

## Sunday - June 18

## Technical Program

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 1:00 PM Registration Booth opens
 

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## SESSION A: SYNTHESIS, CHARACTERIZATION, AND PROPERTIES I

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 Session Chair: Alexandru Asandei, University of Connecticut
 

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| 2:30 PM |    | <b>Welcome and Introductory Remarks by Workshop Chairs</b><br>Jena McCollum, University of Colorado – Colorado Springs & Bruno Ameduri, CNRS (France)  |
| 2:45 PM | 1. | <b>The Fluorine Toolbox: from Molecular Design to Advanced Applications</b><br>Cheng Zhang, University of Queensland (Australia)   |
| 3:15 PM | 2. | <b>Separation of Hydrofluorocarbon Refrigerants Using Fluorinated Copolymers of Perfluoro(2,2-Dimethyl-1,3-Dioxole) (PDD) and Vinyl Acetate (VA)</b><br>Abby Harders, University of Kansas   |
| 3:45 PM |    | Break  |
| 4:00 PM | 3. | <b>A Journey from the Synthesis of Functional 2-Trifluoromethacrylate Monomers to their Radical Copolymerizations with Vinylidene Fluoride, and Applications</b><br>Bruno Ameduri, French National Center for Scientific Research (France) |
| 4:30 PM | 4. | <b>Fluorinated (Co)Polymers as Coating Materials for Slow-Release Fertilizers: Structure and Properties</b><br>Mustapha Raihane, Cadi-Ayyad University (Morocco)   |
| 5:00 PM | 5. | <b>Free and Controlled Radical Homo- and Block Photopolymerizations of (Fluoro)Alkenes with Group 14 Derivatives and (Fluoro)Alkyl Halides</b><br>Alexandru Asandei, University of Connecticut   |
| 5:30 PM |    | Welcome Reception  |
|         |    | Dinner on your own   |
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## Monday - June 19

## SESSION B: SYNTHESIS, CHARACTERIZATION, AND PROPERTIES II

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 Session Chair: James Goldbach, Arkema
 

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| 8:00 AM | 6. | <b>Interfacial Friedel-Crafts Reactions of Hexafluoroacetone Hydrate: Synthesis of 6F and 12F Polymers</b><br>Gustavo Munoz, Mississippi State University |
| 8:30 AM | 7. | <b>Continuous Flow Synthesis of Polyvinylidene Fluoride</b><br>Stefan Herrmann, RWTH Aachen University (Germany)  |
| 9:00 AM | 8. | <b>Well-Defined Semi-Fluorinated Aromatic Polyamide Brushes</b><br>Stephen Boyes, George Washington University  |
| 9:30 AM |    | Break   |
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 Monday - June 19 CONT'D
 

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| 9:45 AM | 9. | <b>Efficient Mineralization of Poly(Vinylidene Fluoride) and Related Copolymers Using Superheated Water in the Presence of Alkaline Reagent</b><br>Hisao Hori, Kanagawa University (Japan) |
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| 10:15 AM | 10. | <b>Rheological Methods for Size Determination in Fluorinated Thermoplastics</b><br>Jena McCollum, University of Colorado – Colorado Springs |
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 SESSION C: PROCESSING
 

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 Session Chair: Cameron Parrish, Chemours
 

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| 10:45 AM | 11. | <b>Kynar® PVDF for Lithium Ion Battery and Coatings Applications</b><br>James Goldbach, Arkema |
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| 11:15 AM | 12. | <b>PVDF Crystallization in Binary and Ternary Blends with PMMA and POSS Nanostructured Additives</b><br>Toby Edwards, University of Southern Mississippi |
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| 11:45 AM |  | Lunch on your own |
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 SESSION D: SURFACES & INTERFACES
 

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 Session Chair: Dennis Smith, Jr., Mississippi State University
 

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| 2:00 PM | 13. | <b>Effects of Fluoropolymer Side Chain Composition on Polymer Properties via Molecular Dynamic Simulations</b><br>Alex Lonnecker, Air Force Research Laboratory |
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| 2:30 PM | 14. | <b>High-Performance Polyimine Vitrimers from an Aromatic Bio-Based Scaffold</b><br>Kevin Stewart, University of Florida |
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| 3:00 PM | 15. | <b>Structure and Functional Properties of Fluoropolymers with Fluoroalkyl Side Chain</b><br>Atsushi Takahara, Kyushu University (Japan) |
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| 3:30 PM | 16. | <b>Surface Fluorination of Moldable Polymers</b><br>Attila Pavlath, U.S. Department of Agriculture |
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| 4:00 PM |  | Break |
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| 4:15 PM | 17. | <b>Fluorophobic based Self-Assembly with Nanoparticles and Polymers</b><br>Morgan Stefik, University of South Carolina |
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| 4:45 PM | 18. | <b>Wettability of Functionalized Graphene Oxide is Dependent on both the Size and Structure of Surface-Modifying Groups</b><br>Frank Blum, Oklahoma State University |
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| 5:15 PM | 19. | <b>Nanoscale IR Characterization of Ultrathin Fluoropolymer Coatings</b><br>Derek Nowak, Molecular Vista |
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| 5:45 PM |  | Poster Session & Networking Reception |
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|  |  | Dinner on your own |
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Tuesday - June 20

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SESSION E: REMEDIATION, REGULATORY, & ENVIRONMENTAL IMPACTS OF FLUOROPOLYMERS

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Session Chair: Bruno Ameduri, CNRS (France)

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| 8:00 AM  | 20. | <b>Developments in Fluoropolymer Manufacturing Technology to Remove Intentional Use of PFAS as Polymerization Aids</b><br>Deepak Kapoor, Gujarat Fluorochemicals Limited (India) |
| 8:30 AM  | 21. | <b>Ionic Fluorogels: A Platform Technology for PFAS Remediation from Water</b><br>Frank Leibfarth, University of North Carolina  |
| 9:00 AM  | 22. | <b>State of U.S. (Federal and States) and European Union Regulations</b><br>Jay West, American Chemical Council  |
| 9:30 AM  | 23. | <b>Nontarget LC/QToF Interrogation of Fluorinated Residues in a Fluoropolymer Dispersion Prepared with a Hydrocarbon based Processing Aid</b><br>Michael Davis, Chemours         |
| 10:00 AM |     | Break  |

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SESSION F: GLOBAL STATE OF FLUOROPOLYMERS

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Session Chair: Bruno Ameduri, CNRS (France)

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| 10:15 AM |  | <b>Open Forum Discussion with Designated Panelists</b> |
| 12:00 PM |  | Lunch on your own                                      |

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SESSION G: SYNTHESIS, CHARACTERIZATION, AND PROPERTIES III

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Session Chair: Scott Iacono, US Air Force Academy

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| 2:30 PM | 24. | <b>Shaken Not Stirred: Advancements in Perfluoropyridine Prepolymers Using Mechanochemical Methods</b><br>Chadron Friesen, Trinity Western University (Canada)                        |
| 3:00 PM | 25. | <b>Inverse Vulcanization Towards the Generation of Fluorinated Polymeric Materials</b><br>Moira Lauer, Azimuth Corp., Air Force Research Laboratory                                   |
| 3:30 PM | 26. | <b>Vacuum-Depositible Fluoropolymers to Enhance Outcoupling Efficiency of OLEDs</b><br>Takefumi Abe, AGC, Inc. (Japan)  |
| 4:00 PM |     | BREAK   |
| 4:15 PM | 27. | <b>Extreme UV (EUV) Resists Exploiting the Unique Decomposition Behavior of Fluorinated Polymers</b><br>Jin-Kyun Lee, Inha University (Korea)   |
| 4:45 PM | 28. | <b>Potpourri of Topics in Fluoropolymer Chemistry</b><br>Joseph Thrasher, Clemson University  |
| 5:15 PM | 29. | <b>Semi-Fluorinated Aromatic Ether Polymers via Step-Growth Polymerization of Fluoroalkenes. Modularity &amp; Functional Scope</b><br>Dennis Smith, Jr., Mississippi State University |

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## Tuesday - June 20 CONT'D

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| 5:45 PM | 30. | <b>Fluoropolymers - Valuable Materials for the Utilization of Electromagnetic Waves: Applications from Nanometer- to Meterscale</b><br>Christian Dreyer, Technical University of Applied Sciences Wildau & Fraunhofer Institute for Applied Polymer Research IAP (Germany) |
| 6:15 PM |     | Poster Awards  |
|         |     | Dinner on your own   |

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## Wednesday - June 21

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### SESSION H: ENERGY CONVERSION

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Session Chair: Jena McCollum, University of Colorado – Colorado Springs

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| 8:00 AM  | 31. | <b>The Origin of Piezoelectricity in Ferroelectric Polymers</b><br>Lei Zhu, Case Western Reserve University                                      |
| 8:30 AM  | 32. | <b>Relative Phase Quantification of Defective Ferroelectric Phases in PVDF-TrFE copolymers</b><br>Pedro Resende, University of Bordeaux (France) |
| 9:00 AM  | 33. | <b>PVDF Structure and Properties in the Context of Lithium-Ion Battery Applications</b><br>Bradley Kent, Solvay                                  |
| 9:30 AM  |     | Break  |
| 9:45 AM  | 34. | <b>Effect of ZnO Nanoparticles on 3D Printed PVDF</b><br>Giancarlo Corti, University of Miami (OH)   |
| 10:15 AM | 35. | <b>Flexoelectricity in Fluoropolymer Reactives</b><br>Lori Groven, South Dakota School of Mines  |
| 10:45 AM | 36. | <b>Advancing Fluoropolymer Binders to Energetic Applications</b><br>Neil Vaz, Texas Tech University  |
| 11:15 AM |     | Meeting Adjourns   |

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MONDAY, JUNE 19, 2023

## POSTER PROGRAM

**End of Life Assessment of Fluoropolymers: Recent Developments and Challenges**

1. Bruno Ameduri and H. Hori  
Charles Gerhardt Institute/University of Montpellier (France)

**Semi-fluorinated Aromatic Polyamide Brushes**

2. Rhys Dickhudt, Victoria Skovorodnev, Xun Guan, Bridget Anger, Xitong Liu, and Stephen G. Boyes  
George Washington University

**Synthesis of a Novel Perfluoro(phosphoric acid) Polymer**

3. Elizabeth Salako and Yong Gao  
Southern Illinois University

**Efficient Mineralization of Ethylene-tetrafluoroethylene Copolymer Using Superheated Water with Alkaline Reagent**

4. Jin Hamaura and Hisao Hori  
Kanagawa University (Japan)

**Insights into the Complex Crystalline Structure of PVDF-based co- and ter-polymers: Impact of the Processing and Post-treatments on the Electroactive Properties**

5. Jouliia Houssenini, Guillaume Fleury, and Georges Hadziioannou  
University of Bordeaux (France)

**One Ring to Rule them all: Designing High Performance Polymers from Perfluoropyridine**

6. Tiffany Li, Kyle Kramer, Mikhail Lachapelle, Nathan J. Weeks, Timothy Fuhrer, and Scott T. Iacono  
United States Air Force Academy

**In-depth Study of the Rheological Behavior and Polymer-solvent Interaction for P(VDF-TrFE) Inks: Impact of the Solvent Polarity and Copolymer Composition**

7. Jean-David Isasa, X. Chevalier, G. Fleury, and G. Hadziioannou  
University of Bordeaux (France)

**Macromolecular Engineering of Fluorinated Electroactive Polymers**

8. Raymond Khayat, Fabrice Domingues Dos Santos, Thierry Lannuzel, and Guillaume Fleury  
University of Bordeaux (France)

**Controlling Solubility in Copolymers of Fluoroalkyl, Spiropyranyl, and Isobornyl Methacrylates through Photoinduced Process**

9. Gayoung Kim, Keun-woo Park, Yu Min Choi, Jongchan Son, Byung Jun Jung, and Jin-Kyun Lee  
Inha University (Korea)

**Fluoroalkylated Extreme UV Resists Utilizing Synergistic Combination of Noncatalytic Crosslinking and Catalytic Acidolysis**

10. Yejin Ku, Gayoung Kim, Sangsul Lee, Byung Jun Jung, and Jin-Kyun Lee  
Inha University (Korea)

**High-Performance Ionic Fluorogels for PFAS Remediation from Natural Waters**

11. Irene M. Manning, Nick G. P. Chew, Haley Macdonald, Orlando Coronell, and Frank Leibfarth  
University of North Carolina at Chapel Hill

**Rheological Methods for Size Determination in Fluorinated Thermoplastics**

12. Jena McCollum  
University of Colorado, Colorado Springs

**Facile Modification of Poly(vinylidene fluoride) (PVDF)-based Polymers by Green Light - Mediated Atom Transfer Radical Polymerization (ATRP) and its Comparison with Grafting-onto Method**

13. Piotr Moczy, Rohan Parekh, Ting-Chih Lin, Martin Cvek, and Krzysztof Matyjaszewski  
Carnegie Mellon University

MONDAY, JUNE 19, 2023 CONT'D

**POSTER PROGRAM**

**High Molecular Weight and Highly Functional Vinylidene Fluoride Based Copolymers**

14. Inbal Ozeri, Xuhui Zheng, and Moris S. Eisen  
Israel Institute of Technology (Israel)

**Development of Fluorinated (CO) Polymers as Coating Materials for Slow-Release of Hydrosoluble Fertilizers**

15. M. Raihane, A. Sofyane, S. Atlas, M. Lahcini, and B. Ameduri  
Cadi-Ayyad University (Morocco)

**Design of A Fluorinated Block Copolymer for PFAS Adsorption**

16. Amrita Sarkar  
Montclair State University

**Utilizing Regioselective Strategies Towards Diverse Fluoropolymer Architectures from Perfluoropyridine Feedstocks**

17. Katelyn D. Thompson, Nathan J. Weeks, and Scott T. Iacono  
United States Air Force Academy