical visits in Type 2 diabetes patients*
24. Kilcullen, Evangeline (G) – *Medication reconciliation: the journey home*
25. Hardy, Amanda (G) – *Education toward hypertension control*
26. McCollough, Samantha (G) – *Increased medication education regarding anticoagulants among elderly patients*
27. Plake, Becca (G) – *Eating disorder education in the female college-aged population*



## Biosystems Engineering

1. **Li, Jing** (G) – *Detoxification of softwood hydrolysate for butanol production by Clostridium acetobutylicum ATCC 824*
2. **Loxley, Thomas** (G) – *Comparing loblolly pine growth allometry with chemical and physical properties*
3. **Rains, John** ((G)) – *Pathogen removal in algal turf scrubber*
4. **Shakya, Rajdeep** (G) – *Upgrading of bio-crude obtained from hydrothermal liquefaction of algae*
5. **Shrestha, Anshu** (G) – *Bench scale analysis of off-gas emissions from stored loblolly pine grinds*
6. **Copley, Kirk** (UG) – *Standardization of agriculture production budget models using python*
7. **Ashmore, John** (UG) – *Gasification of Douglas Fir: Effect of particle size and crumble vs hammer milled particles*
8. **Granger, Craig** (UG) – *Behavior of bark from short rotation woody crops*
9. **Haber, Holly** (UG) – *Superabsorbent polymers from renewable resources*
10. **Iskandar, Jeffry** (UG) – *Production of bio-oil by hydrothermal liquefaction of algae*
11. **King, Ben** (UG) – *Flow characteristics of woody biomass grinds and crumbles*

## Chemical Engineering

1. **Mondal, Animesh** (G) – *Spray deposition of Cu<sub>2</sub>ZnSnS<sub>4</sub> (CZTS) for cost-effective and non-toxic photoelectrodes*
2. **Tian, Yuan** (G) – *Endothelial progenitor cell encapsulated in poly(ethylene glycol)-fibrinogen hydrogels for injectable delivery of cells and neovascularization*
3. **Zhao, Rong** (G) – *Solar-driven waste-to-fuels in a hybrid photoelectrochemical reactor*
4. **Paul, Kyle** (UG) – *Examining cell viability in relation to PEG length and silica nanoparticle size*
5. **Windham, Katherine** (UG) – *Engineering nucleic acid aptamers responsive to physiological conditions creating controlled drug delivery platforms*

## Chemistry and Biochemistry

1. **West, Maya** (G) – *Uranyl sensing using Quinoxalinol Salen-based ligand*
2. **Njuma, Olive** (G) – *Radical mechanisms for Catalase-Peroxidase (KatG) activity, inactivation, and restoration*
3. **Eddy, Madeleine** (UG) – *Characterization of Salen ligand complexes for application in Uranyl sensing*
4. **Farmer, Taylor** (UG) – *Exploring a new cascade reaction, a key step in the synthesis of a polyol*
5. **Ward, Meghan** (UG) – *Exploring zinc compounds as potential anti-oxidant pharmaceuticals*

## Biomedical Sciences

1. **Young, Taylor** (UG) – *PPAR-gamma activation helps clear insulin induced amyloid beta*
2. **Jarrard, Madison** (UG) – *Characterization of Mycobacterium tuberculosis Shikimate Kinase inhibitor*
3. **Hubbard, Caroline** (UG) – *The effects of macronutrients in inducing satiety via Peptide YY*
4. **Johnson, Nate** (UG) – *Molecular mechanism of doxorubicin-induced memory dysfunction*

## Architecture and Design

1. **Sokienah, Yaman** (G) – *General hospital for low-income community*
2. **Li, Jingting** (G) – *Sunny days & rainy days: strengthen neighborhood culture through nature-based organic design*
3. **Wu, Hao** (G) – *Process-based design within the post-industrial model*
4. **Lima, Livia** (G) – *Crafting a new urban core for the peninsula of Mobile, AL*
5. **Bailey, Vaughn** (UG) – *Women's and children's specialized hospital*
6. **Barrows, Emily** (UG) – *Children's of Ochsner Health System*
7. **Dessert, AJ** (UG) – *Pediatric trauma and disease control center*
8. **Lauren, Thomas** (UG) – *Hospital Saint Paul de Tarsa*
9. **Owens, Taylor** (UG) – *Biomimicry within the women and children's healthcare center*
10. **Ridgeway, Molly** (UG) – *Sao Paolo Women and Children's Healing*
11. **Slade, Abbie** (UG) – *Auckland City Women and Children's Hospital*
12. **Williams, Haley** (UG) – *Bayside Hospital: Women and Children's Healthcare of Auckland*
13. **Bowen, Ryan** (UG) – *Generation of new landscape forms through mold making, digital, and mixed media experimentation*
14. **Collier, Caroline** (UG) – *Ethereal militia*
15. **Criminale, George** (UG) – *Interior artifacts*

## Kinesiology

1. **Gascon, Sarah** (G) – *Effects of fatigue on throwing kinematics among NCAA division I softball athletes*
2. **Javage, Erika** (G) – *The effect of an alternative lacing strategy on gait parameters*
3. **Dyke, Ford** (G) – *Does a single bout of 'green exercise' facilitate engagement in future exercise behavior? A one-year follow-up pilot study*
4. **Nabity, Chloe** (G) – *Influence of sock type on gait parameters*
5. **Grand, Kirk** (G) – *Why self-controlled feedback enhances motor learning: Answers from electroencephalography and indices of motivation*
6. **Meadows, Caroline** (UG) – *Motivation and motor-preparatory brain activity independently affect response time*

## Geosciences, Forestry, Environmental, and Natural Resources

1. **Bowen, Trae** (G) – *An impervious surface analysis of the locust watershed located in Birmingham, AL*
2. **Torres, Jose** (G) – *Detecting a subsurface smoldering event using Landsat thermal imaging: Bridgeton landfill case study*
3. **Da Cunha, Jose** (G) – *Sensor-based irrigation scheduling can help corn growers to increase profitability and environmental stewardship*
4. **Bartholomew, Megan** (G) – *Long term vegetation response to hydrologic recovery in isolated cypress domes of west-central Florida*
5. **Zhang, Bowen** (G) – *Net exchange of CH<sub>4</sub> fluxes between terrestrial ecosystem and atmosphere in the Arctic-Boreal Region under future climate change scenarios*
6. **Essien, Charles** (G) – *Assessing the sensitivity of acoustic tools to the effect of moisture content in estimating acoustic velocity and modulus of elasticity of loblolly pine (Pinus taeda)*
7. **Lamb, Avery** (UG) – *Plant growth and physiology of rain garden plants in two soil types*

8. **Kindgren, Kelly** (UG) – *Detrital zircon age populations from the Moine Supergroup, Scotland, and their implications for tectonic evolution*

## Nutrition, Hospitality Management, and Human Development and Family Science

1. **Khelifat, Aahed** (G) – *Identifying first-time American hospitality managers motivations in accepting overseas assignments*
2. **Hlavaty, Kathleen** (G) – *Differentiating exposure to coercive controlling violence: A mixed methods study*
3. **Saini, Ekjyot** (G) – *Neighbourhood social fragmentation associations with objective sleep among women*
4. **Li, Yueru** (G) – *The protective effect of stearidonic acid (SDA) on amyloid $\beta$ 40-induced neurotoxicity in H19-7 hippocampal cells.*
5. **Qi, Yijing** (G) – *Blood glucose concentrations are not increased by chronic IP Glucagon administration in Leptin-Treated Type 1 diabetic rats*
6. **Rege, Shraddha** (G) – *Resveratrol provides neuroprotection against oxidative damage and memory loss*
7. **Bottcher, Mary** (G) – *Nutrition knowledge and Mediterranean diet adherence: Validation of a field based survey instrument*
8. **Cave, Carlie** (UG) – *The role of anxious attachment on multiple domains of functioning following couple and relationship education participation*
9. **Hermes, Carolyn** (UG) – *Predictors of preschoolers' prosocial behavior during dyadic peer conflict*

## Engineering and Building Science

1. **Mathews, Justin** (UG) – *Development of a return on investment framework for building information technology implementation by developers*
2. **Kim, Sungil** (UG) – *Ultra-low power subthreshold circuit design and optimization*
3. **Thorton, John**(UG) – *The mobile tool for music appreciation students*
4. **White, James** (G) – *The impact of change orders on construction projects at Auburn University*
5. **Wang, Jin** (G) – *Effects of median widths on wrong-way incidents on multilane divided highways*
6. **Xie, Zhaoxing** (G) – *Effect of recycling agent on performance of high RAP and RAS mixtures: field and lab experiments*
7. **Wolert, Patryk** (G) – *Permit load model of a flat slab bridge*
8. **Wang, Shiqiang** (G) – *Gamma-ray irradiation effects and temperature-dependent density of state analysis of Sol-Gel derived ZnO thin-film transistors I-V characteristics*
9. **Kilari, Harika** (G) – *Thermal-aware task scheduling in Linux kernel*
10. **Holt, Allison** (G) – *Visual cryptography tool for colorful images*
11. **Thorn, Caitlin** (G) – *Optimization of a turboramjet hot section with an interstage turbine burner*

## Psychology

1. **Arnold, Megan** (G) – *Strain and baseline-dependent effects of scopolamine on operant variations*
2. **Busler, Jessica** (G) – *Cultural differences in emotion processing: A BrainMap meta-analysis*
3. **Harris, AuBriauna** (UG) – *Examining the moderation effect of work overload on role-conflict and burnout*
4. **Paneerselvam, Bavani** (G) – *Effects of framing on JOLs and learning choices*

5. **Williams, Caitlin** (G) – *An exploratory factor analysis of the stigma of suicide scale-short form*
6. **Sauer, R. Alexander** (G) – *Methylmercury exposure in adolescence saturates memory and enhances psychomotor responding in mice*
7. **Kirby, Lauren** (G) – *Preliminary materials toward a Library of Affective Films (LAF): Standardization and psychophysiological validation*
8. **Britton, Erica** (UG) – *Antecedents and mediators of personal growth initiative: Work-role ambiguity and interpersonal conflict in the workplace*
9. **Dieujuste, Nathalie** (UG) – *Support for the utility of a seven-factor hybrid model of PTSD*
10. **Kirkland, Anna** (UG) – *Ultra high field, high-resolution functional neuroimaging in adolescents*
11. **Stevenson, Sarah** (UG) – *Physiological and psychological effects of music*

## Social Science and Political Science

1. **Good, AJ** (G) – *Predicting state budget policy: State political factors influencing higher education funding*
2. **Nelson, Steven** (G) – *Fuelling the boom or smothering it? Examining fracking policy differences across the States*
3. **Lingerfelt, Beth** (UG) – *A lady's table*
4. **Pattillo, Tiffany** (UG) – *Second thoughts about the Second Amendment*
5. **Robinson, Matthew** (UG) – *My everyday hero*

## Biology and Animal Sciences

1. **Willhelm, Gabrielle** (UG) – *Investigating a novel technique for tribological analysis of equine articular cartilage under sustained constant force and a migrating contact area*
2. **Robinson, Anna** (UG) – *Irradiance and clownfish sea anemones: Aspects of tentacle morphology and physiology*
3. **O'Connor, Mallory** (UG) – *Prodigiosin pigment of *Serratia marcescens* bacteria controls energy and biomass production*
4. **Sahinoglu, Hakan** (UG) – *Screening of soil microbial isolates for antibiotic activity*
5. **Segars, Jonathon** (UG) – *The physiological effects of *Triadica sebifera* on *Rhinella marina**
6. **Yeo, Yoonsoo** (UG)– *Simultaneous saccharification and fermentation of switchgrass and waste paper to bioethanol*
7. **Smith, Gayle** (UG) – *Spes, please: A screen for new spermatogenesis defective mutants in the nematode *C. elegans**
8. **Welling, Emily** (UG) – *Evaluating the relationship between energy expenditure and oxidative damage in the house finch, *Haemorrhous mexicanus**
9. **Boling, Anna** (UG) – *Population dynamics of murine spleenocytes as a function of age*
10. **Muller, Reka** (UG) – *Identification and characterization of Glanzmann Thrombasthenia in two closely related beagle-mix dogs*
11. **Dinan, Maude** (UG) – *Investing environmental literacy: determining the relationship between socio-demographic factors and bird identification ability*
12. **Holland, Victoria** (UG) – *Effect of incubational egg turning rate on gut development in the chick, gut morphology, and developmental biomarkers*
13. **Rankins, Seth** (UG) – *Effects of seasonal variation between sexes visiting baited camera sites on population estimates of deer*

## NOTES:



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