

Mini-FAME Program
September 11, 2021
University of Florida Reitz Union

8 am – Registration-Check in outside room 2355

8 am – 9:30 am Continental Breakfast is offered

MORNING SESSION

Inorganic Session

Room 2335

Chair Dr. Keith Searls

9:30-9:50 Session Chair Remarks: Dr. Keith Searles

9:50-10:10 Belov, Dmitri: Synthesis of vanadium oxo alkylidene complex and its reactivity in ring-closing olefin metathesis reactions

10:10-10:30 Esper, Alec: A Synergistic Investigation of SPAAC iClick: Laying the Groundwork for Simple Reactivity Screening

10:30-10:50 Pal, Hemant: Water-soluble rhodium (III) and cobalt(III) porphyrin complexes for the biological inactivation of fentanyl

10:50-11:10 Yu, Jo-Chi: Investigations into $\text{Ru}(\text{CO})_4\text{I}_2$ as a potential Ru precursor for focused electron and ion beam-induced deposition

11:10-11:30 Bukhryakov, Konstantin: Toward Iron-Catalyzed Olefin Metathesis

11:30-11:50 Tejeda, Gabriela: Vanadium NHC alkylidenes for olefin metathesis

**Biochemistry/Chemical Biology &
Physical/Biophysical/Computational**

Room 2340

Chairs Drs. Jeffery Rudolf and Ramon Miranda Quinana

9:30-9:50 Caitlin McCadden: Functional Characterization of Bacterial Cytochrome P450 Enzymes from *Streptomyces*
9:50-10:10 Ramon Miranda Quintana: Quasi Particle-inspired Coupled Cluster wavefunctions
10:10-10:30 Hailey Beal: Comparative genomic analysis of microbial azasugar biosynthesis
10:30-10:50 Damilola Ologunagba: Density Functional Theory Study of Electrochemical Reduction of Nitrogen to Ammonia.
10:50-11:10 Emma Stowell: Exploring the biosynthetic potential of Tpn2, a bacterial diterpene synthase from *Kitasatospora* sp. CB02891
11:10-11:30 Liwei Chang: Generation and analysis of biological ensembles

Organic

Room 2365

Chair Dr. Stephane Roche

9:30-9:50 Alexis Richaud: Evaluation of N-(Hydroxy)Peptides for the Design of Short Self-Assembled β -Structures
9:50-10:10 Arun Raj Kizhakkayil Mangadan: Enantioselective lactonization by pi-acid catalyzed allylic substitution: A complement to pi-allylmetal chemistry
10:10-10:30 Gaurav Dahiya: Configuration Sampling with 6,5-Atropisomeric Stack-Ligands and Application in Enantioselective Catalysis
10:30-10:50 Amanda Franceschini Ghilardi: Cyclic Thiosulfonates as Anticancer Agents: Structure-Reactivity and Structure-Activity Relationships
10:50-11:10 Kelton Schleyer: Expanding the toolkit of small molecule imaging probes for heparanase
11:10-11:30 Dr. Zixin Chen: Non-Invasive NIR Imaging of Senescence via In Situ Labeling

Posters:

Set up in the Grand Ballroom at 11 am.

Viewing from 11:30 am – 1:30 pm.

Lunch 12 pm Grand Ballroom

AFTERNOON SESSION

Analytical and Mass Spectrometry

Room 2325

Charis Drs. Robert Lazenby and Christopher Chouinard

2:00-2:20 Session Chair Remarks: Drs. Robert Lazenby and Christopher Chouinard

2:20-2:40 Jonathan Specker: Investigation of microbial cooperation during *Clostridioles difficile* infection using imaging mass spectrometry

2:40-3:00 Amanda Ritz: Controlling Electrocatalytic Activity of Iron-Cobalt Carbides of Varying Iron Content Towards the Oxygen Evolution Reaction

3:00-3:20 Laxmi Vuppala: Metal-Adduction Induced Localized Phosphopeptide Variant differentiation by FAIMS-MS

3:20-3:40 Nicholas Volya: Fabrication and characterization of a tunable microelectrode array device for simultaneous electrochemical detection

3:40-4:00 Stevie Bush: Potentiometric Analysis of Selective Ion Transport in Model Nanopores

Poly/PMSE

Room 2355

Chair Ms Sofia Goodrich

2:00- 2:30 Nam Nguyen: Synthesis of highly electron-delocalized anions via post polymerization modification and ionic conductivity study of precision, single-ion polymer electrolyte

2:30-3:00 Swagata Mondal Janus: Crosslinks in Supramolecular Networks

3:00-3:30 Ruwen Tan: The effect of the mechanical properties of polymer surface nanostructures on the bactericidal efficacy

3:30-4:00: Kevin Stewart Hybrid Organic-Inorganic Nanocomposite Vitrimers from Polyhedral Oligomeric Silsequioxane Derivatives

[withdrawn]

4:00-4:30 Tony Pham: High H₂ Adsorption Energetics in Zeolitic

Imidazolate Frameworks

4:30-5:00: Angie Korpusik: Aptamer-Conjugated Micelles for Targeted Photodynamic Therapy via Photoinitiated Polymerization-Induced Self-Assembly

POSTERS

1. *Benjamin Abraham* Florida State University, Towards Chiral, Thermo-Responsive, Hydrogels Derived from Isosorbide
2. *Tyler Alsup* University of Florida, Genome mining of atypical type II diterpene synthases to uncover novel natural products
3. *Isabel Augustine* Florida Southern College, Toward the Synthesis of Greener Synthesis of Oil-based Polymers.
4. *Zully Beck* Southeastern University, Efficient synthesis of cyclopropylacetylene, a crucial synthetic intermediate for Efavirenz using chlorinating reagents (PCl_5 and Ph_3PCl_2).
5. *Parker Boeck* University of Florida, Chemically Recyclable Poly(ester amides) from Post-Consumer PET Waste
6. *Julia Bonney* University of Florida, Fatty acid isomer quantification in mouse brain tissues using gas-phase charge inversion ion/ion reactions enabled on an FTICR mass spectrometer
7. *Brianna Coia* Florida State University, Conformational Bias in Ab initio Ring Strain Energy Calculations of Complex Cyclopentene Derivatives.
8. *Danté Comer* Florida State University, Optimization of electrochemical aptamer-based sensor performance via controlling gold morphology
9. *Tania Cordova-Sintjago* Santa Fe College, Developing greener organic chemistry laboratories for undergraduate organic chemistry courses
10. *Chao Cui* University of Florida, Nano-formulation of anticancer drugs improves deep tissue penetration
11. *Xizheng Diao* University of Florida, Selective gas-phase Schiff base formation of phosphatidylserine lipids in imaging mass spectrometry using charge

12. *Justin Ellenburg* University of Florida, Imaging Mass Spectrometry of sulfur containing metabolites in a model of systemic *Staphylococcus aureus* infection
13. *Nicholas Ellin* University of Florida, Extended similarity methods for efficient data mining in imaging mass spectrometry
14. *Reza Esmaeeli* University of Florida, Mutation and Temperature Sensitivity of Protein Subunit of Ribonuclease P
15. *Ian Germaine* University of Florida, Aerosol-Assisted Chemical Vapor Deposition of Molybdenum Disulfide From cis-Mo(CO)₄(tetramethylthiourea)₂
16. *Michael Goertzen* University of Florida, New Synthetic Methodologies for Indole Alkaloid Ring Distortion
17. *Michael Gorman* Southeastern University, Investigations on Organobarium Chemistry: Novel carbon-carbon bond formation, novel mechanistic concepts and synthetic applications
18. *Jessica Herrera* University of Florida, (η⁴-diene)Ru(CO)₃ Precursors for Photoassisted Chemical Vapor Deposition
19. *Jada Hoyle-Gardner* Florida A&M University, Application of Microbial Communities for Bioremediation of Uranium Contaminated Soils
20. *Yuzhuo Ji* University of Florida, Novel Photocleavable Mass Tags for Protein Detection and High Spatial Resolution Expansion Imaging Mass Spectrometry
21. *Makenzie Johnson* SEU , Syntheses of a Biochemically Important Aldehyde, 3,4-Dihydroxyphenyl-acetaldehyde (DOPAL), a Toxic Dopamine Metabolite in vivo: Implications for Parkinson's Disease Pathogenesis.
22. *Woo-Young Kang* University of Florida, Gas-phase intramolecular crosslinking of ubiquitin via ion/ion reactions on a hybrid FTICR mass spectrometer
23. *Kyle Langlois* University of Central Florida, Tuning the Dielectric Constant of Substitutional Solid State Solution Metal Organic Frameworks
24. *Courtney Leo* Florida State University, Bioinspired Architectures From Polypentenamer-Based Bottlebrushes
25. *Yu Tin Lin* University of Florida, Imaging mass spectrometry analysis of cellular respiration metabolites enabled by on-tissue chemical derivatization
26. *Hanwen Liu* University of Florida, Quantifying Photochemical Decomposition of Pt Precursors for Photoassisted Chemical Vapor Deposition

27. *Samantha Martinusen* University of Florida, High-throughput discovery of selective nanobodies that modulate SARS-COV-2 protease (Mpro).
28. *Alyssa Moore* University of Florida, On-tissue derivatization of γ -aminobutyric acid in pancreas tissue for imaging mass spectrometry
29. *Alanya Nardone* Florida Southern College, An Evaluation of a Greener Synthesis of Stilbene Compounds Exhibiting Anti-Cancer Characteristics
30. *Isaiah Nelsen* Southeastern University, Lewis-Acid Enhanced Face Selection in the Reduction of Adamantanones
31. *Anneli Nina* Florida Institute of Technology, Water-soluble rhodium (III) and cobalt(III) porphyrin complexes for the biological inactivation of fentanyl
32. *Cheng-Yen Pan* University of Florida, Design and synthesis of low-gap phthalhydrazide-directed self-assembling π -conjugated materials for organic optoelectronic applications
33. *Jackson Powers* University of Florida, Understanding Membrane Permeability of Proteinosomes Self-Assembled from Globular Fusion Proteins
34. *Debashis Sen* Florida State University, Electrode potential control for selective aptamer modification of gold surfaces for simultaneous multiple analyte detection.
35. *Madeleine Uible* Florida State University, Magneto-Structural Relations in MnSe-MnTe Solid Solutions
36. *Lorena Valentin* University of Florida, Actinobacterial Terpene Synthase Screen in an Engineered E. coli System
37. *John Tyler Wagner* University of Florida, Aerosol assisted chemical vapor deposition of Y_2O_3 from non-volatile precursors
38. *Zhishen Wang* University of Florida, Mapping the activities of heparanase with synthetic disaccharides
39. *Tingting Yan* University of Florida, Lipid accumulation in lysosomal storage disease revealed by imaging mass spectrometry 39