

All Sessions will be held in the Baranoff Ballroom

Sunday, October 15

Technical Program

3:30 PM REGISTRATION BOOTH OPENS (BARANOFF LOBBY)

4:45 PM Introductory Remarks – Marc Hillmyer, University of Minnesota

LECTURE SESSION I - Session Chair: Marc Hillmyer, University of Minnesota

5:00 PM 1. **Keynote: Kate Beers, National Institute of Standards and Technology**
Polyolefin Circularity: Better Measurements and Data to Enable Change

5:30 PM 2. **Keynote: Andrew Dove, University of Birmingham**
Making and Breaking Sustainable Polymers with Light

6:00 PM END DAILY SESSION & WELCOME RECEPTION (BAYVIEW TERRACE)

Monday, October 16

8:00 AM CONTINENTAL BREAKFAST (FOUR SPRINGS BALLROOM)

LECTURE SESSION II - Session Chair: Thomas Epps, III, University of Delaware

9:00 AM 3. **Keynote: LaShanda Korley, University of Delaware**
Sustainability as a Roadmap for Materials Design

9:30 AM 4. **Keynote: Mahdi Abu-Omar, University of California, Santa Barbara**
Lignin based Materials for the Circular Economy

10:00 AM 5. **Robert Grubbs, Stony Brook University**
Synthesis and Properties of Polyester/Polyacetal Block Copolymers

10:20 AM BREAK

10:40 AM 6. **John R. Dorgan, Michigan State University**
Biobased Resins for Composites Manufacturing in the Circular Economy

11:00 AM 7. **Coleen Pugh, Wichita State University**
Functionalized Poly(Lactic Acid)

11:20 AM 8. **Frank Leibfarth, University of North Carolina at Chapel Hill**
Upcycling Polyolefins through Selective C–H Functionalization

11:40 AM END SESSION, NETWORKING TIME, LUNCH ON YOUR OWN

Monday, October 16 (continued)

LECTURE SESSION III - Session Chair: Megan Robertson, University of Houston

3:00 PM	9.	Keynote: Brett Helms, Lawrence Berkeley National Laboratory Pathways to Biorenewable Circularity in Plastics
3:30 PM	10.	Keynote: Elizabeth Gillies, University of Western Ontario Self-Immolative Polymers: Chemical Designs and Applications
4:00 PM	11.	Chris Ellison, University of Minnesota Compatibilizer Design for Mechanical Recycling of Mixed Plastic Waste
4:20 PM		BREAK
4:40 PM	12.	Daniel F. Schmidt, Luxembourg Institute of Science and Technology (LIST) Expanding the Utility of Epoxy Vitrimers
5:00 PM	13.	Li Jia, University of Akron Carbonylative Polymerizations as a Synthetic Platform for Sustainable Polymers
5:20 PM	14.	Paul Brigandi, Dow Chemical Company Materials Innovation for a Sustainable Future
5:40 PM		POSTER SESSION (FOUR SPRINGS BALLROOM)
7:00 PM		END DAILY SESSIONS, DINNER ON YOUR OWN

Tuesday, October 17

8:00 AM CONTINENTAL BREAKFAST (FOUR SPRINGS BALLROOM)

LECTURE SESSION IV - Session Chair: TBD

9:00 AM	15.	Keynote: Michael Meier, KTH Royal Institute of Technology New Cellulose Chemistry from a Sustainability Perspective: Renewability is Not Enough
9:30 AM	16.	Keynote: Jeanette Garcia, IBM Quantum Computers as a Tool to Address Problems in Sustainability
10:00 AM	17.	Bradley Olsen, Massachusetts Institute of Technology High-Throughput Testing of Polymer Biodegradation
10:20 AM		BREAK
11:00 AM	18.	Karin Odelius, KTH Royal Institute of Technology Closing the Loop on Sustainable Polymeric Materials
11:20 AM	19.	Sunil Ashtekar, Shell Technology Center The Missing Links of Circular Plastics Economy – Continuous Innovation in Materials Selection for Flexible Packaging
11:40 AM		END SESSION, NETWORKING TIME, LUNCH ON YOUR OWN

Tuesday, October 17 (continued)

SESSION V – Session Chair: TBD

3:00 PM	20.	Paula Diacoescu, University of California, Los Angeles Redox Switchable Ring Opening Copolymerization
3:20 PM	21.	Amy Landis, Colorado School of Mines Circular Economy Considerations for Plastics in the Caribbean
3:40 PM	22.	Andrea Kasko, University of California, Los Angeles Copolymerizations of Hydroxycinnamate-Based Compounds with Degradable Bio-Based Monomers
4:00 PM	23.	Louis Pitet, Hasselt University Generating Thermoplastic Copolyesters via Chemical Upcycling of Discarded Polyesters
4:20 PM		BREAK
4:40 PM	24.	Gang Fan, University of Rochester Whole-Cell Controlled Living Polymerization by Electrochemically-Active Bacteria
5:00 PM	25.	Jane Wissinger, University of Minnesota Sustainable Polymers as a Platform for Teaching Green Chemistry & Systems Thinking
5:20 PM	26.	Eleftheria Roumeli, University of Washington Designing Sustainable Polymers from Unprocessed Biological Matter
5:40 PM		END DAILY SESSIONS
6:15 PM		BANQUET DINNER (BAYVIEW TERRACE)

Wednesday, October 18

8:00 AM		CONTINENTAL BREAKFAST (FOUR SPRINGS BALLROOM)
LECTURE SESSION VI - Session Chair: Marc Hillmyer, University of Minnesota		
9:00 AM	27.	Keynote: Charlotte Williams, University of Oxford Block Polymer Thermoplastic Elastomers and Ionomers
9:30 AM	28.	Keynote: Jinwen Zhang, Washington State University Hydroxyl Mediated Dynamic Covalent Epoxy Systems: Properties, Potential Applications, and Recyclability
10:00 AM	29.	Bonnie Buss, University of Northern Colorado Photochemical Oxidative Deconstruction of Polystyrene
10:20 AM		BREAK
10:40 AM	30.	Stephen A. Miller, University of Florida Upcycled Polymers: The Obvious and Less Obvious
11:00 AM	31.	Joe Stanzione, Rowan University Barking Up the Right Tree: Sustainable Polymers Directly from Birch Tree Bark
11:20 AM	32.	Thomas Epps, III, University of Delaware Yes, You Can Make Money from Lignin and Other Polymer Waste
11:40 AM		<i>EVENT CONCLUSION AND FINAL ACKNOWLEDGEMENTS</i> Marc Hillmyer, University of Minnesota

MONDAY, OCTOBER 16, 2023

POSTER PROGRAM

1. **Parker T. Boeck, Joji Tanaka, Wei You, Brent S. Sumerlin, and Adam S. Veige**
University of Florida
RAFT Step-Growth Polymerization of Bis-Acrylamides and their Facile Degradation

2. **Poster Cancellation**

3. **Roshni John Chethalen, Eli Fastow, Karen I. Winey, and E. Bryan Coughlin**
University of Massachusetts
Chemical Upcycling of Dehydrogenated Polyethylene using Thiolene Click Chemistry

4. **Siyoung Q. Choi, Kyoungmun Lee, and Byoungjoo Jeon**
KAIST
Microdroplet Mediated Polymerization: From Amphiphilic Block Copolymers to CO₂-based NIPU

5. **Diana Cousins, Megan L. Robertson, and Alamgir Karim**
University of Houston
Enhancing Physical Properties of Polyolefin Films with Cellulose Nanocrystals

6. **Aditya Maan, Tamar Yishay, Gavin Pour, and Kaitlyn E. Crawford**
University of Central Florida
Depolymerizable High Refractive Index Fluorene and Sulfone Polyesters, and Piezoelectric Polysaccharide Composites for Transient, Flexible Electronics

7. **Aymane El Bouhali, Sébastien Cambier, Patrick Grysan, Frédéric Addiego, Jean-Sébastien Thomann, and Daniel F. Schmidt**
University of Luxembourg, LIST
Biobased Macroporous Materials for Heavy Metal Adsorption

8. **Yujin Ha, Jisoo Han, and Hee Joong Kim**
Inha University
Synthesis of High Molar Mass Polystyrene via Branching Strategy from Regenerated Low Purity Styrene

9. **Ronald Herrera, Megan L. Robertson, and Ramanan Krishnamoorti**
University of Houston
Tunable Functionalization and Upcycling of Polyolefins to Polyurethanes

10. **Channya Hesse, Laura Puchot, Frédéric Addiego, Pierre Verge, and Daniel Schmidt**
LIST
Chemical Recycling of Polybenzoxazine Vitrimer Composites: Degradation Products and Fibers Recovery vs. Recycling Medium

11. **Divya Iyer, Fernaldy Wirawan, Lucas Willey, Rong Feung Peter Goh, Holly Senebandith, Patrick Getty, Michael T. Gallagher, and Samanvaya Srivastava**
University of California, Los Angeles
Enabling Classification and Recycling of Post-Consumer-Use Polyurethane Foam

12. **Ibrahim Kamara, Ramanan Krishnamoorti, Alamgir Karim, and Megan L. Robertson**
Dow Chemical Company
Enhancing Polyolefin Recycling with Cellulose Nanocrystals

13. **Kseniia M. Karnaukh*, S. Xie*, K-C. Yang, R. A. Segalman, and J. Read de Alaniz**
University of California, Santa Barbara
Ion-Mediated Polymer Assemblies with Tunable Structures

14. **Markus Klapper**
Max-Planck-Institute for Polymer Research
Sustainability - A Core Research Topic at the MPI for Polymer Research

MONDAY, OCTOBER 16, 2023 CONT'D

POSTER PROGRAM

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15. **Edgar Mejia, Andrew Lum, Zina Medina, Jeremiah Johnson, Jeff Moore, and Nancy Sottos**
University of Illinois
Determining the Topology of Upcyclable poly(DCPD) and its Impact on Mechanical Properties
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16. **F. Mehner, T. Meißner, M. Geisler, A. Lederer, and J. Gaitzsch**
Dresden University of Technology
Branching behaviour of (bio)degradable polyesters from Radical Ring-opening polymerization
-
17. **Helen Ngo, Masoud Kazem-Rostami, Victor Ryu, Xuetong Fan, Richard Ashby, and Changqing Wu**
USDA
Engineering Antimicrobial Reusable Biopolymers from Non-Edible Plant Oils
-
18. **Vincent Nieboer, Noé Fanjul-Mosteirín, Peter Olsén, and Karin Odelius**
KTH Royal Institute of Technology
Controlling Polymer Topology through Manipulation of the Ring-Chain Equilibrium
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19. **Robert M. O'Dea, Ty Christoff-Tempesta, and Thomas H. Epps, III**
University of Delaware
Polymer chemical recycling: a path toward more circular materials
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20. **Aracelee M. Reverón Pérez, and Stephen A. Miller**
University of Florida Gainesville
Silaspirocyclic Polymers via Alkyl Orthosilicate Metathesis Polymerizations (AOMP)
-
21. **Alison J. Shapiro, Paul J. Brigandi, and Thomas H. Epps, III**
University of Delaware
Advances in circular solutions for crosslinked polyethylene
-
22. **Jeong Suk Yuk, Sae Hume Park, and Jihoon Shin**
Korea Research Institute of Chemical Technology
CO₂ and Fatty Dimer Acid-Derived Linear and Viscoelastic Polyhydroxyurethane for Tunable Pressure Sensitive Adhesives
-
23. **Haemin Jeong, Sae Hume Park, and Jihoon Shin**
Korea Research Institute of Chemical Technology
Poly(lactide) Plasticizers for Double Green and Dual Performance
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24. **Jordan L. Torgunrud, Aracelee M. Reverón Pérez, and Stephen A. Miller**
University of Florida, Gainesville
Closing the Loop on Polydimethylsiloxane
-
25. **Marlene A. Velazco-Medel, Shuqin Li, Wim Vermaas, and Matthew D. Green**
Arizona State University
Polymers for CO₂ Capture Directly from Air and Enhanced Cyanobacteria Growth
-
26. **Joshua. C. Worch**
Virginia Tech
Research in the Worch Lab
-
27. **Yohei Yoshinaka and Stephen Albert Miller**
University of Florida, Gainesville
Seed Oil-Derived Polyesteramides as Sustainable Alternatives to Commodity Plastics
-
28. **Edgar Mejia, Zhang Zhang, Krishna Sampat, Saurabh Vijay Bagare, Nadim Hmeidat, Jeremiah Johnson, Jeff Moore, and Nancy Sottos**
University of Illinois
Direct-Write 3D Printing of Recyclable Carbon-Reinforced Thermosets
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MONDAY, OCTOBER 16, 2023 CONT'D

POSTER PROGRAM

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29. **Katelyn M. Derr, Andrew G. Tennyson, and Rhett C. Smith**
Clemson University
Thiocracking as a Route to Durable Composites from Post-Consumer Plastics and Mixed Municipal Waste
-
30. **Nawoda L. Kapuge Dona, Andrew G. Tennyson, and Rhett C. Smith**
Clemson University
Sustainable Polymer Development: Converting Biomass and Waste Plastics into Processable Materials
-
31. **Perla Saucedo-Oloño, Andrew G. Tennyson, and Rhett C. Smith**
Clemson university
Advanced Property Testing of Waste-Derived Materials
-
32. **Shalini K. Wijeyatunga, Katelyn M. Derr, Charini P. Maladeniya, Perla Olono-Sauceda, Andrew G. Tennyson, and Rhett C. Smith**
Clemson University
Conversion of Post-Consumer Acrylates to Durable Composites via Reaction with Terpenoids and Elemental Sulfur
-
33. **Arpan Datta Sarma, Sergei V. Zubkevich, Frédéric Addiego, Alexander S. Shaplov, Daniel F. Schmidt (presenting), Vincent Berthé**
LIST
Design and Synthesis of High T_g Thermoplastic Polyhydroxyurethanes by Reactive Extrusion
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34. **Geunho Kim, Jihoon Shin, and Sae Hume Park**
Korea Research Institute of Chemical Technology
A Facile Synthesis of Highly Efficient Green Process Oil Using Recyclable Organocatalyst
-
35. **Bethany Guin, Sathiska Kaumadi, James Sternberg**
Clemson University
Chemical Recycling of Post-Consumer PET and Synthesis of Renewable Semi-Aromatic Polyamides
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