

Schedule of Events – Auburn Research: Student Symposium 2019
April 9th
Auburn University Student Center

Judges Reporting

Level 2 – 2310

7:30 a.m.

Continental Breakfast (Level 2 - beside rooms 2222 and 2223)
Registration (7:30 am – 3:00 pm - Level 2 at entrance near room 2227;
3:00 pm – 5:00 pm - outside Level 3 Ballroom)

8:00 a.m. – 12:00 p.m.

Oral Paper Sessions

(Level 2 - rooms 2216, 2218, 2222, 2223, 2225, 2227, 2326)

9:30 a.m. – 11:00 a.m.

Poster Session I

(Level 3 - Ballroom)

12:00 noon – 1:30 p.m.

Poster Session II

Networking Lunch

(Level 3 - Ballroom)

1:00 p.m. – 4:00 p.m.

Oral Paper Sessions

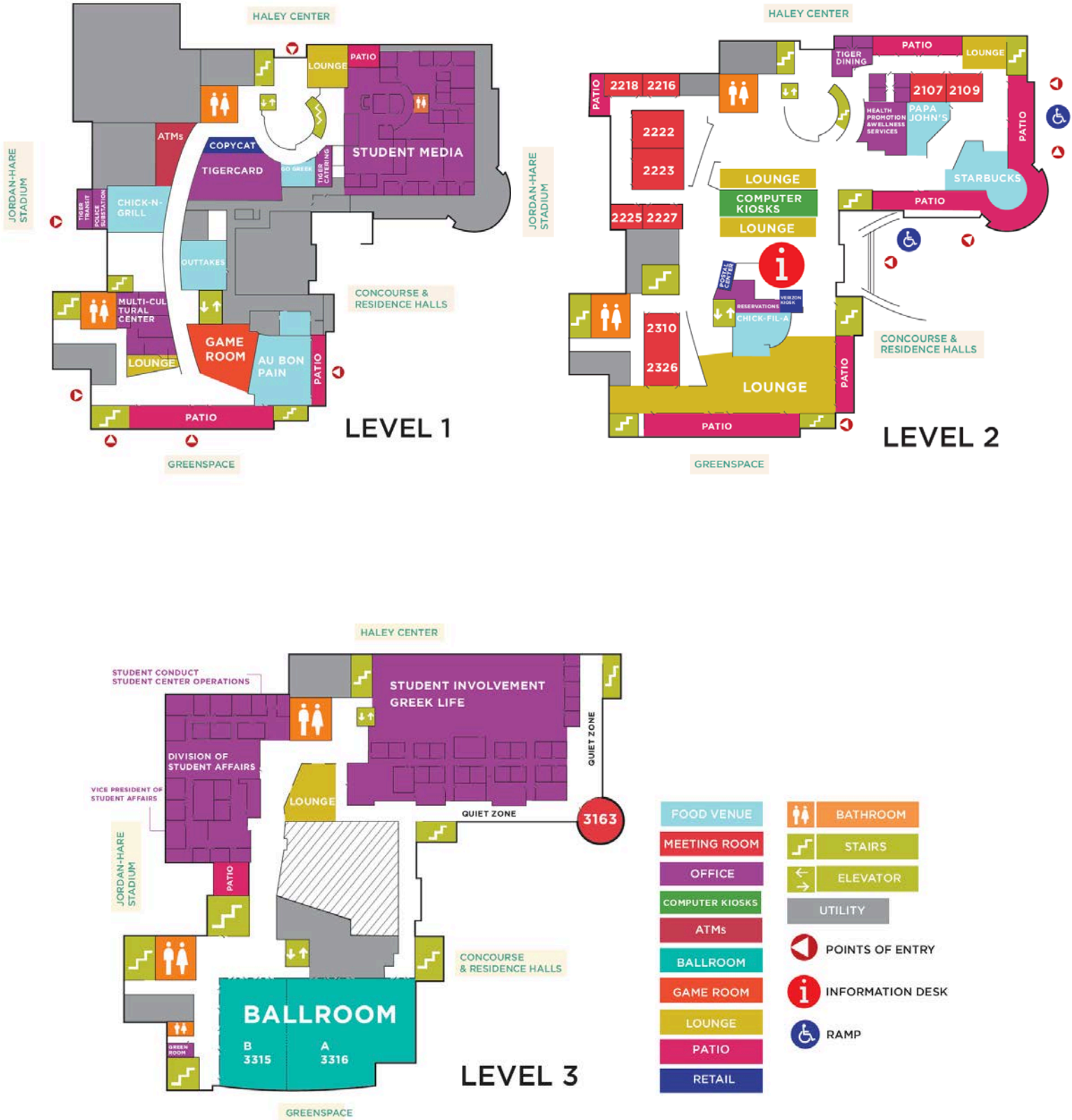
(Level 2 - rooms 2216, 2218, 2222, 2223, 2225, 2227, 2326)

3:30 p.m. – 5:00 p.m.

Poster Session III

(Level 3 - Ballroom)

Map of Auburn University Student Center



Oral Research Presentations – Morning Session

Student Center Meeting Rooms

8:00 – 8:50 a.m.

Room 2216 – Education/ Hospitality

- **Shi, Yuewei (G)** – A memoryless walk: The forecast of women faculty movement based on the Markov chain model
- **Colquhoun, Shane (G)** – A survey of in-service music teacher preparedness for teaching non-traditional music courses and ensembles in secondary-level schools
- **Diamond, Sarah Elizabeth (G)** – Technology innovative and integration in career and technical education classrooms
- **Bernard, Shaniel (G)** – Personal values and their impact on HospiQuality and customer satisfaction

Room 2218 – Biomedical Sciences

- **Fang, Han (G)** – Differential effects of high-fat diet and niacin on nonalcoholic fatty liver disease in C57BL/6J and B6129SF2/J mice: A metabolomic analysis
- **Gross, Amanda (G)** – Intravenous delivery of AAV gene therapy in GM1 gangliosidosis
- **Maguire, Anne (G)** – Current image analysis techniques to quantify adipocyte area
- **Daniel, Jeff (G)** – Characterization and expression of *ANKEF1A/B* in the developing and adult zebrafish (*Danio rerio*)

Room 2222 – Chemical Engineering

- **Minkler, Michael (G)** – Effect of 3-position functional groups on GRIM-synthesized polythiophene reactivity ratios and resulting regiochemistry
- **Dobyns, Breanna (G)** – *In-situ* analysis of the fundamental transport of single- and multi-component systems through polymeric membranes
- **Karimi, Zahra (G)** – Investigating the effect of surface energy of the substrate on attached algal growth
- **Avvari, Rithvija (G)** – Spiroid design optimization in a rotating continuous bioreactor for enhanced oxygen transfer

Room 2225 – Nutrition/ Drug Discovery

- **Woodie, Lauren (G)** – Memories of rhythms past: Evidence for hippocampal core clock disruptions in a murine model of Western diet-induced obesity
- **Ahmed, Bulbul (G)** – Development of an *in vitro* model of obesity-linked colorectal cancer using PDX 3D tumors and insulin resistant adipocytes
- **Setti, Sharay (G)** – Effect of LEC-specific P301L Tau on synaptic transmission and learning and memory
- **Terry, Kara (G)** – Extension empowers Alabama youth and parents to eat better and move more

Room 2227 – Forestry and Wildlife Sciences

- **Chalkowski, Kayleigh (G)** – Spatial epidemiology of *Toxoplasma gondii* infection risk in sentinel feral chickens (*Gallus gallus*) in Kauai, Hawaii
- **McKenzie, Benjamin (G)** – Mosquito surveillance in Alabama highlights regions of arboviral risk
- **Stiles, James (G)** – Efficacy of fire in restoring Chinese privet degraded bottomlands

- **Asafu-Adjaye, Osei (G)** – Bio-oil based wood composite

Room 2223 – Architecture, Planning, & Landscape

- **Ferguson, Katherine (UG)** – Rural studio breathing wall mass timber research
- **Hadley, Carter (UG)** – Elements of incremental architecture and their applications in a broader context
- **Cawthorn, Kristan (UG)** – Royal residence: The architecture of the affluence

Room 2326 – Drug Discovery

- **Srinivasa, Sriraja (G)** – A CXCR3 antagonist ameliorates the hippocampal hyperexcitability and impaired synaptic transmission induced by viral challenge
- **Ramesh, Sindhu (G)** – Atorvastatin attenuates lysophosphatidic acid (LPA)-induced tau hyperphosphorylation through inhibition of p38 MAPK pathway
- **Lucas, Lauren (G)** – Mutations in ERBB4 may account for clinical resistance of melanomas to inhibitors of the RAS/RAF/MEK/MAPK pathway
- **Chen, Wu (G)** – Disulfiram copper nanoparticles prepared with a stabilized metal ion ligand complex method for treating drug-resistant prostate cancers

9:00 – 9:50 a.m.

Room 2216 – Computer Science and Software

- **Alcorn, Michael (G)** – Strike (with) a pose: Neural networks are easily fooled by strange poses of familiar objects
- **Wang, Ye (G)** – A phylogeny-regularized convolutional neural network for microbiome-based prediction
- **Cao, Ting (G)** – Reconstruction of big data in parallel storage systems

Room 2218 – Forestry and Wildlife Sciences

- **Mensah, John (G)** – Growth Response of Loblolly Pine to *Leptographium terebrantis*
- **Custodio Mendonca, Caren (G)** – Experimental throughfall reduction increases water use efficiency in longleaf pine
- **Ahl, Jessica (G)** – Insect diversity in a loblolly pine stand infected with *Leptographium terebrantis*
- **Oladipupo, Seun (G)** – Toxicity profiles of aromatic and aliphatic essential oil component against strains of German cockroach, *Blattella germanica*

Room 2222 – Chemical Engineering

- **Kim, Jihyuk (UG)** – Poly(3-methoxythiophene) a novel polyalkoxythiophene synthesized using Grignard Metathesis polymerization
- **Rodriguez, Marisa (UG)** – Analyzing the effects of surface energy on algae with specialized attachment mechanisms
- **Bush, Michaela (UG)** – Developing MATLAB code for analysis of engineered cardiac tissue
- **Bradley, Gabrielle (UG)** – Investigating LAP-initiated photocrosslinking for the formation of engineered cardiac tissue

Room 2225 – Fisheries/ Aquaculture

- **Galkanda Arachchige, Harsha (G)** – Efficacy of alternative salt mixture to grow Pacific White Shrimps (*Litopenaeus vannamei*)
- **Guo, Jingping (G)** – Use of plant-based protein concentrates as replacement for fishmeal in practical diets for the Pacific white shrimp (*Litopenaeus vannamei*) reared under high stocking density and low salinity conditions
- **Dutton, Haley (G)** – A new lineage of turtle blood fluke (Digenea: Schistosomatoidea) from the six-tubercled Amazon River turtle (Podocnemididae) in South America (Peru, Amazon River Basin)

Room 2227– Mechanical Engineering

- **Dastranjy Nezhadfar, Pooriya (G)** – Fatigue behavior of additively manufactured 17-4 PH stainless steel
- **Lee, Seungjong (G)** – Influence of part location and direction on surface roughness and the resulting crack initiation behavior in additive manufacturing
- **Shrestha, Rakish (G)** – Investigation into property-performance relationships for laser-powder bed fusion additive manufacturing
- **Soltani-Tehrani, Arash(G)** – Additive manufactured lattice structures: A viable solution for bone implants

Room 2223 – Pharmacy

- **Al Rihani, Sweilem (G)** – mTOR inhibition protects the blood-brain barrier in two mouse models of Alzheimer's disease
- **Alghenaim, Fada (G)** – Investigate the effect of aging on oxidative stress and mitochondrial functions in male *Capra aegagrus hircus* reproductive system
- **Majrashi, Mohammed (G)** – *Centella asiatica* extract exhibit anti-oxidative stress effect in neuronal cells and improves synaptic plasticity
- **Poudel, Nabin (G)** – Methodological variations among health state valuation studies using eq-5d-5l: A systematic review

Room 2326 – Biology/Biochemistry

- **Eastwold, Martin (UG)** – Investigating the role of insulin resistant adipocytes in the proliferation of cancer cells
- **Grundhoefer, John (UG)** – Synthesis and characterization of transition metal complexes for antimicrobial application
- **Rangari, Shivani (UG)** – Acyclovir gel for enhanced transdermal drug delivery
- **Westerfield, Matthew (UG)** – An *in vitro* assay of novel antimicrobial compounds and chloramphenicol derivatives

10:00 – 10:50 a.m.

Room 2216 – Biological Sciences

- **Lubor, Samuel (UG)** – Starvation reduces mitochondrial function in the monarch butterfly
- **Schwartz, Jack (UG)** – Neurotropic effect of β -hydroxybutyric acid
- **Taylor, Hannah (UG)** – Recombination rate plasticity in *Drosophila pseudoobscura*

Room 2218 – Kinesiology

- **Bacelar, Mariane (G)** – Does lower energy expenditure increase reward-related cortical/brain activity and reward pursuit?

- **Brittain, Abby (UG)** – Psychological states, injury, and functional movement within collegiate students: A relationship analysis
- **Maheu, Arlene (UG)** – The effects of ‘Green Exercise’ on cognitive functioning in healthy young adults
- **Phan, Johann (UG)** – The relationship between athlete anthropometrics and hitting performance

Room 2222 – Computer Science and Software

- **Peng, Xiaopu (G)** – Towards large-scale energy-efficient data centers
- **Zhang, Chaowei (G)** – A real-time fake news detection system
- **Mao, Jianzhou (G)** – A power-aware management strategy using DVFS and virtual machines live migration
- **Bahtattacharya, Sutanu (G)** – Does contact information powered by deep learning boost protein threading?

Room 2225 – Health Outcomes

- **Hastings, Tessa (G)** – Immunization registry implementation in community pharmacy: A qualitative study using the Consolidated Framework for Implementation Research (CFIR)
- **Hohmann, Natalie (G)** – Patient preferences for features of community-based fall prevention programs: a systematic literature review and qualitative meta-synthesis
- **Allison, Lauren (UG)** – Vocal dose for rhythm-based indoor cycling instructors: with and without amplification

Room 2227 – Crop, Soil, and Environmental

- **Schillerberg, Tayler (G)** – Evaluating impacts from large-scale climate circulations on crop failure risks in the United States using a Bayesian approach
- **Medina, Hanoi (G)** – Harnessing big data for in-season maize yield forecasting: A machine learning based framework
- **Lesinger, Kyle (G)** – How will climate change influence storage conditions for major agricultural commodities in the United States?

Room 2223 – Biosystems/Chemical Engineering

- **Wang, Qichen (G)** – Improved the growth of microalgae in pretreated anaerobic digestate by activated sludge
- **Peng, Haixin (G)** – Effects of *Azospirillum brasilense* on microalgae UTEX 2714 and biofuel production
- **Hamade, Fatima (G)** – Dispersion microstructure effects on the electrochemical properties of graphene/manganese oxide cryogels
- **Madhuri Nori, Uma (G)** – Synthesis of unique surface functionalized cellulose nanocrystals and their applications in cancer cell detection

Room 2326 – Civil Engineering

- **Steinwinder, Jeffrey (G)** – Pore network modeling study of effect of mineral reaction propagation on porosity-permeability evolution
- **Ajede, Akeem (G)** – A review of acceptance schedule of payment for asphalt pavements in Alabama
- **Nakhaei, Mostafa (G)** – A novel approach for determining the low performance grade of asphalt binders
- **Viticoski, Roger (G)** – A bioremediation approach for perfluoroalkyl substances (PFAS)

11:00 a.m. – 11:50 a.m.

Room 2216 – Polymer and Fiber Engineering

- **Joshi, Prutha (G)** – Synthesis and characterization of photopolymerizable hydrogels based on poly (ethylene glycol) for biomedical applications
- **Wang, Yuyang (G)** – Preparation of printable electroactive soft robotics actuators
- **Bansode, Archana (G)** – Physico-chemical characterization of lignins from different sources for synthesis of lignin based epoxy resin
- **Alizadeh, Nima (G)** – Novel acrylic-polyurethane based graft-interpenetrating polymer networks for transparent application

Room 2218 – NO PRESENTATIONS

Room 2222 – Health Outcomes

- **Hohmann, Lindsey (G)** – Empowering community pharmacists to prevent opioid overdose deaths: a qualitative study exploring pharmacists' needs, attitudes, barriers, and implementation strategies regarding pharmacy-based naloxone services
- **Marberry, Katie (G)** – Role of mountaintop removal mining in the opioid crisis
- **Yanes, Julio (G)** – Pressure-based pain tolerance and cannabis: A neuropsychological assessment of pain processing in recreational cannabis users
- **Huo, Nan (G)** – Trends and factors associated with asthma among U.S. prostate cancer patients in 2007-2014

Room 2225 – Plant Pathology/ Agriculture

- **Liyanapathirana, Prabha (G)** – Role of type VI secretion system in latent infection of plant pathogens
- **Pokhrel, Ambika (G)** – Transcriptomic analysis to identify candidate genes conferring gossypol tolerance in *Fusarium oxysporum* f. sp. *vasinfectum*
- **Bhandari, Rishi (G)** – Copper bactericides; spray or not to spray!
- **Murphy, Justin (G)** – Design of a model for the experimental testing of the effects of sound waves on plant growth in an alternative agricultural system

Room 2227 – Chemistry/Biochemistry

- **Ariyathna, Isuru (G)** – Aufbau rules for solvated electron precursors: The case of $\text{Li}(\text{NH}_3)_4$ and $\text{Na}(\text{NH}_3)_4$
- **Combs (Bredar), Alexandria (G)** – Evidence and influence of copper vacancies in p-Type CuGaO_2 mesoporous films
- **Alturki, Mansour (G)** – Design and synthesis of selective DNA minor groove alkylators against cancer
- **Buckhannon, Laquandra (UG)** – Cloning, expression and purification of human mitochondrial molecular chaperone Tid1

Room 2223 – Mechanical/ Software Engineering

- **Tucker, Alexander (UG)** – Modulus and damping as a function of temperature tested through natural frequency of a cantilever beam
- **Jenkins, Katelyn (UG)** – The biomechanical effect of body-borne loads on airborne soldiers
- **McGehee, Andrew (UG)** – PolyFold: Augmenting human intuition with machine learning to solve protein folding

Room 2326 – Poultry Science

- **Rueda, Martha (G)** – Effect of conditioning temperature on productive and processing performance, and nutrient digestibility of broilers
- **Carrisoza, Miranda (G)**– Prevalence of parasitic microorganisms in backyard chicken flocks in Alabama
- **Boyal, Ranjit (G)** – Influence of broiler chicken stunning method on carcass blood loss
- **Lawley, Ella (UG)**- Peroxyacetic acid applied following broiler chicken feather removal minimizes pathogen levels during processing

Poster Session I

Student Center Ballrooms

9:30 a.m. – 11:00 a.m.

Aerospace Engineering (Section A)

1. **Kim, Yaeji (G)** – Assessment of resurfacing process on (99942) Apophis during the 2029 Earth flyby
2. **Tiwari, Bipin (G)** – Effect of different inlet velocity profiles on patient-specific CFD simulations of healthy trachea
3. **Kelly, Dustin (G)** – A plenoptic multi-spectral pyrometer for high temperature applications
4. **Davis, Alexander (G)** – Development of a moving window molecular dynamics framework to model shock wave interactions at microstructural features in materials
5. **Swiney, Paul (G)** – Development and validation of metal 3D-printed helium-filled soap bubble system
6. **Gururaj, Abbishek (G)** – Rotating volumetric velocimetry for rotor flows

Biosystems Engineering (Section B)

1. **Sangha, Laljeet (G)** – Development of an ENSO based approach to rainwater harvesting for irrigation
2. **Patil, Vivek (G)** – Sustainable fuels with recycling: Co-pyrolysis of plastics and lignin with locally sourced red-clay catalyst
3. **Karki, Ritesh (G)** – Multi-variable sensitivity analysis, calibration, and validation of a field-scale SWAT model: A case study in south central Georgia
4. **Liu, Meizhu (G)** – Effects of toxicity and structural alterations caused by Perfluorinated Alkyl Acids (PFAAs) on the microalgae *Scenedesmus obliquus* UTEX 393

Chemical Engineering (Section C)

1. **Sarwar, Shatila (G)** – Microwave-initiated manufacturing of MoS₂/graphene catalyst for enhanced hydrogen evolution reaction
2. **Hassani, Iman (G)** – A novel obesity-mimetic engineered tumor model of colorectal cancer
3. **Chauhan, Varun (G)** – AUBIE: A novel approach for the computational de-novo design of antibody structures and alternative scaffolds
4. **Bhattacharya, Ritankar (G)** – Engineering antibodies and antibody-like scaffolds using AUBIE (Algorithm for Ultra-rapid Binding Interaction Engineering)
5. **Islam, Sumaiya (G)** – Identifying individuals' comprehensive epitope repertoire
6. **Sultana, Nayer (G)** – Controlling particle size of silica nanoparticles by Stöber process for colon cancer targeting application
7. **Aloba, Sulihat (G)** – Cellulose nanocrystal-based MEMS sensors for potential applications
8. **Habbit, Nicole (G)** – Prostate tumor-on-a-chip model for *in vitro* recapitulation of the native tumor microenvironment and implementation in pre-clinical drug testing
9. **Parkhi, Amod (G)** – Innovative water recycle strategies for reducing water and energy use in pulp and paper industry

Materials/ Polymer Engineering (Section D)

1. **Yang, Wen (G)** – Nanoplasmon ruler for visualizing how cells “talk”
2. **Cai, Yuxin (G)** – Magnet patterned superparamagnetic Fe₃O₄/Au core-shell nanoplasmonic sensing array for label-free high throughput cytokine immunoassay
3. **MacLachlan, Alana (G)** – Optimization of a novel phage filter for pathogens testing from large volumes of water
4. **Shelke, Shreyas (G)** – Microcapsule based self-healing for 3D printed polymer composites
5. **Du, Haishun (G)** – Water-resistant, transparent, conductive cellulose nanopaper with tunable ultraviolet blocking ability for flexible electronics
6. **Zhang, Miaomiao (G)** – CeO₂/PPy nanocomposites with high performance as electrode materials for supercapacitor

Drug Discovery/ Pharmaceuticals (Section E)

1. **Darakjian, Lucy (G)** – Utilization of FEPPA as a marker for microglial activation
2. **Alrbyawi, Hamad (G)** – Rapidly dissolving polymeric microneedles for intraocular delivery of Cyclosporine A
3. **Hamby, Allis (G)** – Molecular mechanisms involved in the chemotherapy-induced cognitive impairment: designing effective neuroprotective strategies
4. **Hoffman, Grace (G)** – Extra virgin olive oil as a medical food enhances donepezil effect against Alzheimer's disease
5. **Zhang, Yilue (G)** – LC-MS-based chemical characterization of constituents of methanol açai extract and metabolites obtained from an *in vitro* intestinal first-pass metabolism study
6. **Almalki, Ahmad (G)** – GC-MS Analysis of Regioisomeric Substituted N-Benzyl-4-Bromo-2,5-Dimethoxyphenylamines – Derivatives of the NBOMe series of Drugs of Abuse
7. **Ibtisam, Ibtisam (G)** – Targeting DNA-damage inducible homolog 2 (Ddi2) for the treatment of cancer
8. **Alturki, Mansour (G)** – Facile approach to polycyclic 3-unsubstituted tetrahydroisoquinolonic acids

9. **Pinky, Priyanka (G)** – Elucidation of the neurotoxic effects of developmental cannabinoid exposure in adolescent rodent offspring

Forestry and Wildlife (Section F)

1. **Assogba, Noel (G)** – Conservation reserve program and timber price in the US south
2. **Ahl, Jessica (G)** – Using hyperspectral interferometry to identify fungal spores on bark beetles of concern – can it be done?
3. **Cardozo, Alejandro (G)** – The effect of surface treatment to enhance bonding properties
4. **Gomez- Maldonado, Diego (G)** – Oriented β -cyclodextrin/Chitosan polymer adsorption on nanocellulose surfaces and its use on capture of microcystin-LR
5. **Iglesias, Maria Celeste (G)** – Investigation of the interactions between cellulose nanofibrils (CNF) and wood adhesive (pMDI) for its application in wood composites
6. **Singh, Arshdeep (G)** – Regression and correlation analysis for runoff ratio and runoff deviation ratio

Kinesiology (Section G)

1. **Hulebak, Gunnar (G)** – Distinguishing the effects of verbalizing a motor skill on performance and retention in novices and skilled populations
2. **Dolinger, Sarah (UG)** – Significant physical and mental health burdens in rural, low-income, 10th grade students
3. **Hoesley, Adam (UG)** – Relationship of glove arm elbow flexion with pitch velocity in youth baseball pitchers

Communication Disorders (Section H)

1. **Melton, Robert (G)** – Effects of orchestra training on plasticity in the auditory system
2. **Baker, Gena (G)** – Development of a musical chord stimulus to assess cortical neural functioning
3. **McManus, Lisa (G)** – The effect of repeated measurements and varying conditions on the reliability of the English version of the acceptable noise level test
4. **Dunn, Lauren (UG)** – Pulmonary function of the competitive swimmer: Implications for treatment of PVFM
5. **Epperson, Hannah (UG)** – Neuromuscular development in neonates & post-natal infants: Implications for nmes therapy for dysphagia
6. **Edwards, Ryleigh (UG)** – Forced vital capacity in swimmers
7. **Sandlin, Kylie (UG)** – Pulmonary function variations in women wearing sports bra, regular bra, and no bra
8. **Harris, Mackenzie (UG)** – Vocal function in college women during sorority recruitment
9. **Hamby, Hailey & Barnett, Laurin (UG)** – Speaking fundamental frequency differences with familiar versus unfamiliar listeners
10. **McElroy, Sallie (UG)** – Systematic review of the effects of blast trauma on auditory and cognitive abilities

Biological Sciences (Section I)

1. **Cline, Sabrina (UG)** – Understanding pan's labyrinth: tracking the subcellular localization of viral long non-coding RNA using *in situ* fluorescence microscopy techniques

2. **Lazenby, Madeline** (UG) – The effects of incubation temperatures on beak coloration in zebra finches
3. **Mish, Amanda** (UG) – Testing the functional role of carotenoid accumulation on protection from UV stress in the marine copepod, *Tigriopus californicus*
4. **Yonan, Emma** (UG) – Physiological responses of the invasive cane toad (*Rhinella marina*) from Florida: how stress affects immune response and locomotor performance

Design (Section J)

1. **Sapienza, Natalie** (UG) – Public healthcare in Johannesburg, South Africa
2. **Bone, Alex** (UG) – St. Elisabethen Hospital healthcare design
3. **Olver, Cailin** (UG) – The Rahima Moosa mother and child extension design
4. **Temples, Camille and Kile, Kensie** (UG) – Improving mental health in Hobson Bay, New Zealand through healing villages
5. **Walker, Caroline** (UG) – Auburn public arts
6. **Leslie, Kendall** (UG) – Awareness through art
7. **Chakraborty, Swagata** (G) – The role of western acculturation and consumer ethnocentrism in predicting apparel consumption behavior amongst Indian consumers
8. **Kirskey, Britney** (G) – Evidence-based design patient room typicals across hospital specialties

Architecture/ Environmental Design (Section K)

1. **Stark, Kyra** (UG) – Designing for climate at a fundamental level
2. **Glenn, Kaitlyn** (UG) – Saving our heritage: World heritage sites threatened by rising sea levels
3. **Summersell, Cole** (UG) – Linked social and environmental consequences of exurban development
4. **Boehle, Benjamin** (UG) – Improving sustainable awareness and living
5. **Blankemeyer, Elyse** (UG) – The gender wage gap in the United States: Impacts and solutions
6. **Finnegan, Ellis** (UG) – Aarhus midttrafik: I am black velvet
7. **Qi, Qiang** (G) – Methods for collecting design inspirations: A research about how designers gain inspirations
8. **Ramos, Alejandro** (G) – Landscape architecture theory and practice: Three case studies

Plant Pathology/Entomology/ Horticulture (Section L)

1. **Mertoglu, Gamze** (G) – Evaluation of biorational insecticides against two-spotted spider mite (Acari: Tetranychidae) on tomato
2. **Wang, Yifan** (G) – Impact of environmental factors, temperature and humidity, on the population dynamics of *Aedes* mosquito in Alabama
3. **Peterson, Madison** (G) – Instar determination of *Blattella asabina* (Blattodea: Ectobiidae) using digital measurements of the pronotum and number of cercus annuli
4. **Ajayi, Olufemi** (G) – Comparative water relations and desiccation tolerance of invasive pest ants in the southeastern United States to native ant species
5. **Sharma, Gagan Deep** (G) – Suppression of cytoplasmic incompatibility
6. **Gattoni, Kaitlin** (G) – A systemic response stimulated by *Bacillus* sp. can manage *Meloidogyne incognita* population density in *Gossypium hirsutum*
7. **Ge, Qing** (G) – Study of *cutC* gene involved in copper resistance in plant pathogen *Xylella fastidiosa*

8. **Gomez Arias, Laura Melissa (G)** – Modulation of twitching movement in *Xylella fastidiosa* mediated by the PD0913 gene under different calcium concentrations

Geoscience (Section M)

1. **Garcia, Raeann (G)** – Petrography, geochronology, and geochemistry of the epithermal DeLamar Au-Ag deposit in the Silver City District, Idaho
2. **Fisher, Alicia & Orndorff, Tristan (G)** – Field-scale bioremediation of arsenic-contaminated groundwater with sulfate-reducing bacteria and arsenian pyrite at an industrial site in Florida
3. **Bhattacharya, Rahul (G)** – Understanding Holocene deformation within the Bellingham basin in the northwestern Cascadia (WA)
4. **Mustaque, Md Sharif (G)** – Permo-Carboniferous evolution of Eastern Gondwanaland: Constraints from petrofacies and detrital geochronology
5. **Owen, Evan (UG)**- Geochemical exploration for molybdenum and other metals within the Farmville Metagranite, Lee County, AL
6. **Parsons, Kyle (UG)** – Single crystal $^{40}\text{Ar}/^{39}\text{Ar}$ ages and metamorphic p-t-t history of crystalline rocks within the Ross orogen, central transantarctic mountains

Social Science/ Education (Section N)

1. **Walker, Tegan (G)** – Experiential learning aids in the adoption of water elevation level measuring technology
2. **Esco, Taylor (G)** – Heart of the wiregrass: Dothan, AL
3. **Bhalerao, Rajas Narendra (G)** – Rejuvenate: Re-development of Opelika's 1st Avenue
4. **Copeland, Joshua (G)** – Planning for natural disasters: A geospatial analysis on the effects of Hurricane Ivan on Alabama and Florida
5. **Stephens, Morgan (G)** – An ecological perspective on the factors that promote school connectedness: A literature review
6. **Kim, Yoonah (G)** – Do study abroad programs change food neophobia among students?

Spanish (Section O)

1. **Mackowski, Taylor (UG)** – L2 Spanish learners' auditory perception of gender and number and its role in relative clause attachment resolution
2. **Thompson, Megan (UG)** – Cultural influence on personality strengths among global leaders
3. **Day, Katelyn (UG)** – *Ay, cómo me duele . . .* The effects of language barriers in accessing quality health care for Latina women in rural areas
4. **Cuartero Marco, Marina (G)** – Explicit and implicit instruction of discourse markers to Spanish heritage speakers

Crop/Soil (Section P)

1. **Singh, Rajveer (G)** – Application time and rate impact of poultry litter and urea on corn grain yield in Alabama
2. **Tadych, Danielle (G)** – Performing uncertainty analysis on crop yield parameters in SWAT at regional scale
3. **Dey, Poulomi (G)** – Characterization of phosphorus (P) in poultry litter and determination of P extraction efficiency of extractants

4. **Asadi, Parisa (G)** – Improving estimation of leaf wetness duration using machine learning with climate reanalysis data
5. **Bhatta, Anjan (G)** – Phosphorus characterization of Alabama soils under different management practices for environmental risk assessment

Poultry Science/ Animal Science (Section Q)

1. **Spencer, Lindsay (G)** – Evaluation of differential scanning calorimetry to assess starch gelatinization of multi-component feed processed with different conditioning temperatures and Hygieniser retention times
2. **Alfaro, Gaston (1) (G)** – Fetal programming effect of rumen-protected methionine on Angus-Simental heifer offspring's performance and PPAR γ gene expression
3. **Avila, Luis (G)** – Effect of dietary supplementation of layer hens with a hydroxy-analogue of selenomethionine on performance and egg quality
4. **Flees, Joshua (G)**- Effect of different basal culture media and sera combinations on primary broiler chicken muscle satellite cell proliferation and heterogeneity

Veterinary Medicine (Section R)

1. **Weatherall, Kathleen (G)** – Sub-bandage pressure and deflection testing with two bandage splint constructs in an ex vivo mid-metacarpal equine fracture model
2. **Abbott, Kodye(G)** – Elevated triglyceride levels are associated with cognitive impairment in animal models of hyperglycemia and chemotherapy treatment
3. **Bamidele, Jeminiwa (G)** – Soy isoflavones regulate testicular androgen secretion at all stages of development in the male rat
4. **Yang, Li- Kun (G)**- Functions of the DRYxxI motif and intracellular loop 2 of human melanocortin-4 receptor
5. **Flaat, Taylor (G)** – Identification of canine mast cell progenitors in blood
6. **Khan, Saba (G)**- Anticancer effects of cannabinoid in human prostate cancer cell line

Nursing (Section S)

1. **Bowman, Mollie (G)** – Increasing knowledge in patients with hypertension
2. **Beck, Olivia (G)** – Complementary aromatherapy supporting patients with anxiety
3. **Chislom, Ashley (G)** – Improving self-management behaviors of patients diagnosed with chronic kidney disease
4. **Carroll, Carrie (G)**- Diabetes risk screening in overweight/obese adults at risk for Type 2 diabetes
5. **Gravel, Timothy (G)**- Improving antiretroviral therapy adherence in HIV+ men with mobile phone technology
6. **Ellis, Elizabeth (G)**- Improving the quality of life for patients with chronic kidney disease (CKD) through renal rehabilitation education
7. **Hill, Hannah (G)** – Improving knowledge of and attitudes towards safe-sleep practices
8. **Griffin, Kerri (G)** – Preventing tobacco and nicotine delivery device use among adolescents
9. **Starling, Amy (G)**- Mitigating wounds after war: A telephone follow-up program for patients with traumatic brain injuries
10. **Bridgman, Jessica (G)**- Utilizing text messages to prevent congestive heart failure exacerbation

11. **Ledbetter, Monty (G)**- Heart rate reduction for coronary computed tomography angiography (CTA): Efficacy, safety, and quality
12. **McCullough, Dylan (G)** – Nutrition education for dietary phosphorous intake in patients receiving hemodialysis
13. **Cook, Julianna (G)** – Decreasing pediatric stressors with vaccinations
14. **Sims, Whitney (G)**- Hypertension management using a home telemonitoring program
15. **George, Rachel (G)**- Intensive weight loss program
16. **Mitchell, Christie (G)**- Lifestyle management in heart failure
17. **Tulshi, Nicholas (G)**- Use of alternative pain medications and physical therapy for adults with chronic non-cancer pain to control pain
18. **Danley, Lisa (G)**- Improving adherence of diet, fluid, and medication in patients with end-stage renal disease with a peer mentoring program
19. **Norris, Emily (G)** – Educational intervention to improve knowledge and attitudes toward insulin pumps with glucose monitors

Poster Session II
 12:00 – 1:30 p.m.
 Student Center Ballroom

Aerospace Engineering (Section A)

1. **Arata, Peyton (UG)** – The increasing importance of understanding the intertropical convergence zone in commercial aviation
2. **Miller, Noah (UG)** – Harnessing solar energy for self-folding origami
3. **Wietstruk, Mike (UG)** – Aerodynamic response of a red-tailed hawk to a vertical gust
4. **LeGrand, Craige (UG)** – Development of interpenetrating polymer network (IPN) materials for road repair
5. **Potter, Shelby (UG)** – Effects of severe weather phenomena on commercial aviation accidents and incidents
6. **Burnham, Kelly (UG)** – The non-isentropic solution to the Taylor-Culick Profile for cylindrical and slab rocket motors
7. **Long, Ryan (UG)** – Investigation of self-folding origami structures

Biosystems Engineering (Section B)

1. **Howell, Rachel (UG)** – Development of a small-scale flume reactor for benthic filamentous algae colonization studies
2. **Land, Hudson (UG)** – Protein yield from filamentous algae culture from aquaculture wastewater as a function of nutrient condition
3. **Holmes, Bryan (UG)** – Modeling of photosynthetic aeration for energy efficient wastewater treatment

Chemical Engineering (Section C)

1. **Etebari Alamdari, Navid (G)** – Processing, characterization, and valorization of soy hull

2. **Feyzbar K Nejad, Farshad (G)** – Effect of morphology on the selective CO adsorption process using CuCl on a copper substrate
3. **Hassani, Ehsan (G)** – Regenerative ternary oxide sorbents for long-term CO₂ capture at high temperature
4. **Thakur, Raj (G)** – Dry reforming using modified metal carbides
5. **Moncada, Jorge (G)** - Insights on the redox properties of two- and three-dimensional supported vanadia oxide catalysts using Raman-spectrokinetics
6. **Parit, Mahesh (G)** - Novel approach in developing cellulose nanofiber and polypyrrole based conducting composites with improved conductivity and mechanical strength
8. **More, Ajinka (G)** – Oxidative degradation of lignin to value added products
9. **El-Kattan, Kareem (UG)** – Discovering a specific targeting protein to be used for the detection of Matrix Metalloproteinase-2 activity in tumor models
10. **Hu, Mengyang (Claudia) (UG)** – Using post polymerization click-chemistry approaches to incorporate magnetic properties within polymer structures towards MRI contrast agents
11. **Sparks, Tucker (UG)** – Poly(3-hexylthiophene-*co*-3-(2'-ethylhexyl)thiophene) statistical copolymers and their optoelectronic and solid-state properties
12. **Huang, Tina (UG)** – Improving polymer-modified asphalt by changing the characteristic of SBS using click chemistry
13. **Redden, Jacob (UG)** – Shape complementarity calculations based on protein backbone positions and amino acid identities

Civil Engineering (Section D)

1. **Wang, Danyang (G)** – Short-chain perfluoroalkyl substances (SC-PFAS) analysis in environmental samples
2. **Chidera, Ilojesi (G)**- Numerical simulation of compressed energy storage in porous aquifer
3. **Cooper, Grant (G)** – Creep and shrinkage behavior of concrete in I-59/20 segmental bridge
4. **Scales, Matthew (G)** – Strength assessment of soil cement base
5. **Burrow, Elliott (G)** – Evaluation of nondestructive testing methods to assess concrete deterioration
6. **Anjekar, Ishan (G)** – Use of OpenFOAM for 3D Reactive Transport Modelling at pore scale

Electrical and Computer Engineering (Section E)

1. **Zhou, Huanyi (G)** – CT-like image reconstruction with self-invented MiSpinner device in Biomedical field
2. **Kauten, Christian (G)** – Understanding the use of deep learning–based perception augmentation systems for autonomous vehicles
3. **Zhao, Yuxi (G)** – Truthful quality-aware data crowdsensing for machine learning
4. **Roy, Soham (G)** – Improved random pattern delay fault coverage using inversion test points
5. **Batcho, Erin (UG)** – Diffusion tensor imaging of Huntington’s disease in sheep at 3T MRI
6. **Krause, Keith (UG)** – Investigation of the performance and energy consumption of superconducting adiabatic computing circuits
7. **Narayanan, Mina (UG)** – Authorship verification and adversarial authorship

Mechanical Engineering (Section F)

1. **Ergle, Matthew (UG)** – Vibratory system identification of 3D printed cantilever
2. **Teitge, David (UG)** – Design and construction of a phase change flight experiment for the international space station using micro-structured surfaces

3. **Perry, Isabel (UG)** – Piano technology
4. **Fox, Matthew (UG)** – Effects of powder recycling on powder characteristics for inconel 718

Drug Discovery/Pharmaceutics (Section G)

1. **Jasper, Shanese (G)** – Optimizing a 3D culture system to study the roles of epithelial breast cancer cells and tumor microenvironment in mediating drug uptake from enzyme-responsive liposomes
2. **Alnaim, Ahmed (G)** – Effect of tumor-microenvironment on liposome nanoparticles uptake and biodistribution in prostate cancer
3. **Annaji, Manjusha (G)** – Preparation and evaluation of topical gel containing acyclovir and lidocaine for the treatment of herpes simplex virus infections
4. **Poudel, Ishwor (G)** – Enhancement of aqueous solubility of hispolon by complexation with sulfobutyl ether β -cyclodextrin
5. **Poudel, Ishwor and Annaji, M. (G)** – 3D printed 316L metal implants coated with dexamethasone for sustained drug delivery
6. **Davis, Joshua (G)** – Optimization of a 3D tumor spheroid model for the evaluation of schedule dependent mechanistic differences of chemotherapeutics for the treatment of aggressive castration resistant prostate cancer
7. **Sandoval-Powers, Megan (G)** – LC-MS-based analysis of antimicrobial compounds produced by *Streptomyces coelicolor* harboring metagenome-derived biosynthetic gene clusters

Pharmacy/ Pharmacology (Section H)

1. **Wesolowski, Alec (G)** – Tracking biofilm formation of *S. aureus* at different hydrodynamic flow conditions in microfluidic chambers
2. **Al Saqr, Ahmed (2) (G)** – Design of hispolon and doxorubicin nanoparticles for melanoma treatment
3. **Almaghrabi, Mohammed (G)** – Design, synthesis and pharmacologic activity of novel psychoactive substituted piperazines
4. **Priest, Anne Katherine (G)** – Novel interdisciplinary ‘speed-dating’ and augmentation of traditional diabetes self-management education to improve diabetes care
5. **Rajendran, Soorya (UG)** – Assessing the pharmacodynamics and pharmacokinetic effects of designer drugs using computational design
6. **Weber, Rachel (UG)** – Comparison of body fat percentage and body mass index as predictors of pre-diabetes
7. **Hall, Ivy (UG)** – Understanding how to best track staphylococcus aureus (s. Aureus) infections in a murine model by use of fluorescence or photo-acoustic imaging

Health Outcomes (Section I)

1. **Jeminiwa, Ruth (G)** – Exploring the relationship between adherence and number of prescribed medications with patients’ preference for incentives
2. **Crosby, Cassidi (G)** – The impact of pharmacist-delivered medication therapy management (MTM) on outcomes for patients with diabetes: a systematic review
3. **Davis, Brandy (G)** – What is the effectiveness of including pharmacists in collaborative care programs for mental health treatment? A systematic review
4. **Wallace, Adrienne (G)** – Adverse events reporting with naloxone product use from the FDA Adverse Event Reporting System (FAERS) in 2008-2018

Forestry and Wildlife (Section J)

1. **He, Junhao (G)** – Depth-averaged soil moisture dynamics modeling and assessment
2. **Bickley, Samuel (G)** – Variable long-term effect of coarse-woody debris dam restoration on water quality and ecosystem function in southeastern Coastal Plain streams
3. **Park, Doyeon (G)** – Can cell phones detect mosquitoes infected with canine heartworm?
4. **Haas, Henrique (G)** – Determining the nexus between upland and riverine processes in a forested ecosystem
5. **Cash, James (G)** – Mapping an invasive species using a free and simple remote sensing technique
6. **Castaneda, Nicole (G)** – Ecology of human West Nile prevalence in Atlanta, Georgia
7. **Shortnacy, James (UG)** – Estimating illegal take of white-tailed deer over bait in east Alabama
8. **Durboraw, Tara (UG)** – Use of game cameras to survey small mammals in Auburn, Alabama
9. **Merchlinsky, Alex (UG)** – Effects of experimental warming on *Solenopsis invicta* and southeastern arthropod communities
10. **Morgan, Abigail (UG)** – Intestinal parasites found in black-and-white ruffed lemurs (*Varecia variegata variegata*) in Ranomafana National Park, Madagascar
11. **Brownlee, Joi (UG)** – Gross domestic product as a predictor of zoonotic pathogen prevalence in cats

Chemistry, Biochemistry (Section K)

1. **Brown, Thomas (UG)** – Computational studies of the air oxidation mechanism of dinoflagellate luciferin
2. **De Bovi Pontes, Carolina (UG)** – Cloning, expression and purification of human mitochondrial molecular chaperone Tid1
3. **Wyss, Kevin (UG)** – An example of enhanced emission of a pyridine containing Schiff base Zn^{2+} complex
4. **Mayhugh, Jacob (UG)** – Investigating the steric contributions in helicate formation for pyrrolic superstructures
5. **Gibson, Noah (UG)** – Gallium (III) catalyzed formation of Cu_2O nanocrystals as a potential pathway for controlled growth and morphology via a hot injection synthesis
6. **Hunter, Katherine (UG)** – Characterization of tetradentate Schiff-base ligands and their uranyl complexes
7. **Channell, Kirsta (UG)** – Computational investigation of inhibition of Methyl-coenzyme M Reductase
8. **Laprocina, Karly (UG)** – Identifying a novel population in the adrenal gland cortex
9. **Ariyaratna, Isuru (G)** – Story of the super atomic $Mg(NH_3)_{x=4,5,6}$
10. **Richburg, Chase (G)** – Understanding the unique multi-electron redox cycle of nickel dithiocarbamates and characterization of a nickel (III) intermediate
11. **Chown, Amanda (G)** – Physical and electrochemical properties of copper deficient $CuCrO_2$ for application in Li-ion batteries
12. **Mazumder, Md Motiur (G)** – Synthesis, characterization and electro chemical analysis of Ni-dithio complexes for Redox Flow Battery

Psychology (Section L)

1. **Etherton, Sarah (UG)** – Neurofunctional specialization of the human hippocampus

2. **Parsons, Lauren (UG)** – Jobs at face value? Mental accounting of job-organization characteristics
3. **Adcock, Michelle (UG)** – When risks are worth taking: The surprising relationship between maximizing and risk taking
4. **Laughlin, Barbara (UG)** – Word emotionality: Changing perception and performance
5. **Allen, Randi (UG)** – Work-family conflicts role in resource depletion of cognitive, emotional, and physical resources
6. **Johnson, Shelley (UG)** – Speaking of Auburn: Exploring dialect discrimination on and off Auburn University's campus

Nutrition (Section M)

1. **Page, Jamilah (G)** – Using intermediary relationships to support school wellness promotion
2. **Koenigs, Taylor (UG)** – Reduced AMY1 gene copy number is associated with increased BMI in children
3. **Parra, Emily (UG)** – The relationship between sleep behavior with obesity, television exposure and dinner time in children
4. **Raney, Savannah (UG)** – Development and validation of the Dietary Habits and Colon Cancer Beliefs Survey (DHCCBS): An instrument assessing healthbeliefs related to red meat and green leafy vegetable consumption
5. **Kuhlers, Peyton (UG)** – Validation of an *in vitro* non-alcoholic steatohepatitis Cas9 model

Biological Sciences (Section N)

1. **Courtenay, Milica (UG)** – Testing whether sex-specific senescence in the lizard, *Anolis sagrei*, translates to the cellular level
2. **Myles, Amanda (UG)** – Elucidating the role of periplasmic nitrate reductase (Nap) in *Pseudomonas aeruginosa* physiology
3. **Cronin, Jamie (UG)** – Effects of lifetime exposure of dietary methylmercury in zebra finch pancreatic function

Geoscience (Section O)

1. **Roland, Jarret (G)** – Irrigation and water use reporting in the Tennessee River valley region of Alabama
2. **Zhou, Ying (G)** – A change detection analysis of LULC changes in the Three Gorges Dam area
3. **Molla, Alamin (G)** – Urban Sustainability: A look in stormwater management at Auburn University Campus, AL.
4. **Nur, S M Shihab (G)** – Urban growth comparison of two culturally homogenous cities of South Asia: Dhaka and Kolkata
5. **Shresta, Megha (G)** – Urban vulnerabilities of Kathmandu Valley: A case study of urban flooding in the most populated city of Nepal
6. **Eldridge, Caleb (G)** – Linking observed seismicity to crustal structure in the New Madrid seismic zone using LiDAR, gravity, and magnetic modeling

Fisheries (Section P)

1. **Salem, Shimma (1) (G)** – Supplementation of crystalline aminoacids at different levels to reduced protein diets in Channel Catfish *Ictalurus Punctatus*

Poultry/ Animal Sciences (Section Q)

1. **Alfaro, Gaston (2) (G)** - Gene-regulation control of muscle fatigue during beef cattle transportation with rumen-protected methionine supplementation
2. **El-Nagar, Sahar (G)** – Impact of nano-chromium chloride on animal performance, carcass characteristics, and histopathology of rabbits exposed to chronic heat stress
3. **Keel, Jake (UG)** – Effect of dietary protein source and litter condition on immune response and mitotic cell activity in the duodenum of broiler chickens at 21 days of age

Veterinary Medicine (Section R)

1. **Reyner, Claudia (G)** – Effect of tumor necrosis factor alpha on equine colony forming cell function in culture
2. **Reid, Olivia (UG)** – Overexpression of the notch intracellular domain results in abnormal adrenal development
3. **Heath, Margaret (UG)** – Immunolocalization of gonadotropin-releasing hormone in pituitary gonadotrope cells
4. **Wilson, Dylan (UG)** – The role of PEA15 in cell migration and proliferation

Nursing (Section S)

1. **Agee, Lauren (G)** – Type 1 diabetes and the closed loop system
2. **Savelle, Michael (G)** – Implementing technology to encourage lifestyle change among patients with hypertension
3. **Moss, Rachel (G)** – Improving maternal infant bond and breastfeeding adherence with skin-to-skin contact
4. **Byrd, Jenna (G)** – Improving diabetes management with technology
5. **McIntyre, Patrick (G)** – The DASH diet for management of hypertension
6. **Bryan, Rachel (G)**- Implementing an exercise program for the management of chemotherapy-related fatigue
7. **Smith, Shelby (G)**- Implementing an exercise treatment program into ADHD treatment
8. **Forehand, Marilyn (G)**- Optimizing patient expectations related to cardiac surgery
9. **Wade, Tiffany (G)**- Structured telephone support and heart failure readmission rates
10. **Rolling, Brandi (G)**- Implementation of STEADI to prevent falls in community-dwelling adults aged sixty-five years and older
11. **Hill, Nancy (G)**- Improved management of atrial fibrillation in the prevention of stroke
12. **Pitts, Amanda (G)**- Improving gestation diabetes management with technology-based intervention
13. **Hurst, Erin (G)**- Improving medication adherence in older adults with low health literacy
14. **Westberry, Ashley (G)**- Improving the management of chronic non-cancer pain through continuing education
15. **Mitchell, Sheila (G)**- Improving HbA1c using interactive technology
16. **White, Shaina (G)**- Physical restraints and delirium in the ICU
17. **Blackmon, Harold (G)**- Telemonitoring of patients with heart failure in rural areas using a smartphone app
18. **Broughton, Mohneke (G)**- Improving patient compliance among pregnant adolescents with a community-based educational plan
19. **Glass, Stacy (G)**- Action plans to improve health-related quality of life for patients with COPD
20. **Owings, Brittany (G)**- Distress and quality of life screenings of cancer patients attending support groups

21. – 28. Undergraduate Posters

Oral Research Presentations – Afternoon Session

Student Center Meeting Rooms

1:00 – 1:50 p.m.

Room 2216 – Crop, Soil, and Environmental Science/Agricultural Education

- **Basak, Suma (G)**- Identification of southern crabgrass (*Digitaria ciliaris*) biotypes resistant to postemergence- applied pinoxaden herbicide
- **Browne, Frances (G)**- Comparison of soybean injury and yield response to low-dose dicamba particle drift and vapor
- **Price, Katilyn (G)**- Cover crop response to residual herbicides in peanut-cotton rotation
- **Tsalickis, Alexandra (G)**- Potential use of guano core records in reconstructing historic precipitation patterns for northern Alabama

Room 2218 – Mechanical/Materials Engineering

- **Vahid Mohammadi, Armin (G)**- Highly stable 2D metal carbide electrode architectures for ultrafast supercapacitors
- **Muhammad, Muztahid (G)**- Fatigue crack growth prediction of 316L SS and Inconel 718 alloys fabricated using a laser powder bed fusion process
- **Gairola, Saurabh (G)**- Continuous state of charge and power fade (SOH_P) estimation using a variable state Adaptive Extended Kalman Filter for lithium ion cells
- **Hinkle, John (G)**- Renewable nanosized carbon fiber production

Room 2222 – Poultry Science/Aquaculture

- **Buley, Riley (G)**- Integrated methods combat cyanobacterial blooms and off-flavors in the aquaculture and drinking water industries
- **Ksepka, Steven (G)**- Cryptic species of *Myxobolus* (Myxozoa: Myxobolidae): an intercellular cnidarian that parasitizes the central nervous system of native brook trout (*Salvelinus fontinalis*) in western North Carolina
- **Ovi, Fozol Korim (G)**- Effects of whole corn inclusion in pelleted feed on broiler performance and carcass characteristics
- **Thompson, Serena (UG)**- Evaluation of summer annual forage mixtures for nutritive quality and sugarcane aphid infestations in Alabama

Room 2225 – Humanities/History/Anthropology

- **Zinner, Max (G)**- Out and proud: Gay and lesbian organizing at Alabama state universities
- **Seemann, Lillian (UG)**- If these vessels could talk: The importance of archaeological collections management
- **Martin, Katie (UG)**- The impact of document design on alcohol-harm awareness

Room 2227 – Forestry and Wildlife Sciences/Horticulture

- **Duwadi, Shrijana (G)**- Fate of soil microbial communities in a loblolly pine stand inoculated with *Leptographium terebrantis*
- **Gomez- Maldonado, Diego (G)**- Nanocellulose/ β -cyclodextrin polymer design for adsorption of microcystin-LR
- **Iglesias, Maria Celeste (G)**- Effect of biomass chemical composition on the rheological behaviour of cellulose nanofibrils (CNF) suspensions obtained from different natural sources
- **Kargar, Mahnaz (G)**- Physicochemical and nutritional properties of selected banana (*Musa* spp.) cultivars in the Southeastern U.S.

Room 2223 – Environmental/Agricultural Science

- **Ayers, Meredith (G)**- Geospatial mapping and analysis of the global distribution of poly- and perfluoroalkyl substances (PFAS)
- **Moore, Meredith (G)** - Drought management plans in major cities in Alabama and the Southeastern U.S.
- **El-Nagar, Sahar (G)**- Impact of irrigation and nitrogen fertilization on yield and quality of ‘Tifton-85’ bermudagrass in the Gulf Coast Region

Room 2326 – Social Science

- **Majokweni, Pilela (G)**- Gender and rural vitality: Empowerment through women community groups
- **Schaefer, Megan (G)**- Healing the hearts of bereaved caregivers: Impact of legacy artwork on grief in caregivers whose children died of cancer
- **Grove, Julia (G)**- Hands up, don’t shoot: Decision factors underlying the use of deadly force
- **Boutwell, Crystal (G)**- People or profit? Right-to-farm laws and their implications for rural people

2:00 – 2:50 p.m.

Room 2216 – Fisheries

- **Warren, Micah (G)**- Discovery of a new lineage of fish blood fluke (Platyhelminthes: Digenea: Schistosomatoidea) infecting coquina clams (*Donax variabilis*) and lesser electric rays (*Narcine bancroftii*) in the Gulf of Mexico
- **Fogelman, Kaelyn (G)**- Evaluating the feeding ecology of endemic freshwater mussels (Unionidae) in Central Texas using stable isotope and fatty acid analysis
- **Ruiz, Carlos (G)**- Exotic, invasive parasitic copepods (*Salmincola* spp.) infecting wild and farmed trouts (Salmonidae) in the southeastern United States

Room 2218 – Health Outcomes

- **Li, Chao (G)**- Risk factors of fluoropyrimidine-induced cardiotoxicity among cancer survivors: a systematic review
- **Fahim, Shahariar (G)**- Impact of antidiabetic medication use on breast cancer diagnostic characteristics
- **Mishuk, Ahmed Ullah (G)**- National trends in proton pump inhibitors use and patient factors associated with ppis use in the us: 2002-2015
- **Lambert, Stephanie (G)**- Understanding student’s mental illness and their problem-solving behaviors in the digital age

Room 2222 – Chemical Engineering

- **Shinde, Vinita (G)**- Microcapsule-based self-healing for 3D printing
- **Sannidhi, Abhinav (G)**- Multi-parameter paramagnetic particle characterization by particle tracking velocimetry and optical absorbance
- **Kim, Jung Min (G)**- Solute sorption and transport behavior of methanol and acetate in Selemion® AMV-N
- **Anderson, Luke (UG)**- Varying polymer matrix composition of engineered prostate tumor tissues to mimic the full range of tumor stiffnesses found *in vivo*

Room 2225 – Physics/Mathematics

- **Heath, Jonathan (G)**- First principles study of magnetoresistance in CrI₃-graphene tunneling junctions
- **Das, Somak (G)**- Stochastic gradient descent method for the control of stochastic partial differential equations
- **Korchevska, Evgeniia (UG)**- On frequency synchronization in the Kuramoto networks

Room 2227 – Electrical and Computer Engineering / Industrial and Systems Engineering

- **Azam, Nurul (G)**- A novel and universal laser-based approach for synthesis of atomically-thin 2D quantum materials
- **Fadamiro, Ayokunle (G)**- Investigating multi-valued LUT architectures for improved FPGA Performance
- **Mohabbati Kalejahi, Nasrin (G)**- Effective hazardous materials closed-loop supply chain network design with cost minimization and risk equity
- **Sun, Yang (G)**- Test point insertion using artificial neural networks

Room 2223 – Biomedical Sciences

- **Sisk, Morgan (UG)**- Planetary protection for the Europa lander mission
- **Lynd, Tyler (UG)**- Honokiol ameliorates MPP⁺ induced neurotoxicity in an *in vitro* Parkinson's model
- **Burgess, Bethany (UG)**- Neuroprotective effects of mushrooms
- **Florus, Kacie (UG)**- The effects of phosphoprotein enriched in astrocytes-15 (PEA15) on cerebral endothelial and neuronal cell density in domestic cats

Room 2326 – Civil Engineering/Architecture

- **Calhoun, Jessica (G)**- Stream rehabilitation and sedimentation modeling
- **Jackson, Dan (G)**- Investigation of a slope failure using seismic full waveform inversion
- **Turner, Kelly (UG)**- Modeling the influence of ground surface roughness and building attributes on the physical vulnerability of low-rise buildings to hurricane winds

3:00 – 3:50 p.m.

Room 2216 – Biomedical Science/Pathobiology

- **Omeler, Sophonie (G)**- Using a research-based gene screening panel to investigate a large African-American family
- **Kitchens, Steven (G)**- Movement of *Salmonella* in a veterinary teaching hospital

- **Hargis, Christina (G)**- High performance liquid chromatography-UV detection and validation of primaquine phosphate in penguin plasma
- **Mohin Sajib, Abdul (G)**- Precise genetic modification of canine adenovirus 2 (CAV-2) genome by CRISPER/ Cas9

Room 2218 – Computer Science and Software

- **Al Tekreeti, Taha (G)**- Energy-efficient consolidation of virtual machines in clouds
- **Bhattacharya, Tathagata (G)**- MOOSE: Models of I/O-intensive applications on virtual machines
- **Heckwolf, Thomas (G)**- Edge computing: moving cloud computing to IoT devices
- **Mukhopadhyay, Ujan (G)**- Use of blockchain in data provenance and version control

Room 2222 – Entomology

- **Bird, Gwendolyn (G)**- When do herbivorous insects compete? A phylogenetic meta-analysis
- **Chen, Zhou (G)**- Reception of human odorants inhibited by plant-derived chemicals in the yellow fever mosquito, *Aedes aegypti*
- **Bruckner, Selina (G)**- Joint forces: How do parasitic mites and neonicotinoid insecticides simultaneously affect honey bee food glands?
- **Merfa, Marcus (G)**- Advances in culturing the plant pathogen '*Candidatus Liberibacter asiaticus*' by culture medium optimization

Room 2225 – Geosciences

- **De Marchi, Leticia (G)**- Hydrocode simulations of formation of Wetumpka impact crater, Alabama
- **Emran, Al (G)**- Near and thermal infrared (NIR-TIR) spectral investigations of Siloe Patera, Mars
- **Kline, Anabelle (G)**- Ore mineralogy, geochemistry, and genesis of the Hog Mountain orogenic gold deposit, southwestern Appalachians, USA
- **Dutta, Debaleena (G)**- The socioeconomic viability of wastewater recycling and reuse in India: Household study

Room 2227 – Pharmacy

- **Mousa, Youssef (G)**- Amylin and pramlintide increase AD pathology in TgSwDI mouse model by modulating γ -secretase activity and APP processing in lipid rafts
- **Alqurashi, Thamer (G)**- Evidence of CXCR7 negative signalling to the ERK1/2 pathway in human coronary artery smooth muscle cells
- **Abdallah, Ihab (G)**- Combined etodolac and α -tocopherol as a novel therapeutic approach for Alzheimer disease treatment

Room 2223 – Architecture

- **McPherson, Louisa (UG)**- Urban city structures in the pre-modern era
- **Osborne, Hailey (UG)**- Death by design: A premodern architectural dictionary
- **Shannon, Ian (UG)**- Urban hygge: Public space, urban design, and their impacts on mental health
- **Sardinha, Amie (UG)**- The study and comparative analysis of pre-modern vernacular architecture

Room 2326 – Forestry and Wildlife Sciences

- **Fay, Arielle (UG)**- Impacts of wild pigs on acorn availability as a food source for native wildlife
- **Anderson, Cullen (UG)**- Spatial effects of rural Mennonite communities on Jaguars

- **Stahl, Katherine (UG)**- Evaluating contemporary conservation biology texts for bias in biodiversity representation

Poster Session III

3:30 – 5:00 p.m.
Student Center Ballroom

Aerospace Engineering (Section A)

1. **Siwakoti, Midhan (G)**- Computational modeling of electrically actuated shape memory polymers
2. **Khan, Omer (G)**- Investigation of jet issuing from a cyclone vortex combustion chamber
3. **Shah, Syed Hassan Raza (G)**- Design of Darrieus type vertical axis water turbine for shallow water channels
4. **Silwal, Lokesh (G)**- Study of multi-rotor helicopter flowfield in close proximity of ground
5. **Ramesh Kumar, Tharika (G)**- Compressible biglobal instability analysis of cylindrical solid rocket motors
6. **George, Caroline (UG)**- Development of a functional ex-vivo porcine heart system to test and improve heart valve repairing techniques
7. **Compher, Tyler (UG)**- Lumped parameter modelling of cerebrovascular and cardiovascular blood flow
8. **Reyna, Aura (UG)**- Shape memory polymer programming techniques
9. **Elmore Danielle (UG)**- Transparent heart valves for improved hemodynamic testing

Chemical Engineering (Section B)

1. **Naro, Joseph (UG)**- Synthesis and characterization of hydrogels for medical application
2. **Suresh, Joshita (UG)**- Evaluating the effects of varying prostate cancer to fibroblast cell ratios within bioengineered tumor tissues
3. **Adams, William (UG)**- New insights on the redox properties of two- and three-dimensional supported vanadium oxide catalysts: A Raman-Spectrokinetics Study
4. **Parsons, Lindsey (UG)**- Phase behavior of Manganese Dioxide (MnO₂) nanowires in different solvents
5. **Harris, Bryanna (UG)**- Analyzing the effects of tissue geometry on engineered cardiac tissue functionality
6. **Hicks, Emma (UG)**- Assessing contractility of engineered cardiac tissue with optical flow software
7. **Hou, Xinyu (UG)**- Curing kinetics for copolymer using DSC
8. **Adams, Stephen (UG)**- Preparation and characterization of lignin-based epoxy resins
9. **Kirkpatrick, Evan (UG)**- Graphical user interface for protein engineering software
10. **Kore, Tarun (UG)**- Computational fluid dynamics study of expiratory flow in the human trachea
11. **Mobley, Alisa (UG)**- Synthesis and characterization of block-copolymers towards smart gating membranes

Civil Engineering (Section C)

1. **Qin, Fanqi (G)**- Impact of image resolution on quantification of mineral properties and simulated mineral reactions and reaction rates
2. **Quinn, Anna (G)**- Longitudinal braking forces on bridges
3. **Prior, Elizabeth (UG)**- Investigating UAV near infrared imagery for turbidity monitoring in small streams
4. **Brunhoeber, Olivia (UG)**- Role of mineralogy in controlling shale fracture formation
5. **Bensinger, Jacob (UG)**- Modelling of pore networks built from analysing micro-CT images of the Paluxy formation for a better understanding of its porosity and permeability evolutions

Electrical and Computer Engineering (Section D)

1. **Khan, Salaar (G)**- Liver fat quantification with magnetic resonance spectroscopy at 3T
2. **Mahmod, Jubayer (G)**- Remote authentication of low-cost devices using unclonable IDs
3. **Ahmadi, Zabihollah (G)**- Self-limiting laser crystallization and direct writing of 2D materials
4. **Ornee, Tasmeen Zaman (G)**- Sampling of remote estimation through queues: Age of information and beyond
5. **Mahmud, Sultan Zaman (G)**- Combined measurement of perfusion and T2 star in calf muscle at 7 Tesla MRI with dynamic exercise using projection based image reconstruction method
6. **Chowdhury, Prattay (G)**- Estimating operational age of an integrated circuit
7. **Wang, Wendong (G)**- Detecting recycled SoCs by exploiting aging induced biases in memory cells
8. **Zhang, Yuqiao (G)**- End-to-end traceability of ICs in component supply chain for fighting against recycling
9. **Elafandi, Salah (G)**- A novel laser-based approach for synthesis of two-dimensional quantum dots

Materials/ Polymer Engineering (Section E)

1. **Wood, Liam (UG)**- Creating an antifungal paint using halloysite nanotubes
2. **Vescio, Anna (UG)**- The drug release rates topical delivery systems mixed with drug loaded halloysite nanotubes
3. **Steeve, Helen (UG)**- Optimizing stereolithography 3D printing for use with biodegradable resins

Mechanical Engineering (Section F)

1. **Jamshideasli, Dourna (G)**- Thermal conductivity evaluation of medium/high-temperature phase change materials for thermal energy storage by molecular dynamics
2. **Torries, Brian (G)**- Build orientation considerations in additive manufacturing fatigue life modeling
3. **Sterling, Amanda (G)**- 3D Printing quadruped orthotics: Stepping towards a brighter future
4. **Kennedy, Scott (G)**- High frequency shape memory alloy actuators
5. **Price, Morgan (G)**- The effects of footwear and orthotics on biomechanics
6. **Gomes, Chris (G)**- Experimental investigation of geometrically modified wicked heat pipes
7. **Kambhampati, Akhil Teja (G)**- Effects of cold plate mini-channel design on the effective thermal management of the non-uniform heat generation from an electric vehicle lithium-ion battery
8. **Larson, Jacob (G)**- Maximum lyapunov exponent analysis of a repetitive vertical jump task in female athletes
9. **Paudel, Basil (G)**- A rapid thermal modeling approach for additive manufacturing

Drug Discovery/Pharmaceutics (Section G)

1. **Fujihashi, Ayaka (UG)**- Comparison of region-specific neurotoxicity of prenatal alcohol and nicotine exposure
2. **Patrick, Madison (UG)**- Correlation of *Mtsk* inhibitory activity with chemical constituents identified by LC-MS
3. **Skarupa, Elena (UG)**- Identification of key genes influencing aggressiveness and metronomic treatment for prostate and breast cancer
4. **MacLeod, Spencer (UG)**- Therapeutic effects of mushrooms
5. **Rael, Cristina (UG)**- Novel molecules for the disruption of ErbB4 signaling: Candidate melanoma therapeutics
6. **Carlton, Mary Claire (UG)**- Investigating the neuroprotective effects of dexamethasone against MPTP-induced neurotoxicity

Pharmacy/Pharmacology (Section H)

1. **Akintola, Olasubomi (G)**- Non-competitive inhibition of proteasome by kinase inhibitors
2. **Chakravarti, Sayak (G)**- Comprehensive analysis of *in vitro* and *in vivo* association of somatic mutations in PSMB5 gene with proteasome inhibitor resistance in Multiple myeloma
3. **Smith, Warren (G)**- Intranasal pramlintide administration for the dissection of metabolic and cognitive outcomes of amylin-based therapies in a transgenic mouse model of Alzheimer's disease
4. **Bahauddin, Ammar (G)**- Deep tissue imaging of B16 melanoma in mice by multispectral optoacoustic tomography (MSOT)
5. **Harshan, Aishah (G)**- Therapeutic effect of non-toxic designer drugs
6. **Al Saqr, Ahmed (I) (G)**- Cytotoxicity of hispolon in melanoma (B16BL6) cell lines

Forestry and Wildlife Sciences (Section I)

1. **Duan, Yanan (G)**- Investigating effect of soil moisture initialization on runoff predictability in national water model
2. **Stewart, Briana (G)**- Automated techniques for interpreting game camera images from surveys for Eastern Wild Turkeys
3. **Margadant, Lee (G)**- The effects of bait stations on female eastern wild turkey home range
4. **Colbaugh, Jessica (G)**- Solutions to bird window collisions: A meta-analysis
5. **McMichael, Philip (UG)**- On the valorization of local softwood biomass: production and characterization of nanofibrillated cellulose
6. **Heptinstall, Tucker (UG)** – Snake news! Road-based survey effectiveness in Everglades National Park

Plant Pathology/Entomology/Horticulture (Section J)

1. **Naranjo, Eber (G)**- In vitro antimicrobial activity and mode of action of Zinckicide™ against *Liberibacter crescens*, a surrogate of '*Candidatus Liberibacter asiaticus*'
2. **Seo, Seungyeon (G)**- Comparative genomic analysis of *Fusarium* wilt isolates associated with virulence on cotton
3. **Kargar, Mahnaz (G)**- Effect of chitosan coating on tomato fruit softening
4. **Krofft, Claire (G)**- Analysis of on-site irrigation management data in five Alabama container nurseries

5. **Byrd, William (UG)**- Effect of mixed infestations on plant-mediated host location in the parasitoid *Microplitis croceipes*
6. **Carroll, Elijah (UG)** – Mortality and behavioral effects of common turfgrass insecticides against Fall armyworm (*Spodoptera frugiperda*)

Fisheries (Section K)

1. **Salem, Shamma (2) (G)**- The effect of crystalline amino acids supplementation in the reduced intact protein diets on muscle growth and intestinal morphology of Channel Catfish *Ictalurus Punctatus*
2. **Fantini, Leticia (G)**- In-pond raceway production of stocker and foodsize hybrid catfish
3. **Myers, Jaelen (G)**- Impact of sperm to egg ratio on hatching success for hybrid channel catfish (*Ictalurus punctatus*) × blue catfish (*I. furcatus*) embryos
4. **Johnston, LeeAnn (UG)**- Exploring the removal of excess nutrients and heavy metals from polluted water bodies through the use of macrophytes and microorganisms

Biological Sciences (Section L)

1. **Akwa, Daniel (UG)**- Recruitment of copper in yeast Mitochondrial carrier family proteins
2. **Donohoe, Natalie (UG)**- Don't blow out the candles – preventing transmission of bacteria to birthday cakes
3. **Smith, Elizabeth (UG)**- Obesity may lead to increased survivin levels in tumors

Physics/Music (Section M)

1. **Wang, Lu (G)**- Comprehensive characterization of high K dielectrics for ultra wide band gap applications
2. **Pfeifle, Adam (G)**- A high-throughput approach to the characterization of interlayer coupling in 2D heterostructures
3. **Bowers, William (UG)**- Survey and defect analysis of thin film SrTiO₃ h-MBE growth
4. **Unzicker, Brady (UG)**- A database to continuously record and monitor laboratory conditions in ASAPLab

Kinesiology (Section N)

1. **Blackstock, Sarah (UG)**- Determining kinetic chain efficiency among female handball athletes
2. **Corona, Katie (UG)**- Hip, knee, and ankle contribution are affected during sloped walking in individuals with ACLR
3. **Wilson, Carley (UG)**- Changes in sleep efficiency in children and adolescents with Autism Spectrum Disorder during an adapted tennis program

Chemistry/Biochemistry (Section O)

1. **Donnan, Patrick (G)**- Computational studies of a novel organometallic intermediate in radical SAM enzymes
2. **Rajakaruna, Pradeepa (G)**- The reaction between methanesulfinate and triiodide in aqueous media
3. **Yang, Yixuan (G)**- Aqueous reactions of MESNA with iodine and iodate in acidic medium
4. **Liu, Zening (G)**- Janus liposomes: Preparation and functionalization
5. **Khan, Noor Md Shahriar (G)**- Theoretical study of a complete catalytic cycle for methane to methanol transformation facilitated by metal methoxides

Psychology (Section P)

1. **Vaughn, Jacob (UG)**- Work-family conflicts role in resource depletion of cognitive, emotional, and physical resources
2. **Mitchell, Taylor (UG)**- Comparing group differences in cognitive errors in juvenile delinquent populations
3. **Gunning, Anna (UG)**- The effect of child body image on perceptions of life
4. **Conboy, Natalie (UG)**- The interactive effect of anxiety sensitivity and cognitive fusion on anxiety symptoms
5. **Hurston, Sarah (UG)**- Group treatment outcomes in trauma exposed youth
6. **Coe, Taylor (UG)**- The role of awareness in eyeblink classical conditioning to distinct and similar tones

Social Science/Education (Section Q)

1. **Putz, Abigail (UG)**- Self-efficacy of mainstream pre-service and in-service teachers for English Language Learners
2. **Marcus, Stevan (UG)**- Water contamination and infant health in west Alabama
3. **Williams, Carolina (UG)**- The expected surprise
4. **Standfield, Timothy (UG)**- Prison higher education: Impacts on father/child interaction and the effects on child school performance

Human Development and Family Studies (Section R)

1. **Cage, Benjamin (UG)**- Examination of sibling relationships in college-aged adults
2. **Calhoun, Alyssa (UG)**- Prospective associations between peer victimization, academic performance, and academic efficacy
3. **Warren, Kalyn (UG)**- Sex trafficking survivors' perspectives on relational resources
4. **Littleton, Casey (UG)**- Usefulness of a research-based parenting newsletter: A comparison of child-rearing information sources
5. **Lett, Caroline (UG)**- Barriers sex trafficking survivors face while exiting the commercial sex industry

Creative Scholarship (Section S)

1. **Shorts, Noel (UG)**- Cultural appropriation vs appreciation in illustration
2. **Brunner, Pate (UG)**- A musical and historical analysis of jazz trombone performance and its technical adaptation in the bebop era and beyond

Nursing (Section T)

1. **McCrary, Joshua (G)**- Simulated learning in new graduate registered nurses
2. **Jackson, Kayla (G)**- Staff perceptions of animal assisted therapy in children with intellectual disabilities
3. **Minor, Jessica (G)**- Diabetic noncompliance: The effect of culturally-appropriate education on diabetic outcomes
4. **Dailey, April (G)**- Improving education of patients with heart failure using mobile devices
5. **Darnell, Amy (G)**- Mental health first aid: Promoting integrated care through nursing education
6. **Osbourne, Kendall (G)**- Antihypertensive medication adherence and blood pressure control
7. **Rowe, Danielle (G)**- Improving standardized hand-off report in the medical intensive care unit

8. **Harrell, Whitney (G)**- Lending a hand to caregivers in need
9. **Thompson, Maranda (G)**- Group-based education for diabetes mellitus type 2
10. **Dutton, Asia (G)**- Premature infant post-discharge: Preparing caregivers for the transition
11. **Bailey, Frankquenetta (G)**- Dyslipidemia in the elderly
12. **Fortner, Molly (G)**- Exploring the use of digital asthma action plans on adolescent asthma management
13. **Harsha, Mallory (G)**- Exploring adherence to medications using weekly telehealth calls to patients with congestive heart failure
14. **Choi, DaSom (G)**- Pain management for osteoarthritis patients
15. – 27. **Undergraduate Posters**