

# Sunday General Info

**Get your badge** - starting at 7 am at the Event Office in the upper level of the Convention Center

**Beverage Services** - water stations will be available outside the meeting rooms. Complimentary coffee and tea and other beverages will be available daily from 8 am - 5 pm in the WCC upper atrium. Official Coffee breaks from 10-10:30 am and 3-3:30 pm.

**Networking Space** - Networking space sponsored by Baylor University can be found in the WCC upper atrium.

## FOOD and Drink

### In the Convention Center

Upper Atrium  
Daily 11 am - 2 pm  
Sunday 5 pm - 8 pm

#### **Brown Bag Special**

Pulled Pork Sandwiches  
Brisket Sandwiches  
Sausage Sandwiches  
Chips  
Sodas/water  
BBQ Frito pie  
BBQ Nachos



### In the Hilton

Breakfast, lunch, and dinner daily



#### **Brazos Grille**

Brazos Grille at the Hilton Waco hotel offers a variety of regional Italian inspired dishes to meet everyone's tastes at an affordable price. Offering a casual, yet festive atmosphere with a wide variety of menu selections, it provides the perfect place to enjoy the panoramic views of Indian Hills Park & the Brazos River. Brazos Grille is open daily for breakfast, lunch and dinner serving fresh indigenous local products.

### Across the Street



WiFi Network Name: ccpublic Password: wacocc17

# Sunday Events

**Senior Chemists Breakfast** - (7-8 am) meet Pat Farmer in the Hilton Brazos Grille (Patrick\_Farmer@baylor.edu)

**W. Dial Black Reception** - (5-5:45 pm) a reception will be held in honor of Professor Paul Wender, the W. Dial Black lecturer. The reception will be in the Hilton hotel Three Rivers Ballroom (immediately adjacent to the WCC).

**W. Dial Black Lecture** - Professor Wender will present the Dial-Black lecture, beginning at 5:45 pm. The lecture (open to the public) will be in McLennan Hall (in the upper level of the WCC).

“Translational Science:  
The Chemistry:Biological:Medicine Continuum”

**Opening Reception/EXPO/Grad Fair/Poster Session1**  
An opening reception will be held concurrently with the EXPO, Graduate Recruiting Fair, and Poster Session 1. Brazos Ballroom (second level, WCC)

WiFi Network Name: ccpublic Password: wacocc17

# **Sunday Morning Technical Program**

## ***Computational and Theoretical Chemistry***

K. L. Shuford, *Organizer, Presiding*      Texas 116

## ***Advances in Organic Synthesis and Catalysis***

L. Romero, J. L. Wood, *Organizers, Presiding*      Texas 115

## ***Electron, Optical, Scanning, and X-ray probes for Materials Characterization and Science***

J. Larson, *Organizer, Presiding*      Texas 118

## ***Stone Symposium: Unusual Structure, Reactivity, and Properties of Inorganic Species***

C. Martin, S. Yruegas, *Organizers, Presiding*      Texas 113

## ***Bioinorganic Chemistry***

P. J. Farmer, *Organizer, Presiding*      Texas 114

# **Sunday Afternoon Technical Program**

## ***Advances in Organic Synthesis and Catalysis***

L. Romero, J. L. Wood, *Organizers, Presiding*      Texas 115

## ***Biochemistry (General)***

L. R. Marshall, *Organizer, Presiding*      Texas 117

## ***Bioinorganic Chemistry***

P. J. Farmer, *Organizer, Presiding*      Texas 114

## ***Computational and Theoretical Chemistry***

K. L. Shuford, *Organizer, Presiding*      Texas 116

## ***Materials for Energy and Environment***

J. Larson, *Organizer, Presiding*      Texas 118

# **Sunday Afternoon Technical Program** **(continued)**

## ***Undergraduate Symposium***

J. R. Ingle, *Organizer, Presiding* Ranger 106/107

## ***Mass Spectrometry for Biomolecules***

E. S. Gallagher, *Organizer, Presiding* Lone Star 104

## ***Stone Symposium: Unusual Structure, Reactivity, and Properties of Inorganic Species***

C. Martin, S. Yruegas, *Organizers, Presiding* Texas 113

# **Sunday Evening Plenary Lecture**

## ***Dial-Black Award Lecture***

L. Romero, *Organizer, Presiding* McLennan Hall 5:45 pm

## **Translational Science:**

### **The Chemistry-Biology-Medicine Continuum**

Professor Paul A. Wender

Stanford University

# **Sunday Evening Reception: EXPO, Grad Recruiting Fair, and Posters**

## ***Biochemistry Posters***

L. R. Marshall, *Organizer* Brazos Ballroom 7-9 pm

## ***Undergraduate Symposium Posters***

J. R. Ingle, *Organizer* Brazos Ballroom 7-9 pm

WiFi Network Name: ccpublic Password: wacocc17

## SUNDAY MORNING

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### *Computational and Theoretical Chemistry*

K. L. Shuford, *Organizer, Presiding*

Texas 116

**7:50** Introductory Remarks.

**8:00** 1. Probing the effects of size and charge on the hydration motifs of polyatomic anions. **G.S. Tschumper**

**8:30** 2. Getting (electronically) excited about computing vibrational spectra. **R.C. Fortenberry**

**9:00** 3. Tensor factorization methods in quantum chemistry. T. ZHAO, M. Simons, **D. Matthews**

**9:30** 4. Modeling strongly correlated electrons with stochastic and active-space-free approaches. **J. Shee**, D. Danilov, B. Ganoe

**10:00** Coffee Break.

**10:30** 5. Uranium compounds: Seen through the eyes of quantum chemistry. **E. Kraka**

**11:00** 6. Adventures in computational chemistry: From rare-earth to transition-metal bonds, through noncovalent control of transition metal methylidene coupling, to magnetic interactions in a four-spin transition-metal tetramer. **M.B. Hall**

**11:30** 7. Creation of charge transfer states for photocatalytic water splitting in doped graphitic carbon nitride. **H. Lischka**, L. Ueno, L. Ferrao, F. Machado, L. Silva, L. Fonseca, A. Aquin

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### *Advances in Organic Synthesis and Catalysis*

L. Romero, J. L. Wood, *Organizers, Presiding*

Texas 115

**8:00** 8. Reprogramming organolithiums to access remote synthetic landscapes. **A.A. Thomas**

**8:30** 9. Strategies and Mechanistic Tools for Light-Mediated Organic Synthesis. **S. Pitre**

**9:00** 10. Hybrid Pd-radical chemistry: new mechanism, new possibilities. **V. Gevorgyan**

**9:30** 11. Synthesis and applications of fluorescent polymers in real-time by fluorogenic radical polymerization. **C.B. Cooley**

**10:00** Coffee Break.

**10:30** 12. Target identification, molecular pharmacology, and medicinal chemistry of orphan cytotoxins. **J.K. De Brabander**

**11:00** 13. Overview of agricultural R&D at FMC. **T. McMahon**

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## ***Electron, Optical, Scanning, and X-ray probes for Materials Characterization and Science***

J. Larson, *Organizer, Presiding*

Texas 118

**8:30 14.** X-ray Vision for A Macro-to-Nano Zoom through the Hierarchy of a Lithium-ion Battery. **Y. Liu**

**9:15 15.** Optothermal manipulation for materials characterization. **Y. Zheng**

**10:00** Coffee Break.

**10:30 16.** Scanning Probe Microscopy: Designing interfacial surface chemistry to enable spatially selective patterning of proteins and DNA at the nanoscale. **J.C. Garno**, A.R. Walker, Q. Do

**11:00 17.** Generation of energetic hot electrons and superradiance from strongly quantum-confined perovskite quantum dots and their superlattices. **D. Son**

**11:30 18.** Initial carbonation of Ni(111) surfaces from carbon monoxide. **F. Xu**, J. Sanchez, B. Lamichhane, S. Kattel

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## ***Stone Symposium: Unusual Structure, Reactivity, and Properties of Inorganic Species***

C. Martin, S. Yruegas, *Organizers, Presiding*

Texas 113

**8:45** Opening Remarks.

**9:00 19.** On the interaction of carbenium ions with group 15 and 16 main group moieties. **F.P. Gabbai**

**9:25 20.** Perturbing electron density within Al-H-Ni subunits in heterometallic nickel-aluminum hydride complexes. **M. Shoshani**

**9:50 21.** Oil & water: Mixing heavy 5p/6p donor sets with late 3D metals for enhanced easy axis anisotropy. **M.J. Rose**

**10:15** Coffee Break.

**10:35 22.** Main group atoms in coordination chemistry. **T. Tilley**

**11:15 23.** Heteroleptic Copper(I) charge-transfer photosensitizers supported by  $\beta$ -Diketiminates. D. Kim, **T.S. Teets**

**11:40 24.** A one-pot synthesis of Mo<sup>0</sup> and W<sup>0</sup> complexes as Olefin Metathesis catalyst precursors. **Y. Ning**

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## ***Bioinorganic Chemistry***

P. J. Farmer, *Organizer, Presiding*

Texas 114

**10:30 25.** Cuprotosis and the DSF/Cu reaction. **P.J. Farmer**, J. Lyons

**11:00 26.** Mechanistic insights into non-heme iron thiol dioxygenase activity. **J. Li**, R. Duan, Y. Wang, I. Davis, A. Liu

**11:30 27.** Glycerol-dependent conformational activation of cysteamine dioxygenase (ADO) revealed by EPR spectroscopy. J. Helms, M. Probst, J. Paris, M.P. Hendrich, **B.S. Pierce**

## SUNDAY AFTERNOON

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### *Advances in Organic Synthesis and Catalysis*

L. Romero, J. L. Wood, *Organizers, Presiding*

Texas 115

**1:00 28.** Palladium-catalyzed aminoboration of alkenes. **K. Hull**

**1:30 29.** Natural products in the atmosphere. **R.J. Thomson**

**2:00 30.** Total synthesis of complex, bioactive natural products. **C.D. Vanderwal**

**2:30 31.** Strained Intermediates and Chemical Education as Vehicles for Innovation.. **N.K. Garg**

**3:00** Coffee Break.

**3:30 32.** Complex natural products as a driving force for discovery in organic chemistry. **B.M. Stoltz**

**4:00 33.** Stereoselective reactions with feedstock chemicals. **U.K. Tambar**

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### *Biochemistry (General)*

L. R. Marshall, *Organizer, Presiding*

Texas 117

**1:00** Introductory Remarks.

**1:00 34.** Exploring CRISPR-Cas9 HNH-domain catalyzed DNA cleavage using accelerated quantum mechanical molecular mechanical free energy simulations. **R. Van**, X. Pan, J. Liu, P.K. Agarwal, B. Brooks, R. Rajan, Y. Shao

**1:20 35.** Synthesis and evaluation of carbamate bioconjugates for hepatocyte modification. **J. Karunanathan**, E. McGown, R.R. Kane

**1:40 36.** NitrOFF: A fluorescent biosensor to visualize nitrate transport in living cells. **M. Cook**, K. Ji, S. Phelps, J. Tutol, S. Dodani

**2:00 37.** Surfactant assisted protein encapsulation in ZIF-8 MOF. **R.N. Hudson**, R. Ravanfar

**2:20 38.** Applying universal design to make chemistry more accessible to those with visual impairment. **L. Garza**, B.F. Shaw

**2:40 39.** Unlocking pHLIP's dynamic transformations using 2D IR spectroscopy. **R. Antonelli Maia**, C. Baiz

**3:00** Break.

**3:25 40.** Targeting phosphatidylserine in the tumor microenvironment with cathepsin B and L cleavable antibody/betabody drug conjugates (ADCs)/(BDCs). **Y. Deng**, J. Ford, J. VanNatta, C.J. Maguire, D. Mondal, N. Phinney, R.A. Brekken, K.G. Pinney, M.L. Trawick

**3:45 41.** Development of Macrocyclic Organo-Peptide Hybrids for targeting HIV-1 Nef protein function. **P. Agredo Sanin**, K. Wang, A. Saseendran, X. Jia, R. Fasan

**4:05 42.** Developing an anti-superoxide dismutase 1 (SOD1) aptamer for tracking SOD1 migration and aggregation in neurodegenerative diseases. **A. Pham**, G. Stovall

**4:25 43.** Selective capture, isolation, and characterization of mucin foraging neuraminidase-active bacteria from microbiomes using a non-inhibitory activity-based probe. **K. Shipman**, A. Steiger, E. Ugwuoji, L. Webber, A. Anand, A.T. Wright

**4:45** Closing Remarks.

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## ***Bioinorganic Chemistry***

P. J. Farmer, *Organizer, Presiding*

Texas 114

**1:00 44.** NO hidden electrons: Bioinspired redox- and spin-active transition metal coordination complexes based on Nitrosylated-Fe-N<sub>2</sub>S<sub>2</sub> metalloligands. **M.Y. Darensbourg**

**1:30 45.** Kinetics-based luminescence methods for monitoring and quantifying peroxynitrite and HNO. **A.R. Lippert**

**2:00 46.** Electron transfer sequence in NO reduction: HNO and N<sub>2</sub>O as signaling outputs. **P. Ghosh**, T.H. Warren

**2:30 47.** Recent Progress in Biosynthetic Modeling of Metalloenzymes. **Y. Lu**

**3:00** Coffee Break.

**3:30 48.** Improving the drug-like properties of a potent antioxidant scaffold for treatment of Alzheimer's and other neurodegenerative diseases. **K.N. Green**

**4:00 49.** Light triggered metallodrugs for Cancer therapy. **S.A. McFarland**

**4:30 50.** Fluorescent sensors for metalloenzyme active sites: applications in antibiotic resistance and beyond. **E.L. Que**, S. Price, D. Hudson, A. Malto

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## ***Computational and Theoretical Chemistry***

K. L. Shuford, *Organizer, Presiding*

Texas 116

**1:00 51.** Can noise enhance quantum coherence?. **E.R. Bittner**

**1:30 52.** Plumbing potentials for molecules with up to tens of atoms: How to find saddle points, fix leaky holes, build hole-free PESs, and find CI seam minima. **B. Poirier**, R. Liang, M. Aarabi, A. Pandey

**2:00 53.** Mesoscale quantum dynamics in molecular materials. **D. Raccah**

**2:30 54.** Cavity modified exciton transport. **A. Mandal**

**3:00** Coffee Break.

**3:30 55.** Dispersion, from a major to a minor component in intermolecular forces, plays a critical role in material properties. **F. Wang**

**4:00 56.** Incorporating nuclear quantum effects into non-adiabatic molecular dynamics. **F.A. Shakib**

**4:20 57.** Atomistic quantum dynamics simulations for vibrational spectroscopy. **M. Momenitaheri**

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## ***Materials for Energy and Environment***

Cosponsored by ENFL

J. Larson, *Organizer, Presiding*

Texas 118

**1:00 58.** Plasmonic photocatalysis with antenna-reactor nanoparticle complexes. **N.J. Halas**

**1:30 59.** Ternary Oxide Semiconductors and Alloys. **R. Krishnan**

**2:00 60.** Understanding the Interplay of Singlet Fission and Exciton Transport in Organic Crystals. **S.T. Roberts**

**2:30** Coffee Break.

**3:00 61.** Varied polyanionic dimensionality, complex structures, and thermoelectric properties in the Eu-Zn-As ternary system. **S. Baranets**

**3:30 62.** Lone but not alone: Modulating the energy positioning of lone-pair-derived states for the design of photocatalytic architectures. **S. Banerjee**

**4:00 63.** Tailoring Spin Configurations and Mass Transfer in Molecular and Framework Catalysts for Superior Oxygen Electrocatalysis. **S. Sreenivasan**

**4:30 64.** Hydrogen evolution and oxygen reduction on varied OH/F-terminations of Ti<sub>4</sub>N<sub>3</sub>T<sub>x</sub> Nitride MXene. **A. Djire**

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## ***Undergraduate Symposium***

J. R. Ingle, *Organizer, Presiding*

Ranger 106/107

**1:00** Introductory Remarks.

**1:05 65.** Templated synthesis of strained OBO-doped aromatic macrocycle. **M. Bilal**, V. Espinoza Castro, A. Slobin, A. Valles, R. Hernandez Sanchez

**1:20 66.** Reactions of dodecacarbonyltriosmium with substituted pyrazoles. **J. Polk**, N. McKinney, N. Palomino, C.B. Powell, G.L. Powell

**1:35 67.** Highly emissive zero-dimensional hybrid antimony chlorides A<sub>2</sub>SbCl<sub>5</sub> featuring long-chain cations. H. Majumder, **A.A. Miranda**, K. Thanabalasingam, K. McCall

**1:50 68.** *En route* to a molecular polygon with square geometry containing four platinum vertices and four (C≡C) edges. **T.M. Jackson**, A.J. Perez, J.A. Gladysz

**2:05** Intermission.

**2:10 69.** *Withdrawn*

**2:25 70.** *Withdrawn*

**2:40 71.** Triple-barrel capillary interfacial microreactor for reaction acceleration. **J. Kim**, M.E. Edwards, D.P. Freitas, W.J. Oluwasegun, L.A. Baker, X. Yan

**2:55** Coffee Break.

**3:20** Introductory Remarks.

**3:25 72.** Investigation of photophysical and hydrodynamic properties of fluorescent probe molecules in aqueous and reverse micelle environment. **D. Kim**, M. Opolz, R.K. Nayak

**3:40 73.** Unlocking nature's secrets: Method development and LC-MS troubleshooting for discovering bioactive compounds in herbal plants. **J. Thorne**, L. Hunter, K. Priyasantha

**3:55 74.** Unveiling bioactive phenolics: Identifying key compounds in herbal tea samples. **L. Hunter**, J. Thorne, K. Priyasantha

**4:10** Intermission.

**4:15 75.** Determination of caffeine and ascorbic acid content in kombucha using UV-visible spectrometry and multivariate regression modeling. **A. Gaudard Correa Rangel**, J.R. Ingle

**4:30 76.** Detection of BPA in clothing using fluorescence spectrophotometry. **B. Steinfeldt**, S.E. Hubbard

**4:45 77.** Preparation of antibiotic-chitosan conjugate hydrogels for wound care applications.. **A. Browning**, S.K. Hamilton

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## ***Mass Spectrometry for Biomolecules***

E. S. Gallagher, *Organizer, Presiding*

Lone Star 104

**1:30 78.** The disordered acidic domain of Asf1 regulates Rtt109 acetylation of H3-H4. **S. D'Arcy**

**2:00 79.** Top down proteomics reveals a proteoform-truncation mechanism that supersedes the DNA damage and apoptotic response.. F.M. Joseph, **N.L. Young**

**2:30 80.** Neuropeptide analysis to explore potential mechanisms of alcohol addiction in rats. **M. Asokan**

**3:00** Coffee Break.

**3:30 81.** Water plays key roles in the stabilities and compositional entropy of mutant transthyretin tetramers. **C. Lantz**, R. Rider, S. Yun, A. Laganowsky, D.H. Russell

**4:00 82.** Capturing RAS oligomerization on a membrane. S. Yun, **E. Scott**, J. Chang, H. Bahramimoghaddam, M. Lynn, C. Lantz, D.H. Russell, A. Laganowsky

**4:30 83.** Interfacial electromigration for analysis of small volume biofluid. **M.E. Edwards**, D.P. Freitas, E.A. Hirtzel, N. White, H. Wang, L. Davidson, R.S. Chapkin, Y. Sun, X. Yan

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## ***Stone Symposium: Unusual Structure, Reactivity, and Properties of Inorganic Species***

C. Martin, S. Yruegas, *Organizers, Presiding*

Texas 113

**1:45 84.** *In crystallo* synthetic chemistry. **D. Powers**

**2:10 85.** Facile access to organostibines via selective organic superbase catalyzed antimony-carbon protonolysis. **C. Krempner**

**2:35 86.** Synthesis and oligomerization reactivity of tetrylaminoboranes. **C. Wagner**

**3:00** Coffee Break.

**3:20 87.** Bis(carbene) scaffolds for the encapsulation of multimetallic complexes. **S. Yruegas**, M. Bhandari

**3:45 88.** Reactivity of Lewis Superacidic (*ortho*-Carboranyl)boranes. **M. AKRAM**, J.R. Tidwell, J.L. Dutton, C. Martin

**4:10 89.** Reactivity of the dimesityl-1,8-naphthalenediylborate anion with dipolarophiles. **T. Hudnall**, J. Wang

**4:35 90.** Acyclic diaminocarbenes: Organometallic adventures with an unusual ligand class. **L.M. Slaughter**, M. Ellison, J. Nguyen, D. Vargas Trujillo

## SUNDAY EVENING

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### *Dial-Black Award Lecture*

L. Romero, *Organizer, Presiding*

McLennan Hall

5:45 Introductory Comments.

6:00 91. Translational science: The chemistry-biology-medicine continuum. **P.A. Wender**

6:55 Dial-Black Award.

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### *POSTER SESSIONS and EXPO and GRADUATE FAIR and RECEPTION*

Brazos Ballroom

7:00 - 9:00 pm

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### *Biochemistry Poster Session*

L. R. Marshall, *Organizer*

92. Development of a rapid lateral flow assay targeting RC0497 for timely diagnosis of severe tick-borne spotted fever rickettsioses. **Y. pal**, R.C. Willson, D. Walker, K. Kourentzi, R. Fang, K. Brosamer
93. Effect of thyroxine on transthyretin mutant structure & dynamics monitored by native ion mobility mass spectrometry. **R.L. Rider**, C. Lantz, S. Yun, A. Laganowsky, D.H. Russell
94. Study of combretastatin A-4 release from the beta-galactosidase activated prodrug combretastatin A-4-beta-D-galactopyranoside. **A.M. Atoki**, C. Pavlich, Q. Scott, S. Anliker, M. Krayevsky, K.G. Pinney, M.L. Trawick
95. Mechanism of action of a series of OXi8006 analogues in MDA-MB-231 cells. **W.K. Rathnayake**, Y. Deng, C. Tamminga, Y. Wong, K.G. Pinney, M.L. Trawick
96. Advanced forensic chemistry: Assessing the susceptibility of imported and domestic rice varieties to bio-agent threats using escherichia coli models. **V. Gonzalez**, D. Wilson, H. Sharifan
97. Identification of cadmium as a structural and functional modulator of PSD-95 regulating NMDARs at postsynaptic membranes. **C. Garza**, Y. Zhang
98. *In vitro* Investigation of Dimethyl Disulfide, a metabolite of the cyanide antidote candidate Dimethyl Trisulfide. **A. Khurana**, **K. Gonzalez**, I. Petrikovics, D.E. Thompson
99. N-acyl taurines, related sulfonates, and acyl amino acid substrates of P450 Cytochromes. **A. Alencar**, **D. Gilils**, Y. Figueroa Flores, D.C. Haines
100. Exploring the antioxidant properties of watercress and mint extracts in serum albumin protein under oxidative stress. **N. . Aziekwu**, P. Tovar, T.T. Dao, B. Sengupta
101. Naloxone derivatives to improve the opioid crisis. **M. Garcia**
102. Effects of exogenous hormone replacement therapy and in a hypothyroid, post-menopausal rat heart failure model. **E. Eversole**, M.M. Bowden, B. Fallon, F. Naegel, A. Martino, A. Lu, S. Schmidt, R.C. Willson, A. Bhimaraj, K. Youker, C.S. Filgueira

103. Utilizing unsaturated fatty acids as bacterial inhibitors to act as a natural preservative in eye drops. **V. Ramos, B. Blair**
104. **Withdrawn**
105. Engineering *Escherichia coli* for *Enterococci faecalis* penicillin binding protein 4/5 expression and the creation of nanodiscs. **M.M. Bowden, K.M. Hood, A.P. Streling, W.R. Miller, C.A. Arias, C.S. Filgueira**
106. Role of Fe-Doping of ZnO on Antibacterial Action. **J. Brannon, D. Johnson, R. Cuth, Y. Strzhemechny**
107. Calcium-dependent chemiluminescence catalyzed by a truncated c-MYC promoter G-Triplex DNA. **M.W. Myhre, M.K. Das, E.P. Williams, W.M. David, S.M. Kerwin**
108. Transcriptomic signature in the immune response to respiratory sensitizers using an alveolar model and database analysis. **T. Jefferis, K.L. Griffin, J. Liu, M. Gibb, C.M. Sayes**
109. Replisome decoupling between Alpha and Tau subunits in the Pol III holoenzyme cause reduced cellular fitness and genomic instabilities in *E. coli*. **M. Welikala, L.J. Butterworth, M.S. Behrmann, M.A. Trakselis**
110. Oxidative stress modulates mitochondrial transcription factor A (TFAM) binding to DNA. **R. Sharkey, Y. Gao**
111. Cadmium binding with the N-terminus of synapse associated protein 102 and implications for its postsynaptic functions. **C.H. Morales Alba, Y. Zhang**
112. Predicting chemical respiratory sensitizers with machine learning QSAR models. **K.L. Griffin, J. Liu, T. Jefferis, J. Peeples, C.M. Sayes**
113. Function-oriented profiling of mucin degradation in the gut microbiome. **S.J. Joseph, A.T. Wright**
114. Regulation of the pyrimidine ribonucleoside pathway in *Pseudomonas putida*. **S. Fatima, K.B. Young, T.P. West**
115. Xylitol synthesis by *Candida guilliermondii* on a plant biomass hydrolysate. **E.O. Brefo, T.P. West**
- P003.** Elucidating extracellular electron transfer in *Lactiplantibacillus plantarum* for bioelectronics. **R. Alba, B. Blackburn, V.O. Porokhin, A. Hatch, S. Hassoun, C. Ajo-Franklin, E. Mevers**

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## ***Undergraduate Symposium Poster Session***

**J. R. Ingle, Organizer**

116. DFT mechanistic investigation of aryne insertion into boron compounds. **M. Mora, J.E. Dannatt, P. Patel**
117. Small Molecule Proprotein Convertase Subtilisin/Kexin Type 9 (PCSK9) inhibitor for anti-platelet activity for the treatment of stroke. **S. Palakurthi, M. Thalla**
118. RNA-Based Aptamers for the Detection of B Cells as Biomarkers in Diabetes. **I. Batta, G. Sharma**
119. *In silico* analysis of RNA-based aptamers for interaction with CD19 receptor in CAR-positive T-Cell enrichment and monitoring. **F. Pachloo, G. Sharma**
120. *In silico* analysis to predict inhibitors against integrin receptor. **V. Sharma, G. Sharma**
121. **MOVED to P002 (Tuesday Poster Session)** Targeted Inhibition of SARS-CoV-2 Main Protease (Mpro) Using Proteolysis Targeting Chimeras (PROTACs). **K. Chidambaranathan, G. Sharma**
122. Computational analysis for identifying effective therapeutics for malignant melanoma. **M. Krishna, G. Sharma**
123. Computational analysis of cardiac disease protein biomarkers using aptamers. **T.S. Vinapamula, G. Sharma**
124. *In silico* analysis of  $\gamma\delta$  TCR-enhanced CAR T-Cell therapy for Metastatic Prostate Cancer. **S. Adapa, G. Sharma**

125. *In silico* analysis RNA-based aptamers in neuroblastoma diagnosis and targeted therapy. **K. Patel**, G. Sharma
126. Preparation of highly purified osajin and testing in pancreatic tumor cell proliferation assays. L. Reynolds, A. Wood, E. Soward, R. Srinivasan, **W.L. Whaley**
127. Osajin is preferentially extracted from Osage orange fruit tissue in a hexane fraction that contains very little pomiferin. J.B. Dulaney, E. Erdmann, A. Trammell-Coburn, **W.L. Whaley**
128. Study of properties and reactivity of curcumin. **E.E. Frazier**, G.S. Garusinghe
129. Interactions of curcumin with metal (Pt, Au) complexes. **E.E. Frazier**, G.S. Garusinghe
130. High throughput virtual screening for transition state inhibitors of ATP-Citrate Lyase. K. Hensley, **E.R. Hensley**
131. Zero extraction force dies for gummy metals or brittle ceramic pellets. **A. Kojima**, C. Jenny, M. Gott, M. Zach
132. Exploring surface-mediated formation of hydrogen peroxide in levitated microdroplets. **E.R. Hamilton**
133. FTIR analysis of microplastics in fingerprints. **O. Barclay**, **J.D. Beatty**
134. Computational investigation of the effects of post translational modifications and cancer mutation on PARP-2. **B. Hughes**, G.A. Cisneros
135. Synthesis of iodonium salts and investigation of aryne reactivity with boron-oxygen functionalities. **J.B. Nelson**, J.E. Dannatt
136. Investigation of electronic and hydrodynamic properties of fluorescent Texas red dyes in reverse micelle environment. **D. Kim**, N. Moro, R.K. Nayak
137. Fluorescence quenching and photophysics of Alexa Fluoro (AF) 647 dye by graphene oxide nanoparticle in aqueous and confined reverse micelle environment. **W. Johnson**, N. Moro, D. Kim, R.K. Nayak
138. Analysis of aqueous phosphate solutions by conductometric titration in the presence of sulfate. **L. Jackson**, L.D. Schultz
139. Extraction, isolation, and characterization of gaillardin and its effectiveness as a histone deacetylase inhibitor. **N. Pyenta**, P. Pyenta, H. Shin
140. Removal of pharmaceuticals from water using plant-based polymers. **M. Fowler**, R. Srinivasan
141. *Withdrawn*
142. Covalent modification of vascularized tissue. **S. Thatcher**, J. Karunanathan, R.R. Kane
143. Synthesis and Characterization of Light-Absorbing (3,5-difluoro-2-(pyridin-2-yl)phenyl)platinum(II) Complexes with Xanthate Ligands. **M. Mason**, B.W. Smucker
144. Synthesis of Kobayashi precursors and exploration of aryne insertions into trimethyl borate. **M. Zeaa**, J.E. Dannatt
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