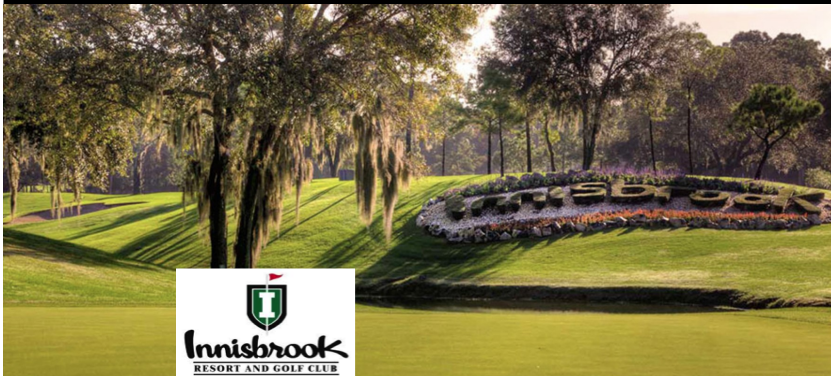




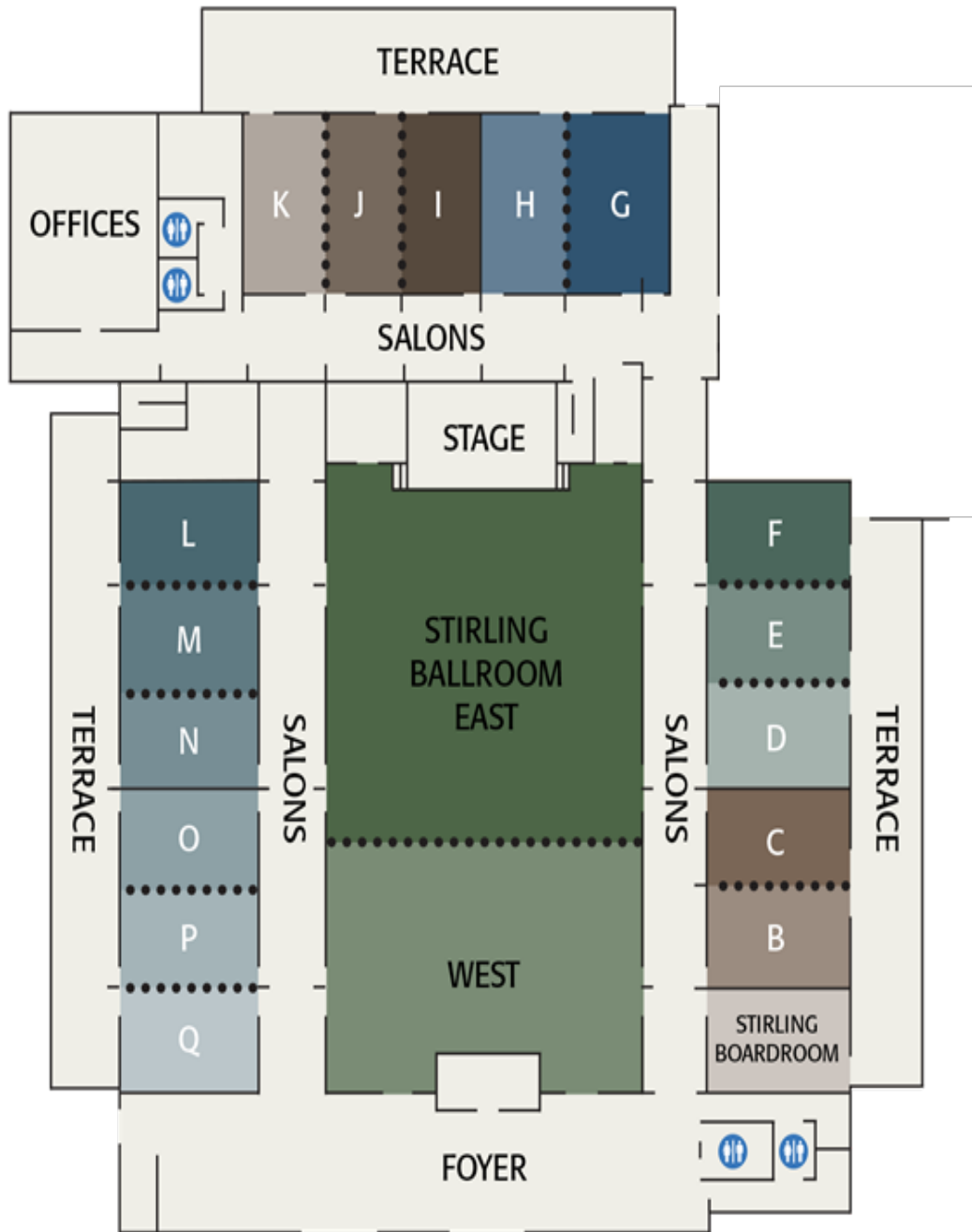
# FAME 2024

## 100<sup>th</sup> Florida Annual Meeting and Exposition

### PROGRAM OF ACTIVITIES



Please note that Innisbrook is a CASHLESS resort and will only take credit card or debit cards for payment. A credit card is required for incidentals at check-in



## STIRLING HALL



FLACS  
FLORIDA ANNUAL MEETING & EXPOSITION

OFFICIAL PROGRAM

**FLACS (Florida Section of the ACS) Committee**  
**Message from the FLACS Chair and Program Chair**

**Sponsors and Contributors**

**2024 Florida Award Recipient**

**Meeting-at-a-Glance**

**Technical Program**

**Instructions for Poster Presenters**

**Poster Session I**

**Poster Session II**

**FLACS**  
**Publication of the Florida Section of the American Chemical Society**

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The Florida Section of the American Chemical Society is not responsible for statements or opinions expressed in this publication.

## FROM THE FLACS CHAIR



On behalf of the Florida Section of the American Chemical Society (FLACS), welcome to the 100<sup>th</sup> Florida Annual Meeting and Exposition (FAME). It is very exciting to serve as Chair for the Centennial year for FLACS and FAME!!! I hope you enjoy the photo presentation “100 Years of FAME” that will be showcased during the meeting.

I would like to acknowledge all our organizers and FLACS executive board members. This meeting would not happen without the behind-the-scenes hard work from volunteers.

At this year’s meeting, we are pleased to present our 2024 Florida award winner, Dr. Brent Sumerlin from University of Florida who is here and will present on Friday. He is an extraordinary Polymer chemist in his field and excited to have him speak. I hope you will join us at his talk. Thank you to the Florida Award Selection Committee.

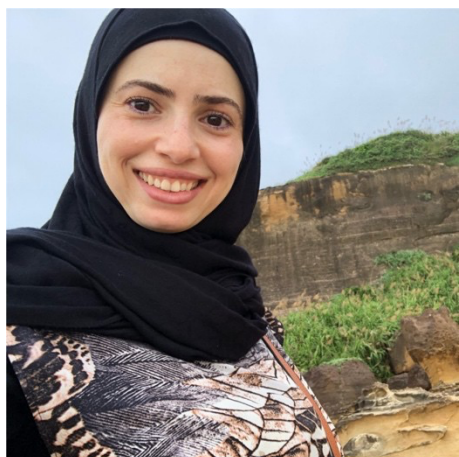
Over 300 students, postdoctoral scholars, faculty, companies, and researchers from 22 academic and industrial institutions across Florida and the southeastern United States have chosen to share their work at this meeting. We are thrilled to have nearly 110 oral presentations this year and 61 posters. While this annual meeting traditionally invites participation from both professional and student members, FAME is particularly unique in the opportunity it provides for students (both graduate and undergraduate) to present their research in a relaxed and friendly environment; this year, students submitted majority of the abstracts. I am always inspired to see students grow in their work and presentation skills year after year.

In addition to attending the technical symposia, poster presentations, and exhibition, I encourage you to take advantage of the social events we have planned as a way to network, share ideas, and have fun! Social events include the Welcome Reception, which runs concurrently with Poster Sessions on Thursday and Saturday evening. This year we are mixing it up by hosting an ALL FAME attendee Mixer at Market Salamander Bar. No more separating faculty from students!

Finally, I would like to thank the FLACS executive committee for their efforts in organizing FAME this year. I would also like to thank our sponsors and exhibitors for their support. Please enjoy the conference as you learn about all of the exciting research happening in and around Florida!

Kari B Basso  
FLACS Chair

## FROM THE FLACS Chair Elect- Program CHAIR



Welcome to the 100th Anniversary of FAME!

As the FL-ACS Chair Elect, I am honored to welcome such an esteemed gathering of scientists, researchers, practitioners, and innovators. Your presence highlights the significant impact of our collective work in advancing science over the past century.

We have an exciting program with keynote speeches, panel discussions, workshops, and networking opportunities. I extend special thanks to our keynote speakers, panelists, presenters, and workshop facilitators for their invaluable contributions.

I also want to acknowledge the hard work of our organizing committee, volunteers, and sponsors. Your efforts have been instrumental in making this conference a success.

Over the next few days, I encourage you to engage with the sessions, participate in discussions, and network with your peers. This conference is an opportunity to learn, share knowledge, and build connections for future collaborations and innovations.

Thank you for joining us at this milestone event. I look forward to the inspiring conversations and groundbreaking ideas that will emerge.

Warm regards,

Zahraa Khamis  
FL-ACS Chair Elect  
FAME Conference 2024

We are pleased to acknowledge the following individuals, companies, and institutions that helped to sponsor Symposia AND Exhibit at FAME 2023:

**UF** | Research



**UF** Liberal Arts *and* Sciences

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UNIVERSITY OF FLORIDA

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# **SERMACS 2025**

CHEMISTRY IN THE  
SUNSHINE

## **Dates:**

October 26-29, 2025

## **Venue:**

DoubleTree by Hilton  
Orlando at SeaWorld  
10100 International Drive  
Orlando, FL 32821

**[www.dtresortorlando.com](http://www.dtresortorlando.com)**



**[sermacs2025.org](http://sermacs2025.org)**



**@sermacs2025**

## PAST FLORIDA AWARD WINNERS

1952	<b>Paul Gross</b>	Duke University	1989	<b>William R. Dolbier</b>	University of Florida
1953	<b>A. E. Wood</b>	University of Mississippi	1990	<b>R. Bruce King</b>	University of Georgia
1954	<b>C. B. Pollard</b>	University of Florida	1991	<b>George R. Newkome</b>	University of South Florida
1955	<b>H. E. Skipper</b>	Southern Research Institute	1992	<b>Charles E. Carraher</b>	Florida Atlantic University
1956	<b>George. K. Davis</b>	University of Florida	1993	<b>Norman L. Allinger</b>	University of Georgia
1957	<b>C. R. Hauser</b>	Duke University	1994	<b>Albert Padwa</b>	Emory University
1958	<b>Karl Dittmer</b>	Florida State University	1995	<b>Alan R. Katritzky</b>	University of Florida
1959	<b>J. E. Hawkins</b>	University of Florida	1996	<b>Luis Echegoyen</b>	University of Miami
1960	<b>H. H. Sisler</b>	University of Florida	1997	<b>N. Yngve Öhrn</b>	University of Florida
1961	<b>Michael Kasha</b>	Florida State University	1998	<b>Jack Saltiel</b>	Florida State University
1962	<b>Jack Hine</b>	Georgia Institute of Technology	1999	<b>Mostafa El-Sayed</b>	Georgia Institute of Technology
1963	<b>George Butler</b>	University of Florida	2000	<b>Rodney J. Bartlett</b>	University of Florida
1964	<b>C. T. Bahner</b>	Carson-Newman College	2001	<b>Thomas J. Vickers</b>	Florida State University

1965	<b>Werner Herz</b>	Florida State University	2002	<b>Alan G. Marshall</b>	Florida State University
1966	<b>Paul Tarrant</b>	University of Florida	2003	<b>Kenneth B. Wagener</b>	University of Florida
1967	<b>O. K. Rice</b>	University of North Carolina	2004	<b>John G. Dorsey</b>	Florida State University
1968	<b>Earl Frieden</b>	Florida State University	2005	<b>Charles R. Martin</b>	University of Florida
1969	<b>John Baxter</b>	University of Florida	2006	<b>Roger M. Leblanc</b>	University of Miami
1970	<b>S. P. McGlynn</b>	Louisiana State University	2007	<b>Naresh Dalal</b>	Florida State University
1971	<b>Ray Lawrence</b>	USDA Naval Stores Laboratory	2008	<b>George Christou</b>	University of Florida
1972	<b>James. V. Quagliano</b>	Florida State University	2009	<b>Kirk S. Schanze</b>	University of Florida
1973	<b>Gregory Choppin</b>	Florida State University	2010	<b>Timothy Cross</b>	Florida State University
1974	<b>Sidney Fox</b>	University of Miami	2011	<b>Frank Millero</b>	University of Miami
1975	<b>Dean F. Martin</b>	University of South Florida	2012	<b>Weihong Tan</b>	University of Florida
1976	<b>William Jones</b>	University of Florida	2013	<b>Joseph Schlenoff</b>	Florida State University
1977	<b>Cecil Criss</b>	University of Miami	2014	<b>Weitao Yang</b>	Duke University
1978	<b>Harry Walborsky</b>	Florida State University	2015	<b>Lisa McElwee-White</b>	University of Florida
1979	<b>Mary Good</b>	Louisiana State	2016	<b>Richard D.</b>	University of

		University		<b>Adams</b>	South Carolina
1980	<b>Raymond Sheline</b>	Florida State University	2017	<b>David N. Beratan</b>	Duke University
1981	<b>Wallace Brey</b>	University of Florida	2018	<b>Kevin M. Smith</b>	Louisiana State University
1982	<b>James D. Winefordner</b>	University of Florida	2019	<b>John R. Reynolds</b>	Georgia Institute of Technology
1983	<b>Theodore A. Ashford</b>	University of South Florida	2020	<b>Brian C. Benicewicz</b>	University of South Carolina
1984	<b>Leo Mandelkern</b>	Florida State University	2021	<b>Jeffrey Johnson</b>	University of NC Chapel Hill
1985	<b>Brian Stevens</b>	University of South Florida	2022	<b>Igor V. Alabugin</b>	Florida State University
1986	<b>Harry P. Shultz</b>	University of Miami	2023	<b>Michael Therien</b>	Duke University
1987	<b>Delos F. DeTar</b>	Florida State University	2024	<b>Brent Sumerlin</b>	University of Florida
1988	<b>Edward K. Mellon</b>	Florida State University			

## 2024 FLORIDA AWARD

**Brent Sumerlin**  
University of Florida  
Gainesville, FL



The Florida Award selection committee recognizes Dr. Brent Sumerling, the George Bergen Butler Chair in the Department of Chemistry at the University of Florida, for his contributions to polymer chemistry, and major impact in both teaching and service to the larger chemistry community. It is our honor to present him with the 2024 Florida Award.

Prof. Sumerlin received his undergraduate degree from North Carolina State University in 1998 and later earned his PhD in Polymer Science & Engineering at the University of Southern Mississippi under the guidance of Charles McCormick. After completing his PhD, Sumerlin worked as a Visiting Assistant Professor/Postdoctoral Research Associate at Carnegie Mellon University under Krzysztof Matyjaszewski. In 2005, he took a faculty position at Southern Methodist University before moving to the University of Florida in 2012. Sumerlin is an associate editor for *ACS Macro Letters* and a Fellow of the Royal Society of Chemistry. He has received awards, including the Alfred P. Sloan Research Fellowship, NSF CAREER Award, ACS Leadership Development Award, Journal of Polymer Science Innovation Award, Biomacromolecules/Macromolecules Young Investigator Award, the Hanwha-Total IUPAC Award, and the UF Doctoral Dissertation Mentoring/Advising Award.

**Award and Presentation (POLY/PMSE):** May 31st 4:30 pm

**The FLACS executive committee would like to acknowledge the Symposium Organizers without whom this program would not come together without.**

<p><b>Computational Chemistry</b> Dr. Shyam Kattel Florida A&amp;M University</p>	<p><b>Biochemistry and Chemical Biology</b> Dr. Yulia Gerasimova University of Central Florida</p>
<p><b>Inorganic Chemistry</b> Dr. Keith Searles University of Florida</p>	<p><b>Chemical Education</b> Melanie Veige University of Central Florida</p>
<p><b>Physical and Biophysical Chemistry</b> Dr. Matt Eddy University of Florida</p>	<p><b>Analytical Chemistry</b> Kari Basso University of Florida</p>
<p><b>Organic Chemistry</b> Dr. Rebecca Black New College of Florida</p>	<p><b>PMSE/POLY and Materials Chemistry</b> Ariana Tamura University of Florida</p>

## MEETING AT A GLANCE

**THURSDAY AFTERNOON May 30th**

SESSION/EVENT		LOCATION
12:00-5:00	<i>Registration and check-in</i>	Stirling Hall Foyer
1:30-3:30	<b>Workshop A: Chemical Biology RCR Workshop – Intrinsic Asymmetry: Mentor/Mentee Responsibilities and Relationships</b>	Stirling E-F
3:30-5:30	<b>Workshop B: Green Chemistry</b>	Stirling B-C
5:30 – 7:30	Welcome Reception ( <i>refreshments served -cashless bar</i> )	Stirling Hall Foyer
5:30 – 7:30	<b>Poster Session I</b>	Stirling Ballroom E&W

**DINNER ON YOUR OWN**

**FRIDAY MORNING May 31st**

SESSION/EVENT		LOCATION
8:00 - 8:30	<i>Late Registration and Breakfast Buffet</i>	Stirling Hall Foyer
8:30-	Analytical/Additive Manufacturing A	Stirling K
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
	Inorganic A	Stirling E-F
<b>COFFEE BREAK</b>		
10:15-	Analytical Additive Manufacturing A	Stirling K
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
	Inorganic A	Stirling E-F
	Organic A	Stirling B
<b>LUNCH BREAK ON YOUR OWN</b>		

**FRIDAY AFTERNOON May 31st**

SESSION/EVENT		LOCATION
1:00-5:00	<b>Poster viewing</b>	Stirling Ballroom E&W
1:30-	Biochemistry and Chemical Bio A	Stirling L-M

## MEETING AT A GLANCE

	FL-Award Special Session POLY/PMSE	Stirling O-P
	Inorganic B	Stirling E-F
	Chemical Education A	Stirling C
	Physical and Biophysical B	Stirling G-H
	Organic B	Stirling B
<b>COFFEE BREAK</b>		
3:15-	Biochemistry and Chemical Bio A	Stirling L-M
	FL-Award Special Session POLY/PMSE	Stirling O-P
	Chemistry Education A	Stirling C
	Physical and Biophysical B	Stirling G-H
4:30-5:30	2024 FL Award Winner Presentation and Award (Poly/PMSE)	Stirling O-P
<b>DINNER ON YOUR OWN</b>		
8:00 - 10:00	FAME Mixer for all students and faculty	Salamander Grille

### SATURDAY MORNING June 3rd

SESSION/EVENT		LOCATION
8:00 - 8:30	<i>Late Registration and Breakfast Buffet</i>	Stirling Hall Foyer
8:30 -	Biochemistry and Chemical Bio B	Stirling L-M
	Chemical Education B	Stirling C
	Computational A	Stirling I-J
	Physical and Biophysical C	Stirling G-H
	PMSE/POLY C	Stirling O-P
<b>COFFEE BREAK</b>		
10:15-	Biochemistry and Chemical Bio B	Stirling L-M
	Chemical Education B	Stirling C
	Computational A	Stirling I-J
	Physical and Biophysical C	Stirling G-H
	PMSE/POLY C	Stirling O-P
<b>LUNCH BREAK ON YOUR OWN</b>		

### SATURDAY AFTERNOON June 3rd

SESSION/EVENT		LOCATION
1:00-5:00	Poster viewing	Stirling Ballroom E&W



## MEETING AT A GLANCE

1:30-	Chemical Education C	Stirling C
	Physical and Biophysical D	Stirling G-H
	Biochemistry and Chemical Bio C	Stirling L-M
<b>COFEE BREAK</b>		
3:15-	Chemical Education C	Stirling C
	Physical and Biophysical D	Stirling G-H
	Biochemistry and Chemical Bio C	Stirling L-M
5:30 – 7:30	<b>Poster Session II</b> <i>(refreshments served – cashless bar)</i>	Stirling Ballroom E&W
7:30	END OF PROGRAM	
<b>DINNER ON YOUR OWN</b>		

# TECHNICAL PROGRAM

## THURSDAY, May 31st – AFTERNOON

### THURSDAY AFTERNOON: WORKSHOPS

	SESSION/EVENT	LOCATION
1:30-3:30	<b>Workshop A: Chemical Biology RCR Workshop – Intrinsic Asymmetry: Mentor/Mentee Responsibilities and Relationships</b>	Stirling E-F
3:30-5:00	<b>Workshop B: Green Chemistry</b>	Stirling B-C

### THURSDAY AFTERNOON: POSTER SESSION I and RECEPTION – STIRLING BALLROOM

Time	Title
5:30-7:30	<b>POSTER SESSION I</b> (see list of posters and presenters at the end of this program) Abstracts Available on the fl-acis site: <a href="https://fame2024.fl-acis.org/view/accepted-posters/">https://fame2024.fl-acis.org/view/accepted-posters/</a>

## Friday, May 31st – MORNING SESSIONS

Abstracts available on the FL-ACS FAME 2024 site: <https://fame2024.fl-acis.org/view/accepted-presentations/>

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### FRIDAY MORNING: ANALYTICAL/ADDITIVE MANUFACTURINGA – STIRLING K

Time	Presenter	Title
9:00	Thomas Mullen	Organosilane nanostructure fabrication on semiconductor substrates using particle lithography
9:25	Thilina Dikella Gameralalage	Understanding ion and electron transport in composite cathodes.
<b>COFFEE BREAK</b>		
10:15	Alexandra Wolfer	Investigating the Oxidative Potential of Secondary Organic Aerosols

10:40	Jasmina Casals Terre	Non-clogging microfluidics-based filter for Microplastics removal
11:05	Regmi Bisnu	Synthesis and Solvatochromic Studies of Methylene Blue Derivatives
11:30	Noel Manring	Co-detection of neurotoxic heavy metals using modified multi-bore carbon fiber microelectrodes via fast-scan cyclic voltammetry

**FRIDAY MORNING: INORGANIC A – STIRLING B**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Courtney Server	Accelerated REMP with Double Tethered Metallacyclobutanes
8:50	Charlotte Bailey	New synthetic entry to the family of molecular nanoparticles of cerium dioxide
9:10	Michael Lufaso	Solid solutions of bismuth-containing mixed-metal oxides: anisotropic structural changes with chemical substitutions
<b>COFFEE BREAK</b>		
10:15	Doory Dan	Molecular models for single cobalt ions supported on cerium dioxide nanoparticles: Heterometallic Ce/Co-oxo clusters
10:35	Dibya Jyoti Mondal	Investigation of high symmetry dinuclear complexes as platforms for the design of molecular two-qubit gates
10:55	Adam Veige	iClick Origins, Applications, Unexpected Results and Outlook

**FRIDAY MORNING: ORGANIC A – STIRLING E-F**

10:15	Parag Das	Designing Small Molecule Photoswitching Scaffolds Inspired from Popular Organic Photovoltaics Materials
10:45	Stine Sofie Olsen	Exploring the chemical diversity of Antarctica
11:15	Cole Stearns	Structure-property relationships in heterofunctionalized [2.2]paracyclophane supramolecular monomers

**FRIDAY MORNING: PHYSICAL AND BIOPHYSICAL A – STIRLING G-H**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Robert Silvers	La-Related Proteins and RNA Recognition
9:10	Gail Fanucci	Hydration Dynamics at Biomolecular Interfaces via Low-Field Overhauser Dynamic Nuclear Polarization (ODNP) Relaxometry
<b>COFFEE BREAK</b>		
10:15	Arka Ray	Membrane mimetic systems modulate GPCR energy landscapes
10:40	Nidhi Kalia	Kinetic analysis of RNA cleavage and substrate specificity of coronavirus Nsp15 endoribonuclease
11:05	Blaine Gordon	Promiscuous Molecular Recognition in the C-terminal Domain of Polyadenylate Binding Protein

**FRIDAY MORNING: PMSE/POLY A – STIRLING O-P**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Rituparna Samanta	Understanding folded protein and polyelectrolyte coacervation.
9:00	Ani Davis	Cross-linking Effects in Organic Electrodes
9:30	Blanch Khouri Sader	Utilizing Molecularly Imprinted Polymers for Aflatoxin Detection
<b>COFFEE BREAK</b>		
10:15	Ariana Tamura	Polymethacrylate macromolecular property skewing via depolymerization.
10:45	Sarriah Hassoun	Exploring the Properties of Polyelectrolyte Complexes: Formamide as a robust Alternative to Water
11:15	Austin Evans	Intrinsically Thermally Conductive Macromolecules

**Friday, May 31st – AFTERNOON SESSIONS**

Abstracts available on the FL-ACS FAME 2024 site: <https://fame2024.fl-ac.org/view/accepted-presentations/>

**FRIDAY AFTERNOON: BIOCHEMISTRY AND CHEMICAL BIOLOGY A – STIRLING L-M**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Jonathan Caranto	Metalloenzyme-catalyzed oxidations of nitric oxide in biosynthesis and nitrosative stress protection
2:15	Gabriel Padilla	Hydrazinoacetic Acid is a Biosynthetic Precursor to N-Nitroglycine
2:35	Daniel Icenhouser	Discovery of New Bacterial Sesterterpene Synthases and Their Products
<b>COFFEE BREAK</b>		
3:15	Szymon Ciesielski	The role of glycine-rich region in driving specificity of JDP/Hsp70 chaperone systems
4:00	Krittika Roy	Characterization of human guanylate binding protein 3

**FRIDAY AFTERNOON: CHEMISTRY EDUCATION –Stirling C**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
2:00	Austin Evans	Strategies to Foster a Growth-Mindset in Graduate Chemical Education

2:30	Stefanie Habenicht	Evaluating the impact of supplemental instruction on student performance and motivation in organic chemistry
3:00	Melanie Veige	Researching the Effect of Communication Modes on Learning Outcomes Using Terracotta in an Online Chemistry Course
3:30	Rebecca Black	Writing in authentic science genres in the organic chemistry II laboratory to improve student perceptions of themselves as writers and belonging in STEM

**FRIDAY AFTERNOON: INORGANIC A – STIRLING E-F**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:25	Divya Kumar	Investigation of spin-crossover complexes for surface deposition
1:45	Alexander Stant	Surface Organometallic Chemistry of Group III Metal Alkyls
2:05	Qaiser Maqbool	Photophysical properties of Meso-tetra(4-N,N,N-trimethylanilinium) porphyrin encapsulated within the MOM-11 metal organic framework
2:25	Alexander Diodati	Covalently-linked, Rigid Cofacial Metalloporphyrin Dimers and their Magnetic and Spectroscopic Properties
<b>COFFEE BREAK</b>		
3:15	Islamiyat Ojelade	One-Step Synthesis of a Highly Conductive Glassy Sodium Solid Electrolyte
3:35	Johnathan Johnson	Synthesis and Electron-Induced Reactions of First Row Transition Metal Complexes as EUV Resist Candidates
3:55	Michael Shatruk	Molecular Spin Qubits Based on High-Symmetry Holmium Complexes

**FRIDAY AFTERNOON: ORGANIC B – STIRLING B AFTERNOON:**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Ezequiel Cruz Rosa	The Fungal Pharmacy: A Journey Into the Secondary Metabolites of Mangrove Endophytes
2:00	Kenneth Ko	Self-Assembling C <sub>3h</sub> Star-Shaped Supramolecular Polymers
2:30	Melisa Gonzalez	Synthesis of the non-proteinogenic amino acid, (4S)-4,5-dihydroxy-L-norvaline, and its application in the total synthesis of an Euglenatide B analog

**FRIDAY AFTERNOON: POLY/PMSE B – STIRLING O-P**  
 Award Symposium in Honor of Dr. Brent Sumerlin 2024 Florida Award  
 Recipient

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:00	Adam Veige	New Catalysts for Cyclic Polymer Synthesis
1:30	Adrian Figg	Using photoredox chemistry to access defined copolymer structures
2:00	Nathan Gianneschi	Peptide-Brush Polymers as Proteomimetics
<b>COFFEE BREAK</b>		
2:45	Kaitlyn Crawford	What's in Your STEM Toolbox? A Talk About Mindfulness and Impactful Research Practices
3:15	Hao Sun	Polymer Construction and Deconstruction Enabled by Olefin Metathesis
3:45	Daniel Savin	Photo-cleaving and photo-linking: Applications for polymer networks and self-assemblies
<i>Intermission 4:15 pm – 4:30 pm</i>		
4:30	Florida Award and Award Lecture Brent Sumerlin	Deconstruction of Vinyl Polymers

**FRIDAY AFTERNOON: PHYSICAL AND BIOPHYSICAL C – STIRLING G-H**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Bo Chen	Structure of disordered reflectin derived polypeptide Ref(2C) <sub>4</sub> assembly by solid state NMR
2:10	Rim Hadidi	Exploring salt droplet crystallization dynamics in controlled experimental environment: Microgravity and Low-pressure conditions
<b>COFFEE BREAK</b>		
3:15	Bryan Kudish	Ultrafast spectroscopy uncovers the mechanistic underpinnings of next-generation photocatalysts
3:55	Nessa Afsharian	<sup>19</sup> F-NMR quantification of drug efficacy exemplified with the human A <sub>2A</sub> adenosine receptor

## **SATURDAY, June 1st – MORNING SESSIONS**

Abstracts available on the FL-ACS FAME 2024 site: <https://fame2024.fl-acs.org/view/accepted-presentations/>

### **SATURDAY MORNING: BIOCHEMISTRY AND CHEMICAL BIOLOGY C – STIRLING L-M**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Watson Lees	Improving the invitro folding of disulfide containing protein
9:15	Bryan Knuckley	Peptoid inhibitors of Protein Arginine Methyltransferase 1 (PRMT1) for the treatment of Cancers
<b>COFFEE BREAK</b>		
10:15	Yuan Liu	The crosstalk of DNA and RNA damage in modulating genome stability
11:00	Andrea Bardales	Modulating the integration of DNA molecular logic gates to achieve universal Boolean logic circuits.
11:20	Swapnil Joshi	Discovery of small molecule inhibitors of <i>Staphylococcus aureus</i> ribonuclease P.
11:40	Doreen Addo-Yobo	Molecular Basis for cOA6 Synthesis by a Type III-A CRISPR-Cas enzyme and its Conversion to cOA4 Production

### **SATURDAY MORNING: CHEMICAL EDUCATION B – STIRLING C**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Sloan Berry	Practical Application of UDL-Aligned Practices by Graduate Teaching Assistants
9:00	Pallavi Nayyar	Uncovering Instructors and Graduate Teaching Assistants Topic-Specific Pedagogical Content Knowledge (TS-PCK) of Precipitation Reactions and Solubility Rules
9:30	Alexander Jacobs	"Your Time Starts Now.": Taskmaster-esque in class activities for Instrumental Lectures
<b>COFFEE BREAK</b>		
10:15	Martina Sumner/Steven Harris	Investigating the Efficacy of Self-Selected Weekly Study Groups for At-Risk Students in General Chemistry 1 (CHM2045): A Continuation Study
10:45	Macayla Barnett	STEM identity of undergraduate students: Future professionals' self-perception
11:15	Leslie Doleman	Engaging Students in Chemistry Programming Through a Residential College Model

**SATURDAY MORNING: COMPUTATIONAL A – STIRLING I-J**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Mingjie Liu	Interatomic potentials (IP) based on neural network (NN) have gained significant
9:00	Chidozie Ezeakunne	Integrating Density Functional Theory with Machine Learning for Enhanced Band Gap Prediction in Metal Oxides.
9:25	Bin Liu	Mapping Structure-Property Relationships in Fullerene Systems: A Computational Study from C20 to C60
<b>COFFEE BREAK</b>		
10:15	Beauty Chabuka	Borrowing electron density from a rich friend: transition state stabilization by electron transfer from a remote donor
10:40	Duy Le	An Explicit-Implicit Hybrid Solvent Model for Grand Canonical Simulations of the Electrochemical Environment
11:10	Eklavya Thareja	Rise of topology in condensed matter: balancing robustness against disorder with control of electronic properties
11:35	Dang Khoa Le	Coexistence of magnetic textures and Weyl topology in Co <sub>3</sub> Sn <sub>2</sub> SeS

**SATURDAY MORNING: PHYSICAL AND BIOPHYSICAL C – STIRLING G-H**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Qian Yin	AAGAB-orchestrated adaptor complex assembly in snapshots
9:10	Josh Melko	Mechanisms of Sequential Ion-Molecule Reactions in Protonated Methanol using Mass Spectrometry, <i>ab initio</i> Methods, and Statistical Modeling
<b>COFFEE BREAK</b>		
10:15	Chen Zhao	Improving Membrane Memtics for Structural Determination of Membrane Proteins
10:55	Patrick Hillesheim	The solid-state of ionic liquids: Impacts of non-covalent interactions



### SATURDAY MORNING: PMSE/POLY C – STIRLING O-P

Time	Presenter	Title
8:30	Justin Kennemur	The Kennemur Group: Celebrating 10 Years of New Polymers from 5-Membered Rings
9:00	Nagham Abou Hamad	Quantifying Hydrophilicity in Polyelectrolytes and Polyzwitterions
9:30	Parker Boeck	Cyclic Polymers from Alkynes: Synthesis, Scope, and Degradation
<b>BREAK</b>		
10:15	Emanuel Olawale	Low Dimensional Lead-Free Chiral Perovskite Quantum Dots.
10:45	Nelly Mateeva	Novel Nanoscale Materials from Electrospinning of Natural and Synthetic Polymers
11:15		

### Continue the conversation and Networking

Stirling D-E

### **SATURDAY, June 1st – AFTERNOON SESSIONS**

Abstracts available on the fl-acS site: <https://fame2024.fl-acS.org/view/accepted-presentations/>

### SATURDAY AFTERNOON: CHEMISTRY EDUCATION C – STIRLING C

Time	Presenter	Title
1:30	Jennifer Miller	Examining Student Perspectives of Adaptive Learning Modules in General Chemistry
2:00	Cameron Bechard	STEM Identity of Organic Chemistry students: How students' see themselves as future graduates in their major
2:30	Jarah Nelson	The Current State of Literature on the Education of Blind and Visually Impaired (BVI) Students in Chemistry and Successfully Implemented Practices
<b>BREAK</b>		
3:15	Keila Muller	Exploring Sense of Belonging in General Chemistry Courses Through Student Reflections
3:45	Jackson Ellis	Understanding STEM Identity on Student Academic Progression in General Chemistry
4:15	Camilla Senespleda	Unraveling Belonging Uncertainty: Investigating Student Perspectives on STEM Education

**SATURDAY AFTERNOON: BIOCHEMISTRY AND CHEMICAL  
BIOLOGY – STIRLING L-M**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Deguo Du	Amyloidogenicity of the Peptide Fragment in Microtubule Binding Repeat Domain of Tau
2:15	Sreyashi Das	Investigating membrane lipid composition on A <sub>2A</sub> adenosine receptor state-dependent dynamics by single-molecule FRET
2:35	Eman Taher	Exploring the toxicity of PbTx-2 from <i>Karenia brevis</i> Insights into human thioredoxin system inhibition and modulation by brevenal
<b>COFFEE BREAK</b>		
3:15	Mayra Tabares-Beltran	Synthesis of mercaptan-based brevetoxin scavengers and evaluation of their ability to interfere with binding to voltage-gated sodium channel and reduce cytotoxicity
3:35	Diana Łomowska-Keehner	Investigation of bacterial terpene natural product biosynthesis through heterologous expression
3:55	Celina Ceballos	Plasma proteomics of loggerhead sea turtles ( <i>Caretta caretta</i> ) stranded during red tide events for identification of diagnostic biomarkers
4:15	Sayan Kundu	WITHDRAWN

**SATURDAY AFTERNOON: PHYSICAL AND BIOPHYSICAL D –  
STIRLING G-H**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Yinhao Jia	Investigating Improved Protein Stability in Random Heteropolymer/Protein Mixtures Using Molecular Dynamics Simulations
1:50	Ajeet Kaushik	Smart sensor for health and environmental management
2:25	Beining (Kim) Jin	Investigating the Conformational Dynamics of the Human A <sub>2A</sub> Adenosine Receptor in Lipid Vesicles by <sup>19</sup> F MAS Solid-State NMR
<b>BREAK</b>		
2:45	Bryan Demosthene	Molecular basis for actin polymerization kinetics modulated by solution crowding
3:05	Brianna Jones	Investigation and Utilization of Lipid Nanoparticles for Use in Drug Delivery Application

**SATURDAY AFTERNOON: POSTER SESSION II – STIRLING BALLROOM**

<b>Time</b>	<b>Title</b>
5:30-7:30	(see list of posters and presenters at the end of this program) Abstracts available on the fl-acS site <a href="https://fame2024.fl-acS.org/view/accepted-posters/">https://fame2024.fl-acS.org/view/accepted-posters/</a>

**POSTERS**

**Instructions for poster presenters:**

- Posters should be no larger than 36"x48". Poster boards, stands, and clips will be provided to mount your poster.
- Poster set up for SESSION I is Thursday from 2:00-5:00 pm. Each stand will have a number corresponding to your assigned number in the program. Posters from Session I must be removed on Friday between 2:00 and 4:00 pm.
- Poster set-up for SESSION II is Friday from 1:00-4:00 pm. Each stand will have a number corresponding to your assigned number in the program. Posters from Session II must be removed on Saturday after 7:30 pm.

<b>POSTER SESSION I</b>			
<b>THURSDAY 5:30 – 7:30 STIRLING BALLROOM</b>			
<b>No.</b>	<b>NAME</b>	<b>Topic</b>	<b>Title</b>
1	Nicholas Campbell	Inorganic	Conjugated Au(I) Heterocycles Through iClick
2	Reece Johnson	Inorganic	Well-Defined Nb/SiO <sub>2-500</sub> Catalyst Active for Liquid/Gaseous Hydrocarbon Transformations
3	Peijie Hu	Inorganic	Reactivity Study of well-defined Heterogeneous Group IV Metal Complexes Prepared via SOMC
4	Delawar Ashraf	Inorganic	Aerosol-Assisted Chemical Vapor Deposition of Molybdenum Disulfide and Oxide
5	Fnu Bhumika	Inorganic	Aerosol-Assisted Chemical Vapor Deposition of Molybdenum Disulfide and Oxide
6	Alexander Diodati	Inorganic	A New and Unusual Iron-Oxo Core Topology using a Novel Hexadentate Chelate

7	Gerald Ciani	Inorganic	Investigation of Structural and Magnetic Properties of Kagomé-Lattice Metals $RT_6Ge_6$
8	Charlotte Bailey	Inorganic	New synthetic entry to the family of molecular nanoparticles of cerium dioxide
9	Delaney Sellers	Physical Chemistry	Photophysical studies of ligand photorelease from ruthenium-based complexes encapsulated within polyhedral zinc metal organic frameworks.
10	Amari Morris	Physical Chemistry	Aging Dynamics in Chemical Gardens: A Combined Computational and Experimental Study
11	Shiva Adhikari	Physical Chemistry	Understanding the RNA Binding Molecular Mechanisms IN IUR of Human LARP1
12	Michaela Senn	Physical Chemistry	Photophysical Studies of MOF Encapsulated Ruthenium Polyimines for Light Activated Drug Delivery
13	Lauren Bishop	PMSE/POLY	Utilizing Benzyl Methacrylate Derivatives for Bulk Depolymerization of Methacrylate Polymers
14	Thi Le	PMSE/POLY	Vitrimer Nanocomposites from PISA
15	A M Mahmudul Hasan	PMSE/POLY	Ionic Polymer of Intrinsic Microporosity and Their Electrochemical Devices
16	Nada Elkholy	Biochemistry / Chem Bio.	Design and Synthesis of Purine-Based Compounds Targeting CDK11: Implications for Breast Cancer Therapy
17	Yunrui Yan	Computational Chemistry	Predicting experimentally measured optical gap of conjugated polymers with DFT and machine learning
18	Somayeh Faraji Nafchi	Computational Chemistry	A neural network interatomic potential for C-H systems: Insight into reactivity
19	Corey Causey	Organic	Design and synthesis of a SAM-based inhibitor for protein arginine methyl transferase (PRMT) enzymes
20	Riley Bulnes	Analytical Chemistry	The Fungal Pharmacy: Techniques of Isolation of Novel Secondary Metabolites from Fungal Species.
21	Sydney Morrow	Organic	Antarctic sponge <i>Suberites</i> sp. elucidated compounds find promising biological activity in Marine Natural Products Chemistry.
22	Onika Lyman	Biochemistry / Chem Bio.	Self-assembled double hydrophilic block copolymers mixed with paramagnetic lanthanides for use as PARACEST MRI agents

23	Vanisa Petriti	Biochemistry / Chem Bio.	Isolation, Chemical Synthesis and Interconversion of Fusaric Acid Derivatives.
24	Anu Anu	Biochemistry / Chem Bio.	Elucidating a mechanistic role of colibactin induced DNA damage.
25	Seymour Haque	Biochemistry / Chem Bio.	WITHDRAWN
26	Zachary Jones	Biochemistry / Chem Bio.	Multicomponent deoxyribozyme-based fluorescent assays for species-specific detection of nontuberculous mycobacteria
27	Faith Peplinski	Biochemistry / Chem Bio.	Biomarker discovery and time series profiling of the Florida manatee ( <i>Trichechus manatus latirostris</i> ) upon exposure to the Florida red tide ( <i>Karenia brevis</i> ) using bottom-up, quantitative plasma proteomics.
28	Erina Kotreli	Biochemistry / Chem Bio.	Exploring the Dimerization Domain of JDP Proteins
29	Madysn Roth	Biochemistry / Chem Bio.	Structural changes of DNA scaffold influence hybridization kinetics of localized DNA four-way junctions
30	Larissa Silva	Biochemistry / Chem Bio.	Using single-molecule FRET to study the dynamics of GPCR - G protein ternary complexes
31	Sreyashi Das	Physical	Investigating membrane lipid composition on A2A adenosine receptor state-dependent dynamics by single-molecule FRET
32	Doory Dan	Inorganic	Molecular models for single cobalt ions supported on cerium dioxide nanoparticles: Heterometallic Ce/Co-oxo clusters

POSTER SESSION 2  
SATURDAY June 1<sup>st</sup> 5:30 – 7:30 STIRLING  
BALLROOM

No.	NAME	Topic	Title
32	Pranshu Puri	Inorganic	Synthesis of Single-Sized PbSe Magic-Sized Nanoclusters
33	Sakshi Uttam Kamble	Inorganic	Atomically Precise Gold Nanoclusters: Shedding Light on Promising Photoluminescent Frontiers
34	Eduardo Hernandez Requejo	Inorganic	Investigation of High-Symmetry Lanthanide Complexes as Molecular Electron Spin Qubits
35	Alejandro Durand	Inorganic	Applying size-focusing to synthesize atomically precise platinum nanoclusters
36	Krittin Poottafai	Inorganic	Influence of surrounding medium on photoluminescence and phase behavior of two-dimensional lead iodide perovskites
37	Gina Pedro	Inorganic	Cyclic Analogs of Low-Density Polyethylene from Alkynes
38	Mingwei Zhou	Physical	Investigating the Hydration Environments of PEGylated Liposomes Utilizing Overhauser Dynamic Nuclear Polarization
40	Trisha Chapagain	Physical	Characterization of Exosomes Involved in Vascular Calcification Using Multifunctional Nanopipettes
41	Maggie Cooper	Physical	Non-equilibrium composition of mixed metal hydroxide membranes grown in flow systems
42	Victoria Ogunkunle	Physical	Differential Scanning Fluorimetry (DSF): A High-Throughput Screening Method for Monitoring RNA Stability
43	Summer Brown	PMSE/POLY	Axially Chiral Heteroacenes for Chiral Light Control
44	Joshua Marquez	PMSE/POLY	Electrochemically Functionalizing Macromolecules
45	Kiana Treaster	PMSE/POLY	Designing Thermally Conductive Two-Dimensional Polymer Films

46	Lauren Bishop	PMSE/POLY	Utilizing Benzyl Methacrylate Derivatives for Bulk Depolymerization of Methacrylate Polymers
48	Jirui Jin	Computational Chemistry	Comparative Analysis of Classical Machine Learning and Graph Neural Network Models for Perovskite Property Prediction
49	Debit Subedi	Computational Chemistry	Computational Study of Single-Atom Catalysts Supported on Transition Metal Nitrides
50	Benjamin Rathman	Biochemistry / Chem Bio.	Elucidation of the N-Nitroglycine Biosynthetic Pathway: Towards the Discovery of Novel Natural Product Nitramines
51	Nolan Blackford	Biochemistry / Chem Bio.	Structural characterization of La-Related Protein 6 via cryo-EM and solution-state NMR
52	AnnaMarie Knowles	Biochemistry / Chem Bio.	Multicomponent hybridization probe with a label-free reporter based on a DNA light-up aptamer
53	Laila Ghasseminia	Biochemistry / Chem Bio.	Multicomponent deoxyribozyme-based fluorescent assays for species-specific detection of nontuberculous mycobacteria
54	Jiyeong Hong	Biochemistry / Chem Bio.	Triplex-forming oligonucleotides for modulating interactions of aptamers with their ligands
55	Tianyan Li	Biochemistry / Chem Bio.	Investigating the Impact of Charge Patterning on Ensembles of IA3
56	Mackenzie Fey	Biochemistry / Chem Bio.	Split DNAzyme probe for detection of low concentration of mutated DNA in the excess amount of normal DNA for early-stage cancer diagnosis.
57	Quynh Vo	Chemistry Education	Development of an interdisciplinary laboratory experiment for teaching molecular computation, Boolean logic gates, hybridization probes and cancer RNA markers
58	Emanuella Dolcine	Chemistry Education	Examining Undergraduate Learning Assistant's Experiences in a Mixed-Reality Simulator
59	Nathaniel Carnegie	Chemistry Education	Atomic and Molecular Emission Spectroscopy: A Laboratory Experiment for Undergraduate Students in Chemical Sciences
60	Ilya Deadoff	Organic	Synthetic and Computational Analysis of Possible Carbon-Oxygen and Carbon-Carbon Bond Formation in 2-(Methoxy-4-(2-phthalimidinyl)phenylsulfonyl Chloride

61	Phillip Gray	Organic	Mild and Efficient Cs <sub>2</sub> CO <sub>3</sub> -Promoted Synthesis of Silyl Carbonates and Silyl Carbamates
62	Harun Kapidzic	Biochemistry / Chem Bio.	Structural considerations for a DNA light-up aptamer
63	Rebecca Black	Inorganic	Toward the synthesis and characterization of BIPHEP and OMe-BIPHEP ligands bearing <i>bisortho</i> -substituted phenyl)phosphino groups

**Thank you  
For  
Attending**





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