

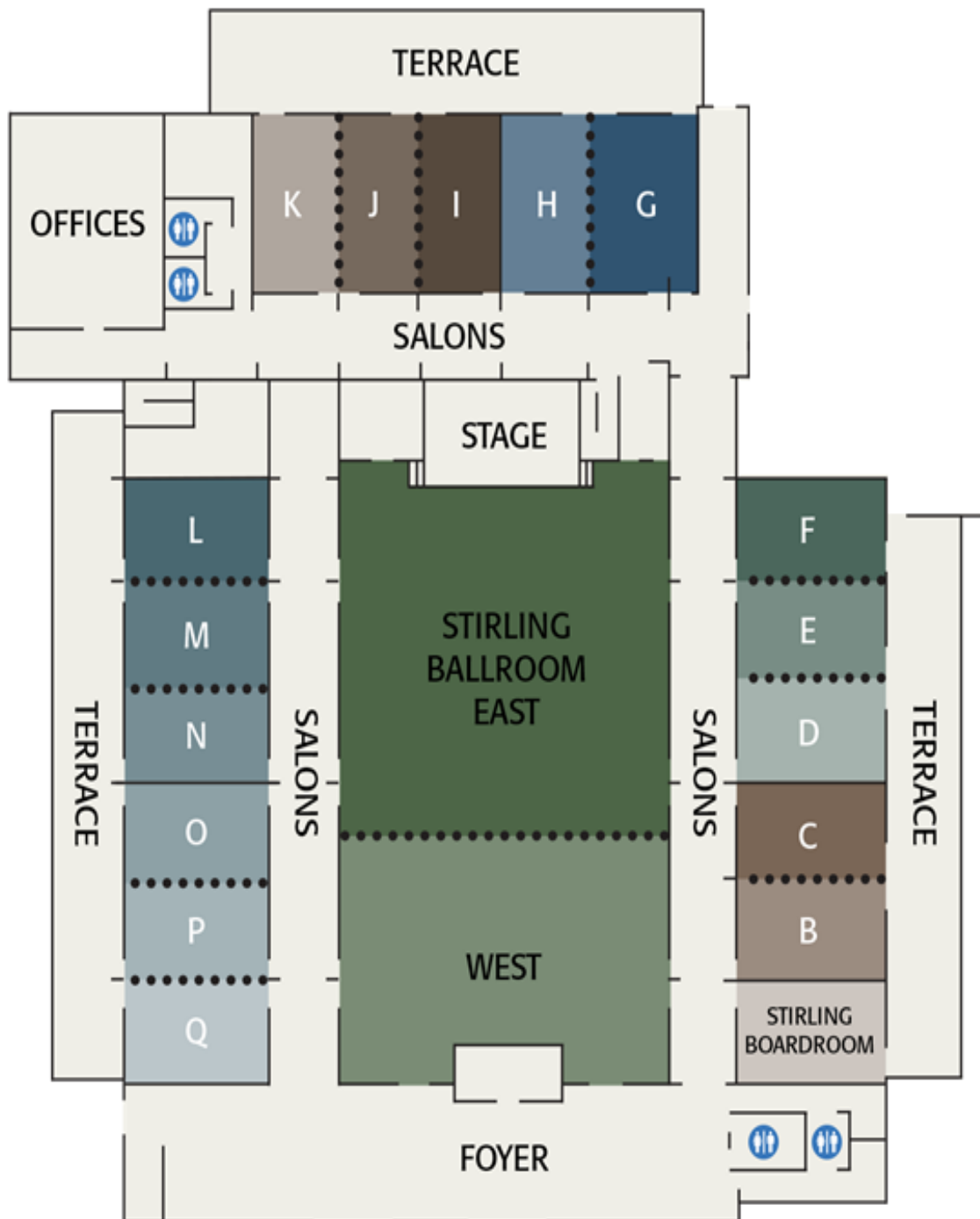


# FAME 2022

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

### PROGRAM OF ACTIVITIES





**STIRLING HALL**



**FLACS**  
**FLORIDA ANNUAL MEETING & EXPOSITION**

**OFFICIAL PROGRAM**

**FLACS (Florida Section of the ACS) Committee**

**Message from the FLACS Chair and Program Chair**

**Message from the FLACS Chair-Elect Designate and Poster Chair**

**Sponsors and Contributors**

**2020 Florida Award Recipient**

**2021 Florida Award Recipient**

**2022 Florida Award Recipient**

**Symposia Organizers**

**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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Department of Chemistry, Biochemistry and  
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Florida Southern College  
Lakeland, FL 33801

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University of Florida  
Gainesville, FL 32611

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Department of Chemistry  
University of Florida  
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Tallahassee, FL 32307

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

## FROM THE FLACS and Program CHAIR



On behalf of the Florida Section of the American Chemical Society (FLACS), welcome to the 94<sup>th</sup> Florida Annual Meeting and Exposition (FAME). As the 2022 FLACS Chair, I would like to sincerely thank you for your participation and support of this year's meeting. We are finally back to having our annual FAME after a 2-year hiatus due to COVID-19.

I would like to acknowledge all those who were instrumental in getting us back together including our organizers and FLACS executive board members.

At this year's meeting, we are pleased to present our Florida award winners from 2020, 2021, and 2022 who are all able to be here and present. They are extraordinary Chemists in their field and excited to have them speak,

Students, postdoctoral scholars, faculty, and researchers from over 50 academic and industrial institutions across Florida and the southeastern United States have chosen to share their work at this meeting. There are also collaborative work from across the nation represented in this work. We have over 140 talks and over 100 posters. Every year I am inspired by the work of my colleagues, students, post-docs and industry partners sharing new projects and ideas to tackle old problems. Like each year past, I am certain that this year will be no different. 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.

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, and the Graduate Student and Faculty Mixers at Market Salamander Bar and Packard's Patio, respectively.

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!

Deborah Bromfield Lee  
FLACS Chair

**FROM THE FLACS Chair Elect-Designate and Poster CHAIR**



We are thrilled at the number of participants for the fall FAME 2022! We have not met for a full FAME conference since 2019 and with the different meeting time (August instead of May) we were not sure what the participation would be. As Deborah and I have worked to put this together I get a real sense of excitement to meet again and share our work. I look forward to meeting you all and I hope you have a wonderful meeting. We are working to bring the meeting back to May for 2023. Thank you for your support of FLACS and FAME.

Kari Basso  
FLACS Chair-Elect Designate

**We are pleased to acknowledge the following individuals, companies, and institutions that helped to sponsor Symposia AND Exhibit at FAME 2022:**



The UF College of Liberal Arts and Sciences and the UF College of Pharmacy.



University of Florida NIH T32 Program: Chemistry and Biology  
Interface

NSF FAMU Crest Award # 1735968



## PAST FLORIDA AWARD WINNERS

1952	<b>Paul Gross</b>	Duke University	1987	<b>Delos F. DeTar</b>	Florida State University
1953	<b>A. E. Wood</b>	University of Mississippi	1988	<b>Edward K. Mellon</b>	Florida State University
1954	<b>C. B. Pollard</b>	University of Florida	1989	<b>William R. Dolbier</b>	University of Florida
1955	<b>H. E. Skipper</b>	Southern Research Institute	1990	<b>R. Bruce King</b>	University of Georgia
1956	<b>George K. Davis</b>	University of Florida	1991	<b>George R. Newkome</b>	University of South Florida
1957	<b>C. R. Hauser</b>	Duke University	1992	<b>Charles E. Carraher</b>	Florida Atlantic University
1958	<b>Karl Dittmer</b>	Florida State University	1993	<b>Norman L. Allinger</b>	University of Georgia
1959	<b>J. E. Hawkins</b>	University of Florida	1994	<b>Albert Padwa</b>	Emory University
1960	<b>H. H. Sisler</b>	University of Florida	1995	<b>Alan R. Katritzky</b>	University of Florida
1961	<b>Michael Kasha</b>	Florida State University	1996	<b>Luis Echegoyen</b>	University of Miami
1962	<b>Jack Hine</b>	Georgia Institute of Technology	1997	<b>N. Yngve Öhrn</b>	University of Florida
1963	<b>George Butler</b>	University of Florida	1998	<b>Jack Saltiel</b>	Florida State University
1964	<b>C. T. Bahner</b>	Carson-Newman College	1999	<b>Mostafa El-Sayed</b>	Georgia Institute of

					Technology
1965	<b>Werner Herz</b>	Florida State University	2000	<b>Rodney J. Bartlett</b>	University of Florida
1966	<b>Paul Tarrant</b>	University of Florida	2001	<b>Thomas J. Vickers</b>	Florida State University
1967	<b>O. K. Rice</b>	University of North Carolina	2002	<b>Alan G. Marshall</b>	Florida State University
1968	<b>Earl Frieden</b>	Florida State University	2003	<b>Kenneth B. Wagener</b>	University of Florida
1969	<b>John Baxter</b>	University of Florida	2004	<b>John G. Dorsey</b>	Florida State University
1970	<b>S. P. McGlynn</b>	Louisiana State University	2005	<b>Charles R. Martin</b>	University of Florida
1971	<b>Ray Lawrence</b>	USDA Naval Stores Laboratory	2006	<b>Roger M. Leblanc</b>	University of Miami
1972	<b>James. V. Quagliano</b>	Florida State University	2007	<b>Naresh Dalal</b>	Florida State University
1973	<b>Gregory Choppin</b>	Florida State University	2008	<b>George Christou</b>	University of Florida
1974	<b>Sidney Fox</b>	University of Miami	2009	<b>Kirk S. Schanze</b>	University of Florida
1975	<b>Dean F. Martin</b>	University of South Florida	2010	<b>Timothy Cross</b>	Florida State University
1976	<b>William Jones</b>	University of Florida	2011	<b>Frank Millero</b>	University of Miami
1977	<b>Cecil Criss</b>	University of Miami	2012	<b>Weihong Tan</b>	University of Florida
1978	<b>Harry Walborsky</b>	Florida State University	2013	<b>Joseph Schlenoff</b>	Florida State University

1979	<b>Mary Good</b>	Louisiana State University	2014	<b>Weitao Yang</b>	Duke University
1980	<b>Raymond Sheline</b>	Florida State University	2015	<b>Lisa McElwee-White</b>	University of Florida
1981	<b>Wallace Brey</b>	University of Florida	2016	<b>Richard D. Adams</b>	University of South Carolina
1982	<b>James D. Winefordner</b>	University of Florida	2017	<b>David N. Beratan</b>	Duke University
1983	<b>Theodore A. Ashford</b>	University of South Florida	2018	<b>Kevin M. Smith</b>	Louisiana State University
1984	<b>Leo Mandelkern</b>	Florida State University	2019	<b>John R. Reynolds</b>	Georgia Institute of Technology
1985	<b>Brian Stevens</b>	University of South Florida	2020	<b>Brian C. Benicewicz</b>	University of South Carolina
1986	<b>Harry P. Shultz</b>	University of Miami	2021	<b>Jeffrey Johnson</b>	University of NC Chapel Hill

## 2022 FLORIDA AWARD

### **Igor V. Alabugin** FLORIDA STATE UNIVERSITY Tallahassee, FL



Igor V. Alabugin is the Distinguished Research Professor at the Florida State University, Tallahassee, FL. He received his Ph.D. degree from the Moscow State University in 1995 under the supervision of Professors N. S. Zefirov, N. V. Zyk, and V. K. Brel. After completing postdoctoral studies at the University of Wisconsin-Madison with Professor H. E. Zimmerman, he joined the Department of Chemistry and Biochemistry of the Florida State University in 2000. He currently serves as Associate Editor for the Journal of Physical Organic Chemistry, as the US representative in the IUPAC Subcommittee on Structural and Mechanistic Chemistry, and in the advisory boards of several journals and conferences.

His research combines theoretical and experimental organic chemistry. It ranges from electronic and conformational control of cycloaromatization reactions of enediynes to transition state stabilization in “click” cycloadditions, construction of carbon-rich nanostructures via cascade transformations of alkynes, radical cyclizations and fragmentations including the first metal-free conversion of phenols into esters and amides of aromatic carboxylic acids, photochemical double-stranded DNA cleavage agents with built-in selectivity to cancer cells, fundamental understanding of alkyne cyclizations, exergonic transformation of weak reductants into stronger reductants (“electron upconversion”), and design of unusually stable organic peroxides. Underlying much of this chemistry are Alabugin’s contributions to a deeper understanding of stereoelectronic effects.

Dr. Alabugin is the first recipient of all three FSU Undergraduate Awards: Teaching, Advising, and Research Mentor. His recent awards include the Markovnikov Medal, ACS Cope Scholar Award, AAAS and Fulbright Fellowships.

**Award and Presentation (Organic Symposia):** August 5<sup>th</sup> 5:15pm

As we have not been able to have FAME for the past couple years, we have also invited the previous 2 award winners to be acknowledged and present. We thank them for their time.

## **2021 FLORIDA AWARD**



**Prof. Jeffrey Johnson**

Department of Chemistry

University of North Carolina Chapel Hill

**Award and Presentation (Organic Symposia): August 6<sup>th</sup> 11:15am**

**2020 FLORIDA AWARD**



**Prof. Brian C. Benicewicz**

Department of Chemistry

University of South Carolina

**Award (PMSE/POLY):** August 5<sup>th</sup> 8:30am

**Presentation (PMSE/POLY):** August 5<sup>th</sup> 3:15pm

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

<p><b>Additive Manufacturing &amp; 3D Printing</b> Dr. Subramanian Ramakrishnan FAMU-FSU College of Engineering &amp; Dr. Tarik Dickens FAMU-FSU College of Engineering</p> <p><b>Computational Chemistry</b> Dr. Shyam Kattel FAMU-FSU College of Engineering &amp; Dr. Ramon Miranda Quintana University of Florida</p> <p><b>Inorganic Chemistry</b> Dr. Keith Searles University of Florida</p> <p><b>Physical and Biophysical Chemistry</b> Dr. Matt Eddy University of Florida</p>	<p><b>Biochemistry and Chemical Biology</b> Dr. Jeffrey Rudolf University of Florida</p> <p><b>Chemical Education</b> Dr. Katie Whitaker University of West Florida</p> <p><b>Electrochemistry</b> Dr. Robert Lazenby Florida State University</p> <p><b>Mass Spectrometry</b> Francisco Alberto Fernandez-Lima Florida International University</p> <p><b>Organic Chemistry</b> Dr. Stephane Roche Florida Atlantic University</p> <p><b>PMSE/POLY and Materials Chemistry</b> Sofia Goodrich University of Florida</p>
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# MEETING AT A GLANCE

## THURSDAY AFTERNOON August 4th

SESSION/EVENT		LOCATION
12:00-5:00	<i>Registration and check-in</i>	Stirling Hall Foyer
	Workshop A	Stirling E-F
1:30-3:30	Workshop B	Stirling B-C
<b>BREAK</b>		
5:30 – 7:30	Welcome Reception ( <i>refreshments served</i> )	Stirling Hall Foyer
5:30 – 7:30	<b>Poster Session I</b>	Stirling Ballroom E&W
8:00 PM	Graduate Student Mixer ( <i>refreshments served</i> )	Market Salamander Grille

## FRIDAY MORNING August 5th

SESSION/EVENT		LOCATION
8:00 - 8:30	<i>Late Registration and Continental Breakfast</i>	Stirling Hall Foyer
8:30-8:45	2020 FL Award Winner Award (PMSE/POLY)	Stirling O-P
8:30 - 9:45	Additive Manufacturing A	Stirling D-E
	Biochemistry and Chemical Bio A	Stirling L-M
	Computational A	Stirling I-J
	Electrochemistry A	Stirling K
	Inorganic A	Stirling F
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
<b>COFFEE BREAK</b>		
10:15-11:45	Additive Manufacturing A	Stirling D-E
	Biochemistry and Chemical Bio A	Stirling L-M
	Computational A	Stirling I-J
	Electrochemistry A	Stirling K
	Inorganic A	Stirling F
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H



# MEETING AT A GLANCE

	PMSE/POLY A	Stirling O-P
<b>LUNCH BREAK ON YOUR OWN</b>		

FRIDAY AFTERNOON August 5th		
	SESSION/EVENT	LOCATION
1:00-5:00	<b>Poster viewing</b>	Stirling Ballroom E&W
1:30-2:45	Additive Manufacturing A	Stirling D-E
	Biochemistry and Chemical Bio A	Stirling L-M
	Computational A	Stirling I-J
	Mass Spectroscopy A	Stirling K
	Inorganic A	Stirling F
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
<b>COFFEE BREAK</b>		
3:15-6:30	Additive Manufacturing A	Stirling D-E
	Biochemistry and Chemical Bio A	Stirling L-M
	Computational A	Stirling I-J
	Mass Spectroscopy A	Stirling K
	Inorganic A	Stirling F
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
3:15-4:15	2020 FL Award Winner Presentation (PMSE/POLY)	Stirling O-P
5:15-6:15	2022 FL Award Winner Presentation and Award (Organic)	Stirling B-C
<b>DINNER ON YOUR OWN</b>		
9:00	Faculty Mixer ( <i>refreshments served</i> )	Packard's Patio

SATURDAY MORNING August 6th		
	SESSION/EVENT	LOCATION
8:00 - 8:30	<i>Late Registration and Continental Breakfast</i>	Stirling Hall Foyer
8:30 - 9:45	Biochemistry and Chemical Bio B	Stirling L-M
	Chemical Education A	Stirling K

## MEETING AT A GLANCE

	Computational B	Stirling I-J
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
<b>COFFEE BREAK</b>		
10:15- 11:45	Biochemistry and Chemical Bio B	Stirling L-M
	Chemical Education A	Stirling K
	Computational B	Stirling I-J
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
<b>LUNCH BREAK ON YOUR OWN</b>		

<b>SATURDAY MORNING August 6th</b>		
<b>SESSION/EVENT</b>		<b>LOCATION</b>
8:00 - 8:30	<i>Late Registration and Continental Breakfast</i>	Stirling Hall Foyer
8:30 - 9:45	Biochemistry and Chemical Bio B	Stirling L-M
	Chemical Education A	Stirling K
	Computational B	Stirling I-J
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
<b>COFFEE BREAK</b>		
10:15- 11:45	Biochemistry and Chemical Bio B	Stirling L-M
	Chemical Education A	Stirling K
	Computational B	Stirling I-J
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
	Networking and Conversation	Stirling DE
11:15- 12:10	2021 FL Award Winner Presentation and Award (Organic)	Stirling B-C
<b>LUNCH BREAK ON YOUR OWN</b>		

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# MEETING AT A GLANCE

SATURDAY AFTERNOON August 6th

SESSION/EVENT		LOCATION
1:00-5:00	<b>Poster viewing</b>	Stirling Ballroom E&W
1:30-2:45	Biochemistry and Chemical Bio B	Stirling L-M
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
	Networking and Conversation	Stirling I-J
	Networking and Conversation	Stirling DE
<b>COFEE BREAK</b>		
3:15-6:30	Biochemistry and Chemical Bio B	Stirling L-M
	Organic A	Stirling B-C
	Physical and Biophysical A	Stirling G-H
	PMSE/POLY A	Stirling O-P
	Networking and Conversation	Stirling I-J
	Networking and Conversation	Stirling DE
5:00 – 7:00	Poster Reception ( <i>refreshments served</i> )	Stirling Hall Foyer
5:00 – 7:00	<b>Poster Session II</b>	Stirling Ballroom E&W
END OF PROGRAM		
DINNER ON YOUR OWN		

## TECHNICAL PROGRAM

**THURSDAY, August 4<sup>TH</sup> – AFTERNOON**

THURSDAY AFTERNOON: WORKSHOPS

SESSION/EVENT		LOCATION
1:00-5:00	Workshop A: <b>Additive Manufacturing</b> Sponsors: Dow 	Stirling E-F

Workshop B: <b>Chemical Biology RCR Workshop – The Individual and the Team in Collaborative Chemical Science.</b> Sponsors: The UF College of Liberal Arts and Sciences and the UF College of Pharmacy. 	Stirling B-C
1:30-3:30	

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

Time	Title
5:00-7:00	<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://fame2022.fl-acis.org/view/accepted-posters-list/">https://fame2022.fl-acis.org/view/accepted-posters-list/</a>

**Friday, AUGUST 5<sup>TH</sup> – MORNING SESSIONS**

Abstracts available on the fl-acis site: <https://fame2022.fl-acis.org/view/accepted-presentations/>

**FRIDAY MORNING: ADDITIVE MANUFACTURING A – STIRLING D-E**

*Sponsors: DOW, NSF FAMU Crest Award # 1735968*



Time	Presenter	Title
8:30	Daniel L. Dermody	Polyethylene-based Materials for Additive Manufacturing
8:55	Balaji Krishna Kumar	Additive Manufacturable Polyimide Vitrimer Nanocomposite
9:20	Kurt Koppi	Rheological characterization of 3D printable silicones
10:15	Andrei Fluerasu	Investigating Advanced Manufacturing Processes of Polymeric Materials with X-ray Scattering Techniques
10:40	John J. Bowen	Direct Ink Writing of Nanofeatured Ceramic Objects
11:05	Paul I. Deffenbaugh	Manufacturing High Performance Electronics Everywhere using Direct Digital Manufacturing

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

*Sponsors:* University of Florida, University of Florida College of Liberal Arts and Sciences (CLAS), and Eppendorf.



Time	Presenter	Title
8:30	James Thornham	Imaging the transport biology of single HIV-1 complexes inside the nucleus
8:55	David H. Perez	ATP activates <i>C. elegans</i> acyl-CoA oxidase by increasing affinity for FAD cofactor
9:20	Sajan Green	Probing the substrate specificity of a diketopiperazine isomerase to expand natural product diversity
10:15	Zining Li	Unprecedented <i>trans</i> -eunicellane terpene synthase in bacteria
10:55	Annika Jagels	New myropeptins C-E from the fungus <i>Myrothecium inundatum</i>

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

Time	Presenter	Title
8:35	Daniel Lambrecht	Computational studies towards rational design and synthesis of functional materials: Reactivity of silyl ketenes and gas adsorption to Buckybowls
9:00	Moneesha Ravi	EOM-coupled-cluster theory with excited state reference wavefunction
9:20	Wei Yang	Understanding the Role of Large-Scale Protein dynamics in Protein Electrostatics
10:15	Tandabany Dinadayalane	Computational Study on Binding of $\alpha$ -Amino Acids Containing Rings with Graphene
10:40	Reza Esmaeeli	Searching for Low Probability Opening Events in a DNA Sliding Clamp
11:00	Arjan van der Vaart	Substrate rigidity modulates the efficiency of uracil-DNA glycosylase

FRIDAY MORNING: **ELECTROCHEMISTRY A – STIRLING K**

Time	Presenter	Title
8:30	Robert A. Lazenby	Assessing and rationalizing the electrocatalytic activity of bimetallic transition metal nanocarbides towards the oxygen evolution reaction
8:55	Muzmil M.N. Ahmed	Detection of Trace Amounts of Heavy Metals in Environmental Samples

9:20	Amanda J. Ritz	Optimization of electrodeposition of gold nanoparticles for tuning performance of electrochemical aptasensors
10:15	Noel Manring	Novel Insight to a Biocompatible Surface Modification for the Enhanced Detection of Cu <sup>2+</sup> using Fast Scan Cyclic Voltammetry
10:40	Debashis Sen	Selective aptamer modification of gold surfaces in a microelectrode sensor array for simultaneous detection of multiple analytes
11:05	Thomas T. Volta	Influence of Cation Character on the Permselectivity of Synthetic Nanotube Membranes

#### FRIDAY MORNING: INORGANIC A – STIRLING F

Time	Presenter	Title
8:30	Victoria Li	Magnetic Phase Boundary Mapping in the YFe <sub>6</sub> Ge <sub>6</sub> -YCo <sub>6</sub> Ge <sub>6</sub> System
8:50	Juan Felipe Torres Gonzalez	Lewis bases induced structural rearrangement in diiron complexes
9:10	Khoa Xuan Dang	The use of pyrazole and its derivatives in Mn-oxo cluster chemistry
9:30	Nermina Brljak	Using Multidomain Peptides to Probe Regiospecific Binding to Graphene and h-BN
10:15	Ian Campbell	Searching For Helimagnetic Ordering in Transition Metal Chalcogenides
10:35	Yu-Hsuan Shen	Synthesis and Characterization of Network Metallopolymers via iClick (Inorganic Click)
10:55	Randy W. Larsen	Modulation of Ruthenium (II) Tris-(2,2'-bipyridine) Photophysics through Cavity Size in Zn (II) and Zr (IV) Metal Organic Frameworks

#### FRIDAY MORNING: ORGANIC A – STIRLING B-C

Time	Presenter	Title
8:30	Alexander Adibekian - <b>CANCELLED</b>	Chemoproteomic profiling with hypervalent iodine probes: From target identification to drug discovery
9:00	Withdrawn to Posters	Withdrawn to Posters
9:25	Alexis D. Richaud	Leveraging CH- $\pi$ Interactions to Craft $\beta$ -hairpin Mimics of Antibody Loops
10:20	Ajeet Kumar	Enhancing the self-assembling properties of <i>N</i> -centered [n.n]Paracyclophanes
10:45	Norito Takenaka	Lewis Base Catalysis of Organotrichlorosilanes
11:15	Xiaodong Michael Shi	Recent Advancement in Gold Redox Chemistry: New Transformations and Asymmetric Catalysis

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:45	Jianjun Pan - <b>CANCELLED</b>	The N-terminal helices of amphiphysin and endophilin have different capabilities of membrane remodeling
9:15	Gail E. Fanucci	Spin Labeling Approaches for Cellular Glycans
10:15	Ashwanth C. Francis	Functionally characterizing HIV-1 infection by quantitative fluorescence imaging approaches
10:50	Ellen H. Kang	Counteractive effects of electrostatics and macromolecular crowding on actin bundle mechanics, organization, and secondary structure

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

Award Symposium in Honor of Dr. Brian C. Benicewicz 2020 Florida Award Recipient

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	<b>2020 FL Award Brian C. Benicewicz</b>	
8:45	Ken Wagener	Metathesis Polycondensation Chemistry: The ADMET Reaction
9:15	Yi Liao	Polymeric materials containing reversible photoacids
10:15	Austin M Evans	Atomically precise polymer sheets: controlled synthesis and electronic behavior
10:50	Justin G. Kennemur	Flexible and Periodic Phenylsulfonated Materials through ROMP: Synthesis, Transport, and Unique Assemblies

## **Friday, MAY 5<sup>TH</sup> – AFTERNOON SESSIONS**

Abstracts available on the fl-acis site: <https://fame2022.fl-acis.org/view/accepted-presentations/>

### **FRIDAY AFTERNOON: ADDITIVE MANUFACTURING B – STIRLING**

D-E

*Sponsors:* DOW, NSF FAMU Crest Award # 1735968



<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Bobby Haney	Effects of Processing Conditions on the Macroscopic Properties of Cellulose Filled Hydrogel Scaffolds Using UV Rheology
1:55	Vignesh Subramaniam	Functional 3D Bioprinted Minimal Models of Tissues
2:20	Tyler Gregory	Towards Rapid Tissue Printing: Rheological Evaluation of Cell-Laden Alginate-Gelatin Hydrogels
3:15	Anesia Auguste	Human-robot interactions for the automation and application of speckle patterns for Digital Image Correlation
3:40	Md Alamgir Hossain	A high-performing strain gauge manufactured by 3D printing using a silver ink
4:05	Daniel L. Dermody	Advanced Polymer Materials for Additive Manufacturing
4:30	Sean Psulkowski	Adhesion Dynamics Under Time-Varying Deposition
4:55	John Thornton	Nanoscale surface characterization by Atomic Force Microscopy (AFM) techniques: Infrared Spectroscopy, Mechanical and Electrical methods

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

*Sponsors:* University of Florida, University of Florida College of Liberal Arts and Sciences (CLAS), and Eppendorf.



<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Anuska Das	Structural and Biochemical Characterization of a Novel Methylation Sensitive Cas9
2:10	Piyush K. Jain	Discovery and engineering of CRISPR/Cas systems toward next-generation diagnostics



3:15	Huan Bao	Expanding the structure and function of nanodiscs
3:55	Cătălin Voiniciuc	The Matrix Redesigned: Building Plant Cell Wall Polysaccharides using Synthetic Biology

**FRIDAY AFTERNOON: COMPUTATIONAL B – STIRLING I-J**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:35	Orlando Acevedo	Machine Learning for Chemical Reactions in Solution
2:00	Arup Mondal - <b>CANCELLED</b>	Structure determination of protein-peptide complexes from NMR chemical shift data using MELD
2:40	Ramon Miranda Quintana	Charge transfer processes in solution
3:15	Eugene DePrince	Ab initio cavity quantum electrodynamics
3:40	Pratiksha Balasaheb Gaikwad	Single Excitations in 1-Reference Geminal Coupled Cluster Wavefunctions: Taming Strong Correlation with Flexible Quasi-Particles
4:00	Shyam Kattel	Machine Learning Study of bulk and surface properties of alloys

**FRIDAY AFTERNOON: INORGANIC B – STIRLING F**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Kenneth Hong Kit Lee	Development of a Magnetostructural Correlation for Polynuclear Mn <sup>III</sup> /oxo Clusters
1:50	Miguel Gakiya-Teruya	Design of Volatile Fe(II) Spin-Crossover Complexes
2:10	Ethan Fisher	Molecular nanoparticles of mixed-metal oxides: synthesis and characterization of high-nuclearity Ce/Ti-oxo clusters
2:30	Catherine J. Fabiano	Understanding the microwave synthesis and photophysics of WO <sub>3-x</sub>
3:15	Rinku Yadav	REMP catalysts with unusual ancillary ligand
3:35	Milo Adams	Tuning properties of kagome ferromagnet Fe <sub>3</sub> Sn <sub>2</sub> by electron and hole doping
3:55	ChristiAnna Brantley	A Whole New World of Cobalt/Oxo Cluster Chemistry
4:15	Sanjay Kumar Devendhar Singh	One-Pot Synthesis and Characterization of Covalent Surface Modified 2D Ti <sub>3</sub> C <sub>2</sub> MXenes
4:35	Will R. Buratto	Activation of Small Molecules by a Dicobalt-di( $\mu$ -hydrido) Complex
4:55	Michael Shatruk	Influence of Covalency on Magnetic Exchange in Manganese Monochalcogenides

**FRIDAY AFTERNOON: Mass Spectroscopy A – STIRLING K**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Kari B. Basso	Reinvention and validation of the sulfo-phospho-vanillin assay for sample normalization in quantitative lipidomic LC-MS/MS
2:00	Samuel A. Miller	Integration of Tandem UV-Photon and Mobility/Mass-Selected Electron Capture Dissociations for Top-Down Mass Spectrometry
2:25	Alexandra Keidel	Orbitrap mass spectrometry for the determination of stable isotopes in amino acids
3:15	Meiby Fernández-Rojas	Development of Top-Down Hydrogen Deuterium back Exchange Mass Spectrometry using Tandem Trapped Ion Mobility and Electron Capture Dissociations
3:40	Cassandra N. Fuller	Development of a bottom-up histone characterization method based on LC-TIMS-ToF-MS/MS.
4:05	Woo-Young Kang	Gas-phase intramolecular cross-linking of ubiquitin via ion/ion reactions as a tool to evaluate 3-D protein structures
4:30	Miguel Santos-Fernandez	Integration of Trapped Ion Mobility Spectrometry with Quadrupole Ion Traps
4:55	Nathan Grimes	Ultrasonic Vapor Modifier Nebulization for Enhanced Control of FAIMS-Mass Spectrometry

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

Award Symposium in Honor of Dr. Igor V. Alabugin 2022 Florida Award Recipient

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Weijun Gui	Assembling of PROTACs by reversible biorthogonal reactions
1:55	Chaowei Hu	Radical alkyne peri-annulations terminated by C-O fragmentation: making oxidized polyaromatics without oxidation
2:20	Teng Yuan, Xiaodong Shi	Study on New Reactivity of Vinyl Gold and Its Sequential Transformations
3:20	Marc R. Knecht	Bio-inspired approaches for materials assembly to generate complex heterostructures
3:50	Kevin Little	Improved Synthesis of Clip-tag Substrates for Cellular Imaging
4:15	Brian Gold	Making it Click: Synthetic Tools for Multi-Stage Diversification

4:45	Arjan van der Vaart	Computer simulations of AApeptides
5:15	Igor V. Alabugin	Energy of chemical bonds as a driving force for organic reactions: molecular springs, stereoelectronic frustration, and electron upconversion
6:05	<b>Dr. Igor Alabugin – 2022 Florida Award Winner</b>	

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Daniel G. Isom, PhD	Informatics and engineering to build and study GPCR sensors and coincident signal detectors
2:05	Naveen Thakur	Endogenous Phospholipids Control Mechanisms of GPCR-G Protein Recognition
2:25	Deepika Regmi	Investigating the amyloidogenesis of fragment prion 106-128, membrane interaction, and the Inhibitory Effect of the polyphenols in prion diseases
3:15	Maria-Jose Ferrer	Hyperpolarized Metabolites Produced by Ultrasonic Spray Injection into Parahydrogen, Adiabatic Transport Through a Level Anticrossing, and Selective Coherence Transfer
3:40	Robert Silvers	Structure and Function of La-Related Proteins

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Chuanbing Tang	Rational Design of Metallopolymer Anion-Exchange Membranes
3:15	Brian C. Benicewicz	Teaching an Old Dog New Tricks: New Developments in Polybenzimidazole (PBI) Membranes (2020 Florida Award Winner Presentation)

## **SATURDAY, MAY 6<sup>TH</sup> – MORNING SESSIONS**

Abstracts available on the fl-acis site: <https://fame2022.fl-acis.org/view/accepted-presentations/>

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

*Sponsors:* University of Florida, University of Florida College of Liberal Arts and Sciences (CLAS), and Eppendorf.



<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	John G. Ricca	The extracellular role of cyanopeptides studied with nanoscale secondary ion mass spectrometry
8:55	Samantha G. Martinusen	A high-throughput activity screen for reprogramming proteases (HARP).
9:20	Vicente Rubio	Rational design of fluorescent and solvatochromic cholesterol mimetics for imaging of intracellular cholesterol
10:15	Andrii Monastyrskyi	Chemical proteomics with fully functionalized fragment-like probes identifies the glutathione-dependent isomerase GSTZ1 as a lung cancer target
10:55	Jacqueline L. von Salm	Reimagining Psychoactive Natural Products: Drug discovery and development of subhallucinogenic tryptamines

### **SATURDAY MORNING: CHEMICAL EDUCATION A – STIRLING I-J**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Mrs. Matilynn Lam	Determining How Undergraduate Students Interpret and Communicate an Understanding of Visual Data Representation
8:55	Cameron Bechard	Student responses to a modified PISQ-5D survey: How undergraduate students in chemistry courses relate to being a future professional in their field
9:20	Ms. Barbara Chiu	Emergency Remote Teaching: Best Practices and Student Experiences
10:15	Ms. Barbara Chiu	Using the MA <sub>T</sub> CH Model to Analyze Student Transcripts

10:40	Dr. Scott Wallen	A Sustainable, Systems Redesign of Undergraduate Laboratories Using a Circular Economy Paradigm
11:05	Miss Catalina Lopez-Castilla	Investigating gender bias in college general chemistry textbooks

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:35	Prem Chapagain	Computational approach rises to the occasion: Tackling viral and bacterial diseases
9:00	Rugwed Lokhande	Hierarchical partition of Hilbert space based on excitation and seniority weightage
9:20	Shengli Zou	Effect of near field coupling among multiple emitters near a metal nanoparticle on their radiative decay rate enhancement
10:15	Mogus Mochena	Quantum Plasmonics of Few Electrons in Strongly Confined Doped Semiconducting Oxide: A DFT+U Study of ZnGaO
10:40	Michael Lynn	Bulk properties of Transition Metal Nitrides: A Density Functional Theory Study
11:00	Beauty Chabuka	Electron and Hole Catalysis via Reductant and Oxidant Upconversion: The Case of 1,2-disila-3,5-cyclohexadiene

**SATURDAY MORNING: Organic C – STIRLING I-J**

Award Symposium in Honor of Jeffrey S. Johnson 2021 Florida Award Recipient

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Jeanine Yacoub	Psychedelic-Inspired Drug Discovery to Treat Mental Health Disorders
8:55	Sean Chin Chan	Discovery and Design of a Novel ULK1/2 Inhibitor that Synergizes with the MEK1/2 Inhibitor to Promote Growth Inhibition in RAS-Driven Non-Small Cell Lung Cancer.
9:20	Nick Paciaroni	Expanding chemical space in DNA-encoded libraries: novel approaches for small molecule synthesis
10:15	Justin M. Lopchuk	New methods for the stereospecific installation of S(VI) groups in medicinal chemistry.
10:45	Alex Grenning	Contrathermal Cope Cope Rearrangements Through Theory, Design, and Experiment.

11:15	Jeffrey S. Johnson	Stereoconvergent synthesis with configurationally unstable compounds
12:05	<b>Dr. Jeffrey Johnson – 2021 Florida Award Winner</b>	

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:45	Yan-Yan Hu	NMR/MRI Studies of Ion Transport and Microstructure Formation in Solids
9:15	Brynna Jones	Observing Plastics in an Aqueous DOM Model System via ATR-FTIR
10:15	Cheyenne Sircher	Mechanical disruption of lipid vesicles for mass spectrometric analysis
10:50	Denisia M. Popolan-Vaida	Mechanistic insights into ozone assisted low-temperature oxidation reaction of trans-2-butene in a jet stirred reactor

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
8:30	Ralm G. Ricarte	Generalized Rouse theory for modeling the linear viscoelastic behavior of unentangled vitrimer melts
9:00	Lily E. Diodati	Induction Processing and Improvement of Composite Vitrimer Flow through Integration of Fe <sub>3</sub> O <sub>4</sub> in Vitrimer Networks
9:25	Swagata Monda	Janus Crosslinks in Supramolecular Networks
10:15	Lakshitha A. Perera	Elucidating the Interactions between Ubiquitin and Conjugated DMAM-TEMPO Block-copolymers via Atomistic Molecular Dynamics Simulations
10:40	Brandon A. Fultz	Oppositely Charged Self-Assembled Block Copolymers: The Pursuit of Nano-Scale Charge Mosaics
11:05	Susan Walley	Synthesis and Analysis of Novel [2.2]Paracyclophane-based Star Polymers <i>via</i> Grafting-to Methodology

**Continue the conversation and Networking**

Stirling D-E

## **SATURDAY, MAY 6<sup>TH</sup> – AFTERNOON SESSIONS**

Abstracts available on the fl-acS site: <https://fame2022.fl-acS.org/view/accepted-presentations/>

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

*Sponsors:* University of Florida, University of Florida College of Liberal Arts and Sciences (CLAS), and Eppendorf.



<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Lawrence A. Stern	Endoplasmic reticulum sequestration empowers phosphorylation profiling on the yeast surface
2:10	Daniel M. Czyz	Drug Repurposing Screen for Anti-infectives Identifies Host and Pathogen-Targeting Compounds
3:15	Michelle A. Ehrenberger	Terpene Product Profiles of Spatadiene Synthase Homologues from Soil Bacteria
3:40	Madhushi N. Ratnayake	Nucleoside hydrolase QueK, salvage queuine in gut pathogen <i>Clostridioides difficile</i>
4:05	Andrew Steele	Harnessing a Large Microbial Strain Collection for the Discovery of Novel Chemistry and Biology

### **SATURDAY AFTERNOON: ORGANIC D – STIRLING B-C**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Jean-Hubert Olivier	Expanding the Toolbox to Modulate the Electronic Functions of Non-Covalent Assemblies
1:55	Brandon Nusser	Photophysical and Photochemical Properties of Fluorescent Triazoles
2:20	Chenhuan Wang	Achieving Olefin Metathesis at Elevated Temperature with Triazole Modified Grubbs Catalysts: Balanced reactivity and stability
3:15	Cheng-Yen Pan	Design and Synthesis of Rosette-Forming Donor-Acceptor $\pi$ -Conjugated Molecules for Organic Solar Cells
3:45	V. Ramamurthy	Excited State Dynamics of Spatially Confined Organic Molecules

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

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Bo Chen	Insight into the curvature control mechanism of the Rous sarcoma virus capsid protein assembly
2:05	Genesis Fernandez	Development of fluorescent naphthalimide-based membrane tension probes
2:25	Majedul Islam	Electrostatic interaction and polyelectrolyte complex-mediated aggregation modulation of novel fragment tau <sub>298-317</sub>
3:15	Michelle P. Lapak	A closed-loop continuous-flow system for parahydrogen enhanced hyperpolarization of metabolites via heterogeneous catalysis
3:40	Matthew Eddy	Investigating the Molecular Basis for Improving Protein Stability through PEGylation

**SATURDAY AFTERNOON: PMSE/POLY D – STIRLING O-P**

<b>Time</b>	<b>Presenter</b>	<b>Title</b>
1:30	Mason, Samaiyah	Synthesis and Characterization of Disulfonated Phenolphthalein and Phenolphthalin Poly (arylene ether sulfone) Copolymers with Sulfonic Acid Pendant Groups
1:55	Jordan L. Torgunrud	Entropy-driven depolymerization of natural and synthetic silicon-containing polymers
2:20	James Young	Photo-assisted Depolymerization: An Exploration into the Effect of Light on Various Terminal Iniferters for Reversion to Monomer
3:15	Kevin A. Stewart	High-Performance Bio-Based Polyimine Vitrimers and Linear Polymers from Pentafluoropyridine
3:40	Kadisha Culpepper	Synthesis and Characterization of Poly(Xylitol Sebacate)-Nanocrystalline Cellulose Blends for Nanoparticle Formation
4:05	Thomas E. Angelini	Leveraging Liquid-Liquid Phase Separation in Embedded 3D Printing of Soft Matter

**Continue the conversation and Networking**

Stirling I-J & Stirling D-E



**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-acis site: <a href="https://fame2022.fl-acis.org/view/accepted-posters-list/">https://fame2022.fl-acis.org/view/accepted-posters-list/</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 7:00 pm.

<b>POSTER SESSION 1</b>			
<b>THURSDAY 5:30 – 7:30 STIRLING BALLROOM</b>			
<b>No.</b>	<b>NAME</b>	<b>Topic</b>	<b>Title</b>
1	Liu	Computational Chemistry	Design and benchmark a new computational pipeline to discover non-natural collagen binding motifs
2	Martinez Noa	Computational Chemistry	Calculation of thermodynamics and kinetics parameters of protein-peptide complexes using Peptide Gaussian accelerated Molecular Dynamics (Pep-GaMD) approach
3	Dotson	Computational Chemistry	Computational study of sumanene modifications for improved dihydrogen storage
4	Ben-Abdallah	Physical Chemistry	Development of Encapsulated Thermochromic Materials for Degradation Resistant Energy Efficient Coatings
5	Singh	Physical Chemistry	Incorporating parameter sampling in MELD to improve protein structure determination using semi-reliable data.

6	Li	Physical Chemistry	Hydrogen Bonding Compensation on the Convex Solvent Exposed Helical Face of IA <sub>3</sub> , an Intrinsically Disordered Protein
7	Zhou	Physical Chemistry	Comparative Study of Cell Surface $\alpha$ 2,3- and $\alpha$ 2,6-Sialoglycans by Electron Paramagnetic Resonance (EPR) Spectroscopy
8	Ricca	Physical Chemistry	Isotope-edited Amide I in non-ribosomal oligopeptides and potential as a vibrational probe
9	Wolfe	Physical Chemistry	Spectroscopic Studies of Heme Proteins Mineralized in a Zeolitic Imidazole Framework
10	Naylon	Organic	Development of PD1 checkpoint covalent inhibitors targeting surface lysine residues
11	Salvatore	Organic	A Rapid and Efficient Method for the Reduction of Quinoxalines <b>CANCELLED</b>
12	Sakib	Organic	Potential New Synthetic Ketogenic Molecules: Ester Derivatives
13	Moncada	Organic	Synthesis and Self-Assembly of [3.3]Paracyclophane Urea and Carbamate Derivatives
14	Stearns	Organic	Self-Assembling Properties of Hybrid-Deck [2.2]Paracyclophane Derivatives
15	Dos Santos	Organic	De novo synthesis of non-symmetrical pyrenes through a photochemical cascade: diversion from the double Mallory path to a new photocyclization at the bay region
16	Jones	Organic	Enantioselective synthesis of thiol amino acids and their use in Native Chemical Ligation
17	Giorgi	Inorganic	Bimetallic Late Transition Metal Complexes Supported by Bisdipyrromethane Ligand Scaffolds
18	Carnegie	Inorganic	Synthesis and characterization of In <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> photocatalyst by hydrothermal synthesis
19	Moffett	Inorganic	Synthesis, characterization, and hydrogen generation of Cu@Pt/TiO <sub>2</sub> nanofiber photocatalyst
20	Johnson	Inorganic	Silica Supported Niobium Sites Tailored for Hydrocarbon Conversions
21	Koottanil Haridasan	Inorganic	Synthesis and Characterization of Bimetallic Bis-dipyrromethane Metal Complexes
22	Buratto	Inorganic	CO <sub>2</sub> Reduction by a Diiron-di( $\mu$ -sulfido) Cyclophane Complex

23	Jen	Inorganic	Development of Molecule-Based 2D Magnets
24	Reed	Inorganic	Synthesis and Characterization of Tunable and Homogeneous Two-Dimensional Transition Metal Carbides and Borides for Device Applications
25	Łomowska-Keehner	Biochemistry / Chem Bio.	Investigation of <i>Streptomyces</i> natural product biosynthesis through heterologous expression
26	Khan	Biochemistry / Chem Bio.	Assignment of the Highly disorder Reflectin (Ref2C)4: A protein from the skin of Squid
27	Li	Biochemistry / Chem Bio.	Studies towards the elucidation of the biosynthetic mechanism of nemamide
28	Dulloo	Biochemistry / Chem Bio.	Cyclic Thiosulfonates as Improved Novel Anti-Cancer Agents: Structure-Activity Relationships & Formulation
29	Mulry	Biochemistry / Chem Bio.	Creating a Rational Approach to Site Specific Protein PEGylation
30	Kalia	Biochemistry / Chem Bio.	Evidence that Nsp-15 ribonuclease from SARS-CoV-2 does not require metal ions for catalysis of RNA 2'-O-transphosphorylation
31	Gopal Pour	Biochemistry / Chem Bio.	Activation of the human A <sub>2A</sub> adenosine receptor as viewed by single molecule fluorescence
32	Alter	Biochemistry / Chem Bio.	Assembly of nanoparticle-peptide vehicles for stem cell gene transfection.
33	Rivera (Leslie Marie)	Biochemistry / Chem Bio.	RNA Structural and Dynamic Studies of the Red Tide Dinoflagellate <i>Karenia Brevis</i> RNA Spliced Leader Sequence
34	Durham	Biochemistry / Chem Bio.	Modeling the Anatomy of Marine Turtle Hatchlings using Dragonfly
35	Rohlfing	PMSE/POLY	Synthesis and application of new reactive end-group polybenzimidazole oligomers for HT-thermosets
36	Korpusik	PMSE/POLY	Photocatalytic direct decarboxylation of carboxylic acids to derivatize or degrade polymers
37	Su	PMSE/POLY	From Citrus to Bioplastic

38	Perera	PMSE/POLY	Computationally Guided Experimental Efforts in Utilizing ATRP Initiator Cluster Formation to Elucidate ClbR Structure
39	Gomez	PMSE/POLY	Synthesis and Analysis of Novel [2.2]Paracyclophane-based Star Polymers via Grafting-from and Grafting-to Methodologies
40	Daugherty	Additive Manufacturing	Biofabrication and Rheological Characterization of Archaeal Hydrogels
41	Harrison	Additive Manufacturing	Examination of 3D Bioprinted Cell-Laden Alginate-based Hydrogels to Recapitulate Tumor Microenvironments
42	Grady	Additive Manufacturing	Fabrication of Crosslinkable Poly(arylene ether sulfone) Thin Film Composite Membranes by 3D Printing
43	Williams	Additive Manufacturing	Exploration of PI/Vitrimer Nanocomposites
44	Rede	Additive Manufacturing	Lightweight Composites: Effect of Shear on Alignment, Thermal Conductivity, and Macroscopic Properties of Functional Ink
45	Gregory	Additive Manufacturing	Rheological Characterization of Cell-Laden Alginate-Gelatin Hydrogels for Rapid 3D Tissue Printing
46	Hossain	Additive Manufacturing	A high-performing strain gauge manufactured by 3D printing using a silver ink
47	Germanton	Additive Manufacturing	Rheology and Ceramic Yield of Pre-ceramic Polymer Grafted Nanoparticle Composites
48	Pellot	Additive Manufacturing	Understanding the Interface between Hybrid Materials and Architectures
49	Rivera	Additive Manufacturing	Magneto Assisted Printing Experiment

POSTER SESSION 2			
SATURDAY 5:00 – 7:00 STIRLING BALLROOM			
No.	NAME	Topic	Title
1	Bryan	Computational Chemistry	Computational studies of hydrogen binding to corannulene

2	Chabuka	Computational Chemistry	Electron and Hole Catalysis via Reductant and Oxidant Upconversion: The Case of 1,2-disila-3,5-cyclohexadiene
3	Velez	Computational Chemistry	Dimerization arm mutations drastically alter activity and oligomerization in Protein Arginine Methyltransferase 1
4	Demosthene	Physical Chemistry	Molecular basis for actin polymerization kinetics modulated by solution crowding
5	Douglas	Physical Chemistry	The Effects of pH on Gelsolin-Mediated Filament Assembly Kinetics and Severing Activities
6	Ray	Physical Chemistry	Role of Cholesterol as an Allosteric Modulator for Human A <sub>2A</sub> Adenosine Receptor Conformational Dynamics
7	Chang	Physical Chemistry	How protein G, L and their mutants fold
8	Mondal	Physical Chemistry	Structure determination of protein-peptide complexes from NMR chemical shift data using MELD
9	Ivannikov	Physical Chemistry	Remediation of per- and polyfluoroalkyl substances in landfill leachate using solar photocatalysis
10	Salvatore	Organic	Cs <sub>2</sub> CO <sub>3</sub> -Promoted Efficient Synthesis of Diselenocarbamates and Diselenocarbonates
11	Salvatore	Organic	Cesium Effect: Novel Mechanistic Concepts and Synthetic Applications
12	Beck	Organic	Efficient synthesis of cyclopropylacetylene, a crucial synthetic intermediate for Efavirenz using chlorinating reagents (PCl <sub>5</sub> and Ph <sub>3</sub> PCl <sub>2</sub> )
13	Logue	Organic	Synthesis of Peptidomimetics as Potential Anticancer Agents and Biomedical Applications
14	Pandurangan	Organic	Development of novel Imidazo[1,2-b]pyridazine analogues as potent CDK12/CDK13 inhibitors
15	Liu	Organic	Covalent post-modification of isoG assembly for Cs <sup>+</sup> ionophore
16	Wei	Organic	Facile Synthesis of Diverse Hetero Polyaromatic Hydrocarbons (PAHs) via Styryl Diels-Alder Reaction of Conjugated Dienes

17	Tang	Organic	Design and Synthesis of Stable Four-Coordinated Benzotriazole-Borane with Tunable Fluorescence Emission
18	Das	Organic	The photoisomerization behavior of INCN-functionalized donor-acceptor molecules
19	Hyun	Organic	A New Synthetic Route to a Large Scale Terphenyl Pincer Ligand [OCO]H <sub>3</sub> Synthesis
20	Nelsen	Organic	Electronically Driven Stereogenesis: Face Selection in the Reduction of Adamantanones
21	Bera	Inorganic	Subsite differentiated Fe <sub>4</sub> S <sub>4</sub> Clusters supported by a tri(phosphine) podand
22	Lorenzo Ocampo	Inorganic	Dialuminum(III) complexes supported by a macrocyclic ligand
23	Adams	Inorganic	Stabilization of vanadium ditelluride through iron intercalation
24	Bisht	Inorganic	Tetrameric Ln <sub>2</sub> Fe <sub>2</sub> Complexes (Ln = La, Tb) as Models of Coupled Molecular Spin Qubits
25	Adegboyega	Inorganic	Investigation of magnetic phase transitions in La <sub>1-x</sub> Ce <sub>x</sub> Co <sub>2</sub> P <sub>2</sub> (x ≤ 0.5)
26	Truong	Inorganic	Interrupted anion-network enhanced Li-ion conduction in Li <sub>3+y</sub> PO <sub>4</sub> I <sub>y</sub>
27	Esper	Inorganic	Probing the Mechanism of Tungsten-Catalyzed Cyclic Polymer Synthesis
28	Panton	Biochemistry / Chem Bio.	Engineering Inhibitory Proteins using a Tethered Yeast Surface Display System
29	Hu	Biochemistry / Chem Bio.	Biochemical analysis of substrate and effector nucleotide functional groups involved in allosteric regulation of Type II ribonucleotide reductase
30	Slaton	Biochemistry / Chem Bio.	High-throughput protease reprogramming powered by a suite of integrative vectors
32	Legaspi	Biochemistry / Chem Bio.	Synthesis and Characterization of a Metalloenzyme Mimic
33	Chamberlain	Biochemistry / Chem Bio.	Rapid kinetic analysis of Escherichia coli RNase P active site interactions using minimal substrate containing an intrinsic fluorescent probe

34	Wei	Biochemistry / Chem Bio.	Mutation of the eunicellane synthase Bnd4 alters its product profile and expands its prenylation ability
35	Ning	Biochemistry / Chem Bio.	Functional characterization of polyprenyl synthases and bioinformatic analysis to predict terpene scaffold size
36	Konar	PMSE/POLY	Cyclic Poly(4-ethynylphenylboronate ester): Efficient Catalytic Synthesis of Functionalized Cyclic Polymers and Gels
37	Jang	PMSE/POLY	Design and Synthesis of Polypentenamer-Based Bottlebrush Architectures
38	Ruzicka	PMSE/POLY	Utilizing DOSY NMR for determination of polymer molecular weights
39	Lott	PMSE/POLY	Inverse miniemulsion photoiniferter polymerization
40	Grumbles	PMSE/POLY	Single-ion conducting polymer electrolyte with unique 5 carbon spacing architecture for high performance lithium ion batteries
41	Hughes	PMSE/POLY	High internal-phase emulsion foams for streamlined purification of macromolecular click products
42	Hennick	Analytical Chemistry	Determination of caffeine in coffee by varying roast
43	Harper	Analytical Chemistry	Lunar Basil: An Analysis of Basil by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) and Solid-Phase Microextraction (SPME) to Gas Chromatography Mass Spectrometry (GC-MS)
44	Shi	Analytical Chemistry	Development of nanoplasmonic probes for highly sensitive biomarker detection
45	Wen	Analytical Chemistry	Topographic modulation of enzymatic reaction affords ultrasensitive compartment-free digital phenotyping of tumor-derived exosomes
46	Lam	Chemistry Education	Key Stakeholders' Interpretations of Scientific Information Literacy: A Survey of Orange and Seminole County K-16 Educators
47	Miccolis	Chemistry Education	Pedagogical Approach to the Simultaneous Analysis of Acetaminophen and Caffeine in Analgesics

48	Laboy Santana	Chemistry Education	Is anybody reading this? A systematic review of LGBTQ+ STEM literature
49	Muhammed	Electrochemistry	Using multifunctional nanoscale pH-sensitive probes to measure topography and proton concentration at biological and non-biological entities
50	Wolfer	Environmental	Oxidative Effects of Secondary Organic Aerosols by Mass Spectrometry and Electron Paramagnetic Resonance Methods

### **Interested in hosted events for FLACS, consider out mini-grant:**

**FLAC Mini-grants: Bringing Our Subsections Support (BOSS):** Providing support for the subsections of FLACS to host and share events within the local section.

**Brief Description:** The Florida section incorporates three subsections, approximately 2 to 6 hours apart. This makes regular events challenging. Our premier event has been the Florida Annual Meeting and Exhibition (FAME), with a primary focus on presentation of research. As such this grant aims to provide support to subsections to organize smaller events that can be shared with the entire local section. This grant allows motivation for our subsections to plan events that focus on STEM that are supported by FLACS. This would incentivize subsections to develop regular event planning, which we hope to become regular staples of FLACS. Please consider applying. Each sub-section of FLACS can apply for \$500 maximum once every ~6 months.

Download the application for more information and submit to apply for funding!

<https://drive.google.com/file/d/1yf-yFs0SRvZ9RnbUKRIn0pxSfK97If9s/view?usp=sharing>



**Thank you  
For  
Attending**



**INNISBROOK®**  
A SALAMANDER® RESORT

Florida Section American Chemical Society  
2022 FAME Meeting  
8/3 – 8/8/2022



Graduate Mixer on  
Osprey Patio 8/4

Parking for Stirling

Faculty Mixer  
Packards Patio 8/5

Breakfast, Breaks,  
Workshops, Welcome  
Reception, Awards  
Ceremony Reception,  
Poster Sessions,  
AV Storage  
Stirling Hall 8/4 – 8/6

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