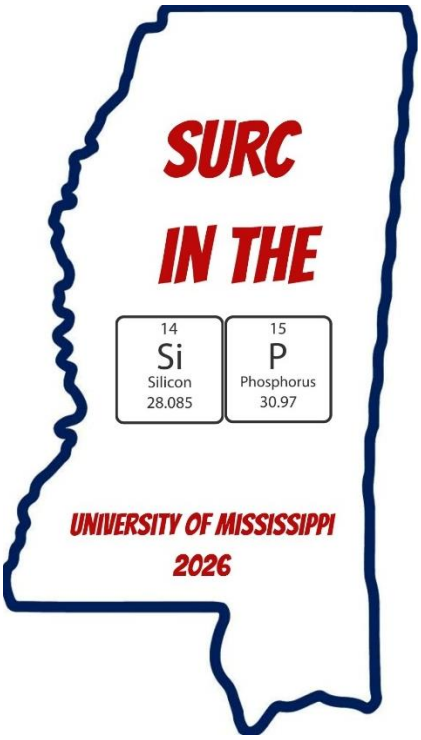

55th Annual
ACS Southeast Undergraduate Research Conference

February 6-7, 2026

The University of Mississippi

Oxford, MS

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University of Mississippi
Instructional Associate Professor

Chair of SURC Board of Directors
Dr. Brandon Magers
Belhaven University
Chair and Professor of Chemistry

Schedule of Events

Friday, February 6th

4:00 PM – Conference check-in begins (Duff Center Main Desk)

4:00-5:00 PM – Tours of Coulter Hall (Coulter Hall Atrium)

5:00-7:00 PM – Dinner and Keynote Speaker, Dr. Ashley Ringer McDonald

Welcome by Dr. John Higginbotham, Vice Chancellor for Research and Economic Development, University of Mississippi

(Duff Center Main Floor)

7:00-8:30 PM – Poster Session 1 (Duff Center Hallways)

Saturday, February 7th

8:30-10:15 AM – Oral Presentations Session 1 (Duff Center 122 & 134)

10:15-10:30 AM – Break

10:30-12:30 PM – Oral Presentations Session 2 (Duff Center 122 & 134)

12:30-1:30 PM – Lunch (Duff Center Main Floor)

1:30-3:00 PM – Poster Session 2 and Grad and Career Fair (Duff Center Hallways)

3:30 PM – Awards Ceremony (Duff Center Main Floor)

Keynote Speaker

Dr. Ashley Ringer McDonald

Professor and Beres/Dahl Faculty Research Fellow in Computational Science
Department of Chemistry and Biochemistry
Bailey College of Science and Mathematics
Cal Poly San Luis Obispo

Ashley Ringer McDonald received her B.S. in Chemistry from Mississippi College in 2004. She was an undergraduate research student with Prof. David Magers, using computational chemistry to study organic reaction mechanisms. She went on to get her Ph.D. at Georgia Tech, working with Prof. David Sherrill, using electronic structure methods to study non-covalent interactions. Dr. McDonald did a post-doctoral fellowship at the University of Maryland School of Pharmacy in the Center for Computer-Aided Drug Design, where she was an NIH NRSA post-doctoral fellow. She joined the faculty of the Department of Chemistry and Biochemistry in 2011 where she is now a full professor.

Broadly, Dr. McDonald's research interests include studying molecular level interactions in complex chemical contexts, using a variety of computational chemistry techniques to characterize molecular interactions over different timescales and length scales. Current projects include studying signaling pathways in proteins, elucidating mechanisms of natural product synthesis, and studying how naturally occurring peptides can impact the human microbiome.

Prof. McDonald is a strong advocate for helping students develop strong computational and data science skills to become better students, researchers, and critical thinkers. She is on the Board of Directors for the Molecular Sciences Software Institute, where she serves as director for education, training, and faculty development. In 2023, she served as the Chair of the American Chemical Society's Division of Computers in Chemistry. She is the editor of two books, published by the American Chemical Society, *Teaching Programming Across the Chemistry Curriculum* and *Engaging Students in Physical Chemistry, Volume 2.*

In her free time, Dr. McDonald is an avid baker who particularly loves making French style pastry and Viennoiserie, including croissants, Danish, and brioche. She lives in San Luis Obispo, California, with her husband and her dog.

Titles by Session

Oral Session 1

8:30 a.m. in Duff Center 122

Moderated by Dr. Emily Rowland, University of Mississippi

8:30-8:45 **Leveraging Desymmetrization to Design Norcantharidin Derivatives with Enhanced PP5 Selectivity**
Mary Helene Marmande, Bailey Baxter, Hannah Lawley, Caleb Lopansri, Lucy Orr
Department of Chemistry, University of South Alabama, Mobile, AL
Department of Biochemistry and Molecular Biology, Frederick P. Whiddon College of Medicine, University of South Alabama, Mobile, AL

8:45-9:00 **Evaluating a Norcantharidin-Based Scaffold for Selective PP5 Inhibition: Lessons Learned from Design to Biochemical Testing in Tumor-Related Pathways**
Kathryn Mayeaux, Bailey Baxter, David Forbes, Hannah Lawley, Caleb Lopansri, Mary Helene Marmande, and Lucy Orr
Department of Chemistry, University of South Alabama, Mobile, AL

9:00-9:15 **Positional Effects of Electron-Deficient Heterocycles on the Emission and Aggregation Behavior of polycyclic-1,2-BN-heteroarenes**
Skylor Seetaram, Blaise Williams, Carl Jacky Saint-Louis
Department of Chemistry and Biochemistry, Kennesaw State University, Kennesaw, GA

9:15-9:30 **Diastereoselective Addition of Masked Acyl Cyanides to Nitroalkenes Using Achiral Squaramide Organocatalysts**
Darrien C. Carter, Francis K. Kekessie, Julie A. Pigza
Department of Mathematics and Natural Sciences, University of Southern Mississippi, Hattiesburg, MS

9:30-9:45 **Pyridine-based HIV Integrase Inhibitors: Pyridine-Core Development**
Tyler D. Twedt, Brenna R. Macaluso, A. Margaret Miller, Hannah J. N. Mattke, Christopher T. Bruni, Sharon E. Suffern, R. Victor Mishoe, Gavisha Mugon, Sarah J. Hayek, Jacques J. Kessl, Julie A. Pigza, Matthew G. Donahue, Wolfgang H. Kramer
Department of Chemistry and Biochemistry, Millsaps College, Jackson, MS
Department of Chemistry and Biochemistry, The University of Southern Mississippi, Hattiesburg, MS

9:45-10:00 **Design and Optimization of Sprayable Peptide Amphiphiles for Skin Regeneration**
Jessica Shrestha, Penelope Jankoski, Tristan Clemons
School of Polymer Science and Engineering, The University of Southern Mississippi, Hattiesburg, MS

10:00-10:15 **Formation of Novel Starting Materials for Rhodamine Synthesis**
Veronica Trice, Mathew Bratton, C.J. Stephenson
Loyola University New Orleans, New Orleans, LA

Oral Session 2

8:30 a.m. in Duff Center 134

Moderated by Dr. Jinchao Lou, University of Mississippi

8:30-8:45 **Influence of Ligand Charge on DNA Binding by Ruthenium Complexes with Light-Activated Anticancer Activity**
Elena Kuehner, Sarah Khweis, Elizabeth Papish
Department of Chemistry & Biochemistry, The University of Alabama, Tuscaloosa, AL

8:45-9:00 **Synthesis and native gel analysis of the PRMT1 R353P protein variant**
Isabella Robertson, Tamar B. Cáceres
Union University, Jackson, TN

9:00-9:15 **Dual CDK and MEK Inhibition potentiates CD8 T cell mediated antitumor immunity by inducing pyroptotic cell death in high mutational head and neck cancer**
Fanghui Chen, Fang Yang, David O Popoola, Jianqiang Yang, Chris Tang, Alexis Payne, Lynn Zhang, Nicole C Schmitt, Jin Xie, Nabil F Saba, Yamin Li, Yong Teng
Department of Hematology and Medical Oncology, Emory University, 201 Dowman Dr, Atlanta, GA
Department of Pharmacology, State University of New York, Upstate Medical University, Syracuse, NY
Department of Otolaryngology, Emory University, Atlanta, GA
Winship Cancer Institute of Emory University, Atlanta, GA
Department of Chemistry, University of Georgia, Athens, GA
Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, GA

9:15-9:30 **Optimizing synthesis of Cyclic Orthoamide via Microwave**
Wyatt Kirkpatrick, Feliciano Rivera, Ajay Lajmi
University of West Florida, Ferry Pass, FL

9:30-9:45 **Development and Characterization of Ester-Linked NSAID-Polymer Conjugates Towards Limiting Suture Site Inflammation**
Mia Kirby, DSharon Hamilton
Department of Chemistry, Ouachita Baptist University, Arkadelphia, AR

9:45-10:00 **Synthesis of Boronium Salts for Study as Antimicrobials Agents**
Gabriel A. Merchant, Margaret E. Crowley, Edgar E. Escalante, Richard A. O'Brien, Terrence J. Ravine, James H. Davis Jr.
Department of Chemistry, University of South Alabama, Mobile, AL
Department of Biomedical Sciences, University of South Alabama, Mobile, AL
Department of Civil, Coastal, and Environmental Engineering, University of South Alabama, Mobile, AL

10:00-10:15 **Drug Release in Imine-Conjugate Chitosan-Based Hydrogels**
Cole Sullivan, Sharon Hamilton
Department of Chemistry, Ouachita Baptist University, Arkadelphia, AR

Oral Session 3

10:30 a.m. in Duff Center 122

Moderated by Dr. Yuan (Mike) Xue, University of Mississippi

10:30-10:45 **Hidden Intermediates in DH270-Induced Structural Transitions of HIV-1 Env Identified by a Bayesian Integrative Approach**
Alaina Vrable, Ashley L. Bennett
Department of Pharmaceutical Chemistry, Barton College, Wilson, NC
Department of Biology, Barton College, Wilson, NC

10:45-11:00 **Microsolvation effects of 1,1-dimethyl-biguanide hydrochloride (metformin)**
Jasmine Sanders, Steve Davis, Kurt Olinde, Kim Poland, Kailey Bell, Taylor Cole, Ryan Fortenberry
Department of Chemistry and Biochemistry, University of Mississippi, University, MS

11:00-11:15 **Multireference evaluation of substituent effects on singlet–triplet splittings in anti-Bredt olefins**
Emily Huang, Francesco Evangelista
Department of Chemistry and Cherry Emerson Center for Scientific Computation, Emory University, Atlanta, GA

11:15-11:30 **Understanding Conductance Trends in Single Molecule Acene Junctions**
Shelby Belt, Dakota Landrie, Sharani Roy
Department of Chemistry, University of Tennessee, Knoxville, TN

11:30-11:45 **A Raman Spectroscopic Analysis of Synthetic Single-Layer Graphene Nanoribbon Architectures**
Brandon Y. Suh, Conner R. Brower, Xiaozhou Meng, Chao Duan, Penghao Li, and Nathan I. Hammer
Department of Chemistry and Biochemistry, University of Mississippi, University, MS

Numerical studies of a multidimensional interpolant of on-the-fly generated quantum mechanical data for MD simulations of diverse molecular systems

11:45-12:00 Andrew Myers, Michael Salazar
Department of Chemistry, Union University, Jackson, TN

12:00-12:15 **Chemical Pressure Effect in the Magnetocaloric Candidate CrNiP**
Miriam Raggs, Madalynn Marshall
Department of Chemistry and Biochemistry, Kennesaw State University, Kennesaw, GA

Oral Session 4

10:30 a.m. in Duff Center 134

Moderated by Dr. Markus Langner, University of Mississippi

10:30-10:45 **Exploring Synthesis Methods for Quinone-Bridged Chromium Dimers Towards Mechanistic Insight in Alcohol Oxidation**
Natalie Supine
Department of Chemistry, Union University, Jackson, TN

10:45-11:00 **Towards the Development of a Quantitative Structure-Activity Relationship in the Search for a Safe and Effective Treatment for Visceral Leishmaniasis**
Reese Robison, E. Blake Watkins
Department of Chemistry, Union University, Jackson, TN
College of Pharmacy, Union University, Jackson, TN

11:00-11:15 **Nickel-Catalyzed Carbonylative Lactonization of Hydroxycyclopropanols to Form Spirocyclic and Fused Bicyclic Lactones**
Cyrus Gudeman, Aidan Zhao, Mingji Dai
Department of Chemistry, Emory University, Atlanta, GA

11:15-11:30 **New Electron-Rich Polycyclic 1,2-BN-Heteroarenes with Phenyl Spacer: Synthesis and Photophysical Properties**
Lilianna Kocai, Lingaraju Gorla, Alexandru N. Tapu, Carl Jacky Saint-Louis
Department of Chemistry and Biochemistry, Kennesaw State University, Kennesaw, GA

11:30-11:45 **Leading Through Learning: Empowering Tomorrow's Science Teachers Through Innovative Chemistry Research**
Lucy A. Orr, David C. Forbes, Sarah K. Guffey-McCorrison
Department of Chemistry, Department of Leadership and Teacher Education, University of South Alabama, Mobile, AL

11:45-12:00 **Comparing Extraction Methods for Cannabinoids in Hemp Edibles**
Juan Bernal, Amanda Burkhart
Department of Chemistry & Physics, University of Tennessee at Martin, Martin, TN

12:00-12:15 **Analysis of Beach Microplastics via IR Spectroscopy**
Duha Amwas, Mya Hernandez, Andy Lau, Katelyn Ma, Gidget Tay
Department of Natural Sciences, Pasadena City College, Pasadena, CA

12:15-12:30 **Quantification of microplastic release from bottled water under simulated daily use conditions**
Grayson Kendall, Hafsa Khan, William Alexander
Department of Chemistry, University of Memphis, Memphis TN

Poster Session 1

7:00 PM, Friday, February 6

Posters 1-22 on the second floor – Organic/Polymer

Posters 23-40 on the third floor - Physical / Computational

P1-1 **Aminio Acid ILs Coating Capabilities and Physicochemical Impacts on mPEG-PCL Nanoparticles**
Deauntaye Jones, Mercede C. Pride, Eden E.L. Tanner
Department of Chemistry and Biochemistry, University of Mississippi, University, MS

P1-2 **Photochemical Cyclization Reactions involving Saccharin Chromophores**
Alex A. Bremond, Elyse K. Warren, Braeden P. Brewer, Wolfgang H. Kramer
Department of Chemistry and Biochemistry, Millsaps College, Jackson, MS

P1-3 **Synthesis of Isoindolone Piperidines As Kinase Inhibitors: Preparation of Photochemical Starting Materials and Photoreactions**
Caleb A. Solangi, Davin B. Karst, Zoe O. Elder, Christian N. Hart, Tynai J. Bridges, Caroline A. McKinney, Matthew G. Donahue, Wolfgang H. Kramer
Department of Chemistry and Biochemistry, Millsaps College, Jackson, MS
Department of Chemistry and Biochemistry, The University of Southern Mississippi, Hattiesburg, MS

P1-4 **Developing Biodegradable Wound Dressings to Induce Homeostasis in Traumatic Wounds**
Kira Stevens, Sharon Hamilton
Department of Chemistry, Ouachita Baptist University, Arkadelphia, AR

P1-5 **Studies Toward the Non-Racemic Synthesis of *cis*-Theaspirone**
Nathan Link, Genessa Smith
Department of Chemistry and Physics, University of Tennessee at Martin, Martin, TN

P1-6 **Synthesizing Amino Acid Ionic Liquids**
Mercedes Pride, Nathan Duong
Department of Chemistry, University of Mississippi, University, MS

P1-8 **Machine Learning-Driven High Throughput Block Copolymer Microscopy Analysis Pipeline**
Mukesh Poudel, Daniel Struble, Bradley Lamb, Boran Ma
School of Polymer Science and Engineering, The University of Southern Mississippi, Hattiesburg, MS

P1-9 **Analysis of Thrombin Release from Natural Polymer-Based Nanofibers Towards the Development of Bioactive Wound Dressings**
Gracie Moore, Sharon Hamilton
Department of Chemistry, Ouachita Baptist University, Arkadelphia, AR

P1-10 **Investigating Greener Methods for the Electrophilic Bromination of Alkenes**
Sage Lambraia, Verna B. Baron
University of Tennessee at Martin, Martin, TN

P1-11 **Preparation of Conjugated Polyphenylethynylarene Macrocycles**
Lori Madison, Selah Roberts, Christina Raley, Emily Huff, Catalina McCoy, Robert Carter, Jadyn Davis, Jacob Allen, Forrest Aby, Hannah Hinkley, Harrison Jones, Braden Clark, Makayla Stage, Ashley Carter, Swizel Fernandes, Joshua Khanna, Kaniquia Fulton, and Trent D. Selby
Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-12 **A General Synthesis of Dihalogenated Substituted Dienes**
Jake A. Borges, Haley A. Gillin, Madison J. Sowden
Department of Chemistry and Biochemistry, Auburn University, Auburn, AL

P1-13 **Mechanochemical Synthesis of Nitrosamines for Risk Reduction**
Lauren E. Kenas, Madison K. Beam, S. Ariel Kelley
Department of Chemistry, Belhaven University, Jackson, MS

P1-14 **Synthesis of Triptycene End Capped Hexabenzocoronene**
Sara Vonkanel, Nishadi Ranathunga, Penghao Li
Department of Chemistry and Biochemistry, The University of Mississippi, Oxford, MS

P1-15 **Preparation of α-Bromodimethylglyoxime**
Liam Allen and Daniell Mattern
Department of Chemistry and Biochemistry, The University of Mississippi, Oxford, MS

P1-16 **Exploring Aogicillin: Analog Synthesis and Bioactivity Assessment Against Resistant Pathogens**
Audrey Isakov, Andrew LeBlanc, William Wuest
Department of Chemistry, Emory University, Atlanta, GA

P1-17 **Synthesis and Characterization of Novel Ni (II) CNC Pincer Complexes for Carbon Dioxide Reduction**
Louis M Bercaw, Brendan Pang, Nehemiah Antoine, Elizabeth T Papish
Department of Chemistry and Biochemistry, The University of Alabama, Tuscaloosa, AL

P1-18 **Synthesis and Testing of Halofuginone Derivatives for the Treatment of Tickborne Diseases**

Abigail Taylor, Julie Pigza
Chemistry and Biochemistry, School of Mathematics and Natural Sciences, University of Southern Mississippi, Hattiesburg, MS

P1-19 **A Sustainable Method for Synthesizing Nitrosodiphenylamine**

Reagan M. Nichols, Chloe B. Amos, Misa S. Meadows, Karlee McKinney, S. Ariel Kelley
Department of Chemistry, Belhaven University, Jackson, MS

P1-20 **Structure-Activity relationship of coumarins as Antimicrobial Agents**

Jeremy Olson, Luke Millaway, Lacey Nichols, Aurora Shuster
Department of Chemistry/Biochemistry, University of North Georgia, Dahlonega, GA

P1-21 **Investigation of the Cellular Uptake of Ruthenium and Rhenium Complexes that are used as Anti-Cancer Agents**

Pridemore, P. D.; Antoine, N.; Muthama, D. M.; Osaigbovo, D.; Papish, E. T
Department of Chemistry and Biochemistry, The University of Alabama, Tuscaloosa, AL

P1-22 **Poster Withdrawn**

P1-23 **Modeling Molecular Interactions through Classical and Quantum Oscillator Frameworks of Br_2**

Dembe Mutebi
Department of Chemistry and Biochemistry, Georgia Tech, Atlanta, GA

P1-24 **Spectroscopy of Tetrakis(dimethylamino)ethylene**

Irene Bishop, Nathan Hammer, Conner Brower
Department of Chemistry and Biochemistry, University of Mississippi, Oxford, MS

P1-25 **Energetics, and Non-Covalent Interactions of Nitrosamine Dimers**

Todd Goudeau, Sam Sackett
Department of Chemistry, Belhaven University, Jackson, MS

P1-26 **Enthalpies of formation of quinoline derivatives by homodesmotic reactions**

Jeseny L. Lewis, Ryleigh G. Borbash, and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-27 **Conventional strain energies of selenagermirane and the selenagermetanes**

Kelsey R. Clackler and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-28 **Do stable hydrogen bridge bonds form between boron and silicon?**
Anna Kathryn Mullen and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-29 **Conventional strain energies of thiasilirane, the thiasiletanes, thiaphosphirane, and the thiaphosphetanes**
Avery C. Foret and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-30 **Calculation of conventional strain energies of small heterocycles of carbon and silicon by model reactions**
Cedell Hendricks V, Eli M. Franklin, and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-31 **Enthalpies of formation of chloro, cyano, and methyl derivatives of heterocyclic aromatics by homodesmotic reactions**
Emily M. Huff, Gracie Bassett, Dean Damon, and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-32 **Conventional strain energies of small heterocyclic compounds of boron, carbon, and sulfur**
Sarah G. Murley and David H. Magers
Computational Chemistry Group, Department of Chemistry & Biochemistry, Mississippi College, Clinton, MS

P1-33 **Analyzing Hydrogen Bonding Interactions of 1,2-Dimethoxyethane and Methanesulfonic Acid for Polymer Electrolyte Membrane Fuel Cells**
Jacqueline Sanchez, Jason E. Ritchie, Nathan I. Hammer
Department of Chemistry & Biochemistry, University of Mississippi, University, MS

P1-34 **Adsorption and desorption of PFAS mixtures on carbon-based sorbents: Impacts of nanoconfinement**
Mennatallah Khalifa, Bradley Lamb, Boran Ma
School of Polymer Science and Engineering, University of Southern Mississippi, Hattiesburg, MS

P1-35 **Computational Studies of the Relative Thermodynamic Energetics of Warfarin Tautomers**
Ashley Davidson, Jeremiah Theison, and D. Brandon Magers
Department of Chemistry, Belhaven University, Jackson, MS

P1-36 **Rovibrational Analysis of Methanetriol and its Conformers**
Nathaniel K. Carlson, C. Zachary Palmer, Ryan C. Fortenberry
Department of Chemistry & Biochemistry, University of Mississippi, University, MS

P1-37 **Quantum chemical spectral data for the astronomical detection of the potentially prebiotic 2-iminoacetaldehyde and 1,2-diiminoethane**
Megan McKissick, Ryan C. Fortenberry
Department of Chemistry & Biochemistry, University of Mississippi, University, MS

P1-38 **Energy of Cyclo-Cyclohexenes**
Charlie Truman Earl, Ryan C. Fortenberry
Department of Chemistry & Biochemistry, University of Mississippi, University, MS

P1-39 **High-throughput goniometer with fully automated contact angle measurement of polymer solutions**
Mashrafee Aryan, Daniel Struble, Boran Ma
School of Polymer Science and Engineering, The University of Southern Mississippi, Hattiesburg, MS

P1-40 **Simulating hydrogen uptake in a 3D electride material**
Duc Le, Samuel Weaver, Scott Warren
Department of Chemistry, The University of North Carolina at Chapel Hill, Chapel Hill, NC

P1-41 **Growing Pains! Determining the Ideal Growing Conditions for Seagrass in the Indian River Lagoon**
Allana Bowen, Angela Terry
Department of Chemistry, Daytona State College, Daytona Beach, FL

P1-42 **Relationship Between Seagrass and Macroinvertebrates**
Beth Anne Wright, Sarah Germany
Seagrass Research Group, Daytona State College, Daytona Beach, FL

Poster Session 2

1:30 PM, Saturday, February 7

Posters 1-23 on the second floor - Biochemistry / Medicinal

Posters 24-43 on the third floor - Analytical / Environmental (24-37), Inorganic / Materials (38-43)

P2-1 **Effect of Protein: Glycan Interactions on Hydroxyl Radical Protein Footprinting**
Madison Allenbrand, Ajay Sharma, Sandeep K. Misra, Joshua S. Sharp
Department of Biomolecular Sciences, University of Mississippi, Oxford, MS
Department of Chemistry and Biochemistry, University of Mississippi, Oxford, MS

P2-2 **Targeting Phospholipid Dysregulation as a Strategy to Reduce CBDP-induced Neurotoxicity**
Emma Bass, Jie Chen, Jinchao Lou
Department of Chemistry and Biochemistry, University of Mississippi, University, MS

P2-3 **Synthesis of Lipid-Based Molecular Switches for Controlled Drug Release and Imaging**
Vincent Ni, Isabella Toole, Jinchao Lou
Department of Chemistry and Biochemistry, University of Mississippi, University, MS

P2-4 **Insights into Nitration Mechanism of Cytochrome P450 Enzyme**
Monica Zheng, Tiffany Alvarez, Katherine M. Davis
Department of Chemistry, Emory University, Atlanta, GA

P2-5 **Glyco-Ionic Liquids for Targeted Drug Delivery in Lung Cancer**
Camille Kuntz, Omri Parks, Gagandeep Singh, and Eden Tanner
Department of Chemistry and Biochemistry, University of Mississippi, Oxford, MS

P2-6 **Investigation of Bovine Serum Albumin-Tagged Large Pore Mesoporous Silica Nanoparticles in Transdermal Delivery by Choline-Based Ionic Liquids**
Ava d'Auvergne, Alysha N. Hunter, Juan L. Vivero-Escoto, Eden Tanner
Department of Chemistry and Biochemistry, University of Mississippi, Oxford, MS

P2-7 **Evaluating Protein Concentration Compensation in Mass Spectrometry–Based Hydroxyl Radical Protein Footprinting**
Juliette Locklar, Mingming Zhao, Sandeep K. Misra, Ajay Sharma, Joshua S. Sharp
Department of Chemistry and Biochemistry, University of Mississippi, Oxford, MS
Department of BioMolecular Sciences, University of Mississippi, Oxford, MS

P2-8 **Good As Au**
Gianne Marsh, George Shannon, Orion Schulte, Karen W. Barnes
Department of Chemistry, University of West Florida, Ferry Pass, FL

P2-9 **Formalin-Induced Neuropathic Pain in Mice**
Maggie Milhorne, Katelynn Castagnola, Caleb Mast, and Ersilia Mirabelli
Department of Biology and Chemistry, Liberty University, Lynchburg, VA

P2-10 **Withdrawn**

P2-11 **Synthesis of biologically important Enamino Carbonyl compounds via Ball milling: A mechanochemistry approach**
Tej Beniwal, Maqhawe Ndlovu, Syed R Hussaini
Department of Chemistry & Biochemistry, University of Tulsa, Tulsa, OK

P2-12 **Evaluating the Antioxidant Effects of Kaempferol on Sodium Dichromate-induced Oxidative Stress in Human Astrocytes**
Kent Nayga, Samantha Louis, Juan Ferguson, Chukwumaobim Nwokwu
Department of Chemistry Physics, Florida Gulf Coast University, Fort Myers, FL

P2-13 **Synthesis of a symmetric macrocyclic amine as a metalloenzyme active site mimic**
Feliciano Rivera, Wyatt Kirkpatrick, Ajay Lajmi
Department of Chemistry, University of West Florida, Pensacola, FL

P2-14 **Ionic-Liquid Conjugates of Doxorubicin for Enhanced Cytotoxicity and Compatibility with Polymeric Nanoparticle Delivery**
Bryson Tessener, Camille Kuntz, Omri Parks, Eden E.L Tanner
Department of Chemistry & Biochemistry, University of Mississippi, University, MS

P2-15 **The Effect of Altering Dry Eye Drop Solution Concentrations on Light Absorption and Refractive Index**
Anna Jablonski
Department of Chemistry, Belhaven University, Jackson, MS

P2-16 **GCMS Analysis of Milkweed Plants Reveals Toxic Cardiac Glycoside Synthesis Pathway**
Jadyn Davis, Forrest Aby, Trent Selby, and Scoty Hearst
The Department of Chemistry and Biochemistry, Mississippi College, Clinton, MS

P2-17 **GCMS Analysis of Psychoactive Gas Station Products Reveals Human Health Concerns**
Forrest Aby, Jadyn Davis, Trent Selby, and Scoty Hearst
The Department of Chemistry and Biochemistry, Mississippi College, Clinton, MS

P2-18 **Gas Station Cannabinoid Products: The Risk They Pose On Motor Function and Human Health**
Catalina McCoy, Angel Bell, Ward Adams, Ella Brown, Sofia Elenkov, Kaitlyn Hamblin, Hannah Hinckley, Emily Huff, Jasmine Kaur, Jonathan Lott, Duha Musa, Christina Raley, Anna Redhead, Kaniquia Fulton, Joshua Khanna, and Scoty Hearst
The Department of Chemistry and Biochemistry, Mississippi College, Clinton, MS

P2-19 **Medical Profiling of Human Tissues using Forensic Pharmacology and AI Modeling**
Ella Brown, Forrest Aby, Wilson Hooker, Angel Bell, Ward Adams, Sofia Elenkov, Kaitlyn Hamblin, Hannah Hinckley, Emily Huff, Jasmine Kaur, Jonathan Lott, Catalina McCoy, Duha Musa, Christina Raley, Anna Redhead, Kaniquia Fulton, Joshua Khanna, Trent Selby, Beth Barlow, Stan Baldwin, and Scoty Hearst
The Department of Chemistry and Biochemistry, The Department of Biology, Mississippi College, Clinton, MS

P2-20 **The Addition of EDTA Affects Chromate Reduction by Biological Reductants: Implications for Ternary Adduct Formation**
Elizabeth Atkinson, Ann Elizabeth Badaracco, Emily Wilkes, Katie Repke, Stephen A. Woski, John B. Vincent
Department of Chemistry and Biochemistry, The University of Alabama, Tuscaloosa, AL

P2-21 **Towards SERS Detection of Triple Negative Breast Cancer Using Ionic Liquid Based Gold Nanoparticles**
Jaylen Watson, Priyavrat Vashisth, Conner Brower, Briana Gamboa, Reese Ruhl, Nicholas Whitehead, Nathan Hammer, Eden E. L. Tanner
Department of Chemistry and Biochemistry, The University of Mississippi, University, MS

P2-22 **Improving the Solubility and Activity of Porcine ST3Gal-I with Protein MPNN**
Shuquan Fan, Chih-Yang Cheng, Jun Pan, Leo Lin, Hong Shuai Lyu, Mohammad Hossein Shabahang, Jeremy Mills, and Lei Li
Department of Chemistry, Georgia State University, Atlanta, GA
School of Molecular Sciences and The Biodesign Center for Molecular Design and Biomimetics, Arizona State University, Tempe, AZ

P2-23 **The Impact of Glyco-Based Ionic Liquids on the Polarization of M2 Macrophages Associated with Triple-Negative Breast Cancer Cells**
Mira M. Patel, Gaya S. Dasanayake, Eden E.L. Tanner
Department of Chemistry and Biochemistry, University of Mississippi, University, MS

P2-24 **Molecular Specificity of Erythromycin Resistance Methyltransferases**
Camila Lamy, Ella Yerger, Juan Otero, Hector Mujica, Allyn J. Schoeffler
Department of Chemistry & Biochemistry, Loyola University New Orleans, New Orleans, LA

P2-25 **Analytical Evaluation of Furan in Carrot-Based Baby Foods using GC-MS/MS**
Karen W. Barnes, George Shannon, Orion Schulte, Julia Beyer, Chris Meilstrup
Department of Chemistry, University of West Florida, Pensacola, FL

P2-26 **Furan Content in Coffee**
Christopher Meilstrup, Orion Schulte, Julia Beyer, George Shannon
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P2-27 **Analysis of Heavy Metals in Sanitary Products by ICP-OES**
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P2-28 **Analysis of Heavy Metals in Sanitary Products for Babies and Pets**
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P2-29 **Rooted in Regolith: How Compost Impacts Nutrient Values of Plants Grown in Earth Topsoil and Lunar and Martian Regolith**
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P2-30 **Battle of Nutrition: MREs v Canned Goods**
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P2-32 **Integrating a Cf-252 source into existing mass spectrometry instrumentation**
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P2-33 **Measurement of UV Absorbance in Contact Lenses using UV/Vis Spectroscopy**
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P2-34 **Paper Analytical Devices for Drug Screening**
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P2-36 **Development of an X-ray Fluorescence (XRF)-based Method for the Determination of Metal Content in New and Aged Bones for PMI Estimation**
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P2-37 **GCMS Analysis of Social Semiochemicals in Mississippi White-tailed Deer**
Ella Goolsby, Todd Cox, Stephen Mills, William Janous, Stephen Mills, Joshua Berry, Trent Selby, and Scoty Hearst
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P2-38 **Modulating Proton-Coupled Electron-Transfer of Synthetic Heme Oxo Complexes Through Bioinspired Ligation**
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P2-39 **Designing Amino Polycarboxylate Ligands for selective f-block Metal Binding**
Tahzjayee Gaymon, Hannah Nolan, Kavitha Tamilarasan, Mikaela Pyrch
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P2-40 **Tailored Macrocyclic Chelators for Selective Stabilization of f-Block Targeted Alpha Therapy Isotopes**
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P2-41 **Investigating Novel Transition Metal Catalysts for Selective CO2 Reduction through Ligand Engineering**

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P2-42 **Development of New Earth-Abundant Catalysts for Methane Production from Carbon Dioxide**

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P2-43 **Response of a Distorted Kagome Material to Chemical Pressure**

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