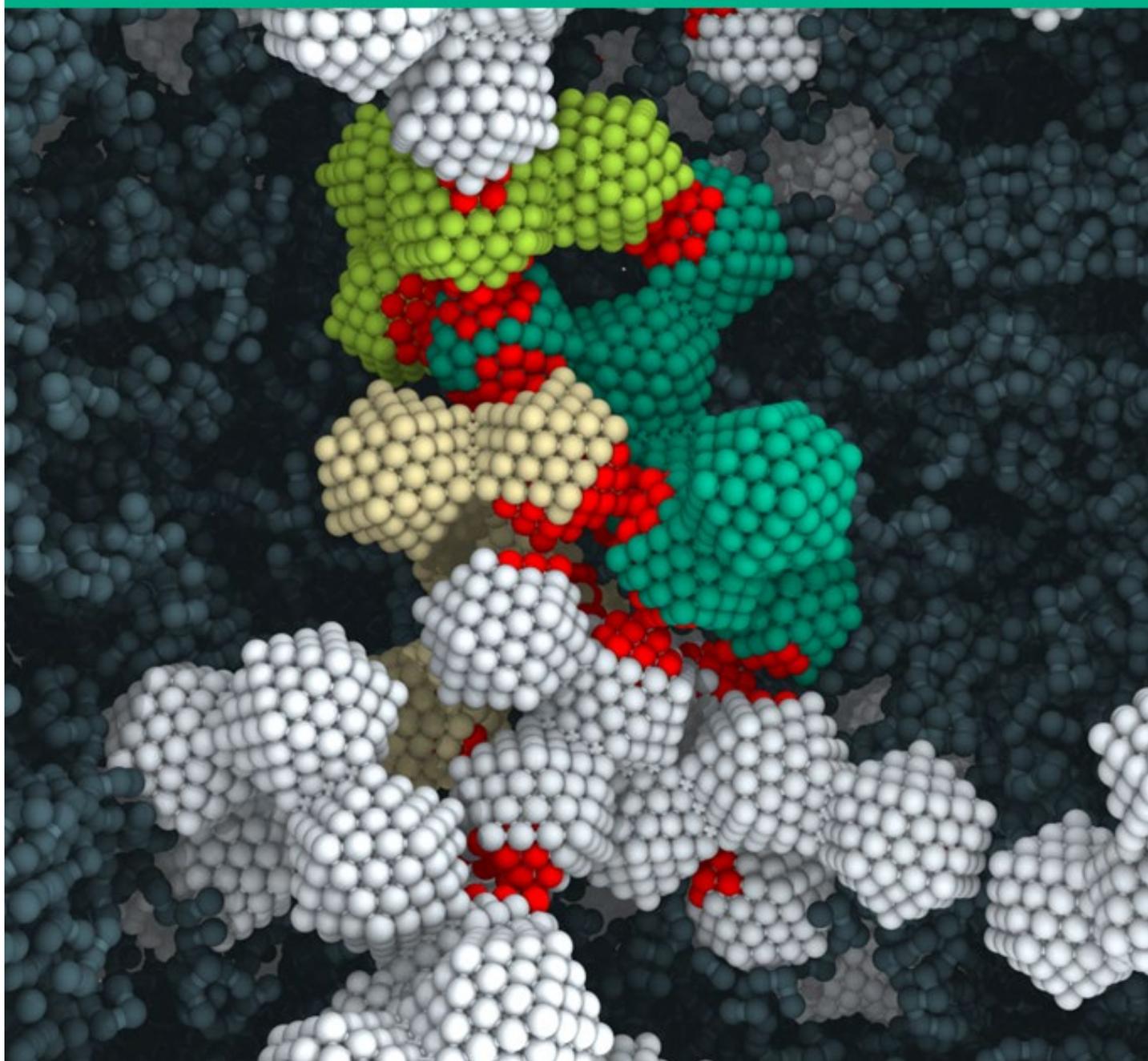




Division of  
Polymer Physics

DPOLY

**2026 DPOLY Program**  
**March 14 – 20 · Denver, CO**





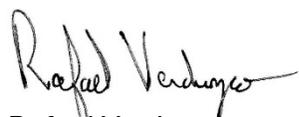
Dear DPOLY Members,

On behalf of the DPOLY leadership, I'm excited to welcome you to Denver, CO for the APS Global Physics Summit 2026! Just like last year, the APS March Meeting and APS April Meeting are combined into a single event taking place at the Colorado Convention Center in downtown Denver. All sessions will be held at the Convention center, and DPOLY sessions will be located adjacent to those for other SPLASHY (Soft, Polymeric, Living, Active, Statistical, Heterogenous, and Yielding matter) divisions: DSOF, DBIO, GSNP, GMED, DFD, and DCP.

The meeting kicks off with the 2026 DPOLY Short Course in on Polymers in Biotechnology which will run March 14 – 15. Thanks to Alex Marras and Allie Obermeyer for organizing the short course and to Xenocs, Opentrons, and the University of Chicago Pritzker School for Molecular Engineering for sponsorship. Invited and Focus sessions will run from Monday through Thursday, March 16 – 19. We will celebrate the 2026 Polymer Physics Prize winner Nitash Balsara Tuesday at 8AM and the 2026 Dillon Medal awardee Liheng Cai Wednesday at 12PM. The Padden Award Symposium will be held Tuesday starting at 12PM. Finally, the DPOLY poster session will be on Tuesday afternoon from 2 – 5 pm with no opposing DPOLY sessions (from 3 pm onwards). The times and locations for these and other special events are provided on page 3 of this booklet.

Thank you for attending, engaging in talks and events, and contributing to our DPOLY community. A special thank you to those who submitted abstracts, organized sessions or events, helped with the program, and volunteered to chair sessions or judge posters during the meeting. Your efforts truly make the meeting what it is, facilitating the most relevant scientific exchanges within and across topical areas.

**All DPOLY members are invited to the DPOLY Reception on Sunday March 15, 6 – 9 p.m. at Tamayo (1400 Larimer St, Denver, CO 80202).**



Rafael Verduzco

2026 DPOLY Program Chair

A. J. Hartsook Professor, Rice University

**Cover image.** Molecular dynamics rendering of a filled elastomer highlighting contacting nanoparticle clusters, courtesy of David S. Simmons, University of South Florida. See also Kawak, Bhapkar, and Simmons, “Central Role of Filler-Polymer Interplay in Nonlinear Reinforcement of Elastomeric Nanocomposites”, *Macromolecules* 2024, 57, 19, 9466–9475 <https://doi.org/10.1021/acs.macromol.4c00489>

## 2026 DPOLY Short Course: Polymers in Biotechnology

Saturday, March 14, 2026 12:30 – 5:30 pm and Sunday, March 15, 2026: 9:00 am – 5:30 pm  
Location: *Colorado Convention Center, Room 607*

### Overview

This short course will introduce attendees to the physics of biopolymers and polymer use in biotechnology. The short course will cover (1) the fundamental physics of natural and synthetic biopolymers; (2) polymer use in drug delivery from both academic and biopharmaceutical perspectives; (3) polymer assemblies designed to interact with cells, including experimental and simulation work on the extracellular matrix and tissue regeneration; and (4) novel polymeric materials assembled from biomaterials or interacting with biology.

The course is targeted to graduate students and researchers who are either beginning to or seeking to work in areas related to polymers in biotechnology or want a refresher on the fundamental physics of these systems. Participation from postdoctoral associates, faculty, and researchers in industry or national labs is welcome and encouraged.

### Schedule

*Saturday, March 14, 2026 (afternoon only)*

12:30 – 1:00 pm: Welcome to the Short Course (organizers)

1:00 – 3:00 pm: Session 1: Fundamental Physics of Biopolymers and Self-Assembly  
Rohit Pappu (Washington University of St. Louis)  
Danielle Mai (Stanford University)

3:00 – 3:30 pm: Break

3:30 – 5:30 pm: Session 2: Bioinspired and biomimetic polymeric materials  
Darrin Pochan (University of Delaware)  
Helen Zha (Rensselaer Polytechnic Institute)

*Dinner - not provided, but sign-ups for optional small-group outings will be organized*

*Sunday, March 15, 2026 (full day)*

9:00 – 9:30 am: Breakfast (provided)

9:30 – 11:30 am: Session 3: Polymeric (bio)materials for applications in tissue engineering  
Elizabeth Cosgriff-Hernandez (University of Texas at Austin)  
Jason Burdick (University of Colorado, Boulder)

11:30 – 1:00 pm: Lunch (provided)

1:00 – 3:00 pm: Session 4: Polymers for drug delivery of small molecules and biomolecules  
Matthew Lamm (Merck, Inc.)  
Matthew Tirrell (University of Chicago)

3:00 – 3:30 pm: Break

3:30 – 4:30 pm: Session 5: Round Table

## **DPOLY Special Events**

### **DPOLY Short Course on Polymers in Biotechnology**

Saturday, March 14, 12:30 – 5:30 p.m. (Session MAR-SH02)

Sunday, March 15, 9:00 a.m. – 5:30 p.m. (Session MAR-SH07)

*Colorado Convention Center, Room 607*

### **DPOLY Sunday Reception for Members**

Sunday, March 15, 2026 (6:00 – 9:00 p.m. MT)

*Tamayo: 1400 Larimer St, Denver, CO 80202*

### **Squishy Science Sunday**

Sunday, March 15, 10 a.m. – 2:30 p.m. (Session EVS-G141)

*Offsite, Denver Museum of Nature and Science*

### **UKPPG/DPOLY Polymer Lecture Exchange**

Monday March 16, 1:36 pm – 2:12 pm (Session MAR-B64)

William N Sharratt (University of Liverpool)

Mapping Equilibrium and Non-Equilibrium Structural Evolution in Semi-Dilute Polymer solutions and Hydrogels

*Convention Center, Bluebird 2H*

### **Polymer Physics Prize**

Tuesday, March 17, 8:00 am – 8:36 am (Session MAR-F56)

Nitash Balsara

Current-Induced Motion of Polymer Chains and Relevance to Rechargeable Batteries

*Convention Center, Bluebird 1C*

### **Frank J. Padden Award Finalists**

Tuesday, March 17, 12:00 pm – 2:24 pm (Session MAR-G65)

*Convention Center, Bluebird 3A*

### **DPOLY Poster Session**

Tuesday, March 17, 2:00 pm – 5:00 pm (Session MAR-H00-10)

*Convention Center Exhibit Hall D, E, F, Level 2*

### **DPOLY Business Meeting**

Tuesday, March 17, 6:30 pm – 7:30 pm (Session EVT-AA89)

*Convention Center, Bluebird 1A*

### **NSF Polymers Q&A**

Tuesday, March 17, 7:30 pm – 8:30 pm (Session EVT-DD89)

Immediately following the DPOLY Business Meeting, with Zoom link

**John H. Dillon Medal**

Wednesday March 18, 12:00 pm – 12:36 pm (Session MAR-M65)

Liheng Cai

Physics of architecturally complex polymers and networks

*Convention Center, Bluebird 3A*

**2026 SPLASHY Industry Panel** *to learn about industry careers in soft matter, biological and polymer physics*

Wednesday March 18, 3:00 pm – 4:00 pm (Session EVW-T70)

*Convention Center, Meeting Room 703*

**Early Career Researchers Meet-up** (21+, organized by Divya Iyer, Pierre Kawak, and Shayna Hilburg)

Wednesday, March 18, 7:30 pm

*Tarantula Billiards Bar & Grill, 1520 Stout St, Denver, CO 80202*

**Machine Learning-Accelerated Materials Innovation:** Organized by DPOLY Industrial Advisory Board

Thursday March 19, 12:00 pm – 3:00 pm (Session MAR-U55)

Chairs Kimberly Chaffin (Medtronic) and Esther Tsai (Brookhaven National Laboratory)

*Convention Center, Bluebird 1B*



**Monday:** All sessions are in the Denver Convention Center. DPOLY main rooms for contributed sessions are 3A, 3C, and 3D, with some sessions and invited sessions in 1A, 1B, 2H, 2G, and 4H. DSOFT-led sessions co-sponsored by DPOLY are held in Bluebird 3B and 4H.

Day Time (MST)	Bluebird 1A	Bluebird 1B	Bluebird 3A	Bluebird 3C	Bluebird 3D	Bluebird 2H	Bluebird 2G	Bluebird 4H
Monday 8:00 AM – 11:00 AM	(Invited) Mechanics of Polymer Networks Across Scales	Recent Progress in Polymer Crystallization	Polymer Processing and Interfaces	Charged Polymer Solutions and Networks	Polyelectrolyte Complexes and Biomolecular Condensates I			
Monday 12:00 PM – 3:00 PM			Dynamic Covalent Polymer Networks - Applications, Dynamics, and Topology	Polymer Physics of Biotechnology and Biopolymers	Mechanical Performance of Polymer Networks, Gels and Elastomers 1	Polymer Structure and Dynamics Across Multiple Length and Time Scales	Heat Transfer and Molecular Ordering in Polymers	
Monday 3:30 PM – 6:30 PM			Dynamic Covalent Polymer Networks - Heterogeneous Bulk and Gel Systems	Tuning Polymer Properties via Macromolecular Architecture and Interactions I: Physical Principles and Topological Design	Mechanical Performance of Polymer Networks, Gels and Elastomers 2			Granular Hydrogels and Soft Particle Assemblies (DSOFT primary)
Monday 6:00 PM – 7:36 PM	DPOLY Virtual Session							

**Tuesday:** All sessions are in the Denver Convention Center. DPOLY main rooms for contributed sessions are 3A, 3C, and 3D, with some sessions and invited sessions in 1A, 1C, 2H, and 2G. DSOFI-led sessions co-sponsored by DPOLY are held in Bluebird 3B and 3F.

Day Time (MST)	Bluebird 1A	Bluebird 1C	Bluebird 3A	Bluebird 3C	Bluebird 3D	Bluebird 3H	Bluebird 3B	Bluebird 3F
Tuesday 8:00 AM – 11:00 AM		(Invited) Polymer Physics Prize	delayed start Polymer Degradation, Aging, and Lifetime	delayed start Sustainable Polymers	delayed start Electrochemical Devices and Charge Transport			
Tuesday 12:00 PM – 3:00 PM	(Invited) New Developments in Polymer Nanocomposites: Experiment, Theory, and Applications		Padden Award Symposium	Tuning Polymer Properties via Macromolecular Architecture and Interactions II: Synthesis, Structure, and Function	Polyelectrolyte Complexes and Biomolecular Condensates II	Dynamics of Polymers in Confinement		
Tuesday 2:00 PM – 5:00 PM	<b>DPOLY Poster Session</b> Convention Center Exhibit Halls D, E, & F, Level 2							
Tuesday 3:30 PM – 6:30 PM							Additive Manufacturing of Soft Materials (DSOFI primary)	Soft and Living Matter in Complex Environments I (DSOFI primary)
Tuesday 6:30 PM	<b>DPOLY Business Meeting</b> Bluebird 1A							

**Wednesday:** All sessions are in the Denver Convention Center. DPOLY main rooms for contributed sessions are 3A, 3C, and 3D, with some sessions and invited sessions in 1B and 3F. DSOFTE and GCCM-led sessions co-sponsored by DPOLY are held in Bluebird 3F, 2F, and 707/709.

Day Time (MST)	Bluebird 1B	Bluebird 3A	Bluebird 3C	Bluebird 3D	Bluebird 3F	Room 707/709	Bluebird 2F
Wednesday 8:00 AM – 11:00 AM	(Invited) Transport in Polymers	New Perspectives on Gel Networks: Combining Rheology with Structural and Spectroscopic Tools	Polymer Physics Insights from Computational, Theoretical, and Data-Driven Methods I	Fundamentals and Applications of Polymer Composites and Nanocomposites I: Properties	Soft and Living Matter in Complex Environments III (DSOFT primary)	High Pressure Physics I (GCCM primary)	Physics of Liquids and Glasses (DSNP primary)
			<i>delayed start</i>	<i>delayed start</i>			
Wednesday 12:00 PM – 3:00 PM	Dillon Medal Symposium	Assembly of Biopolymers and Soft Matter	Polymer Physics Insights from Computational, Theoretical, and Data-Driven Methods II	Charged Polymers and Polymer ILS	Fundamentals and Applications of Polymer Composites and Nanocomposites II: Structure and Dynamics		
Wednesday 3:30 PM – 6:30 PM	(Invited) Structure and Properties of Ionic Polymer Solutions and Electrolytes	Block Copolymers, Polymers and Biomacromolecules at Interfaces					

**Thursday:** All sessions are in the Denver Convention Center. DPOLY main rooms for contributed sessions are 3A, 3C, and 3D, with some sessions and invited sessions in 1A, 1B, 2H, and 2G.

<b>Day Time (MST)</b>	<b>Convention Center Bluebird 1B</b>	<b>Convention Center Bluebird 1B</b>	<b>Convention Center Bluebird 3A</b>	<b>Convention Center Bluebird 3C</b>	<b>Convention Center Bluebird 3D</b>
<b>Thursday 8:00 AM – 11:00 AM</b>	(Invited) Polymers at Interfaces: Thermodynamics and Transport Phenomenon		Progress in Advanced Characterization and Machine Learning Tools for Polymers	Organic Electronics & Photonics	Fundamentals and Applications of Polymer Composites and Nanocomposites III: Polymer- Inorganic Hybrids and Applications
<b>Thursday 12:00 PM – 3:00 PM</b>		(Invited) Machine Learning- Accelerated Materials Innovation	Polymer Structure, Morphology, and Self- Assembly	Structure and Dynamics of Glasses	Transport Phenomena in Polymer Membranes: Experimental
<b>Thursday 3:30 PM – 6:30 PM</b>			Non-Equilibrium Structures of Polymeric Materials	Interactions, Dynamics, and Self-Assembly of Macromolecules in Solution	Transport Phenomena in Polymer Membranes: Computational

**Monday, March 16, 2026 8:00 am – 11:00 am**

**Session MAR-A54: Mechanics of Polymer Networks Across Scales**

Sponsoring Units: DPOLY DSOFIT

Chair: Michael Rubinstein, Duke University; Amir Salahshoor, Duke University

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Room: Convention Center Bluebird 1A

8:00AM–8:36AM MAR-A54.00001: Fibrous networks in biological materials from the nucleus to the tissue: Effects of particle inclusions, filament remodeling enzymes, and molecular motors.  
Invited Speaker: Paul A Janmey

8:36AM–9:12AM MAR-A54.00002: Biomimetic fibrillar hydrogels: effect of confinement and anisotropy on the mechanical response to strain  
Invited Speaker: Eugenia Kumacheva

9:12AM–9:48AM MAR-A54.00003: Multi-scale experimental and theoretical study of failure of multi-network elastomers  
Invited Speaker: Costantino Creton

9:48AM–10:24AM MAR-A54.00004: Crack-Blocking vs. Crack-Neutralizing: Fracture Mechanics of Soft Polymer Networks  
Invited Speaker: Kenji Urayama

10:24AM–11:00AM MAR-A54.00005: From Bonds to Chains to Nets: Fracture Across Scales in Polymer Networks  
Invited Speaker: Bradley David Olsen

**Monday, March 16, 2026 8:00 am – 11:00 am**

**Session MAR-A55: Recent Progress in Polymer Crystallization**

Sponsoring Units: DPOLY

Chair: Lucia Fernandez-Ballester, University of Nebraska - Lincoln; Toshikazu Miyoshi, University of Akron

Room: Convention Center Bluebird 1B

8:00AM–8:36AM	MAR-A55.00001: Templating the crystallization of semicrystalline block polymers: from double crystalline to pentacrystalline spherulites Invited Speaker: Alejandro J Müller
8:36AM–8:48AM	MAR-A55.00002: Isothermal Crystallization and Melting of Sustainable Long-Spaced Aliphatic Polyesters. Role of Ester-Ester Interactions on Nucleation Rufina G Alamo, Hamed Janani, Marcel Eck, Stefan Mecking
8:48AM–9:00AM	MAR-A55.00003: The Role of Oriented Amorphous Fraction on Piezoelectricity of Semicrystalline Ferroelectric Polymers Lei Zhu
9:00AM–9:12AM	MAR-A55.00004: Intracrystalline chain diffusion, semicrystallinity and mechanical modulus of aliphatic polyesters Kay Saalwaechter, Afiq Anuar, Thomas Thurn-Albrecht, Yu Qiang
9:12AM–9:24AM	MAR-A55.00005: Re-organization Pathways of Semicrystalline Polymer: Solution- and Melt-Grown Crystals Toshikazu Miyoshi, Zheng Huang
9:24AM–9:36AM	MAR-A55.00006: Hydrogen Gas Transport in Semi-Crystalline Polyethylene Amalie L Frischknecht, Mark A Wilson
9:36AM–9:48AM	MAR-A55.00007: Interfacial Design to Direct Crystallization in Thin Films of Conjugated Polymers Lucia Fernandez-Ballester, Jesse Lee Kuebler, Trygve Santelman, Sunil Dhapola, Muhammad Ahmad, Narmada Wickramasinghe
9:48AM–10:00AM	MAR-A55.00008: Enhancing the Electro-mechanical Properties of Linear Low density Polyethylene in confined space Sumaira Rani
10:00AM–10:12AM	MAR-A55.00009: Crystallization Pathway of Poly (Lactic Acid) Racemates in various initial states Leilasadat Rokni Hosseini, chenxuan sun, Toshikazu Miyoshi
10:12AM–10:24AM	MAR-A55.00010: Direct observation of chain folding in polymer single crystals using single molecule Förster resonance energy transfer Sami Eyolfson, Ryan C Hayward, Daniel K Schwartz
10:24AM–10:36AM	MAR-A55.00011: Enhancement of Electro-Mechanical Properties of Thin Semicrystalline Polypropylene Films Diana Louise Cousins, Sahag Bozoian, Francisco Gomez-Hernandez, Sumaira Rani, Justin Douglas Smith, Masiuddin D Mohammed, Jack F Douglas, Megan L Robertson, Alamgir Karim
10:36AM–10:48AM	MAR-A55.00012: Extending Simulations of Low-Temperature Polymer Melt Phase Behavior to Large Molecular Weight Douglas R Tree, Aaron Bigelow
10:48AM–11:00AM	MAR-A55.00013: Crystallization kinetics of polyoxacyclobutane and water to form polymer hydrate Sudesna Banerjee, Emily Barker, Tara Meyer, Sachin S Velankar

**Monday, March 16, 2026 8:00 am – 11:00 am**

**Session MAR-A65: Polymer Processing and Interfaces**

Sponsoring Units: DPOLY DSOFIT

Chair: Hannah Dedmon, Sandia National Laboratories

Room: Convention Center Bluebird 3A

8:00AM–8:12AM	MAR-A65.00001: Entanglement Relaxation of Linear Polymers: Revisiting Constraint Release Hiroshi Watanabe, Yumi Matsumiya
8:12AM–8:24AM	MAR-A65.00002: Effect of the Backbone Kuhn Length and Flory Parameter on Microphase Separation in Brush Copolymer Zilu Wang, Sergei S Sheiko, Andrey V Dobrynin
8:24AM–8:36AM	MAR-A65.00003: Stringiness and Extensional Rheology of Polymer Solutions Louie Edano, Somayeh Sepahvand, Vivek Sharma
8:36AM–8:48AM	MAR-A65.00004: Overcoming Fundamental Challenges of Covalent Adaptable Networks (CANs) Mathew J Suazo, Yen-Wen Huang, Logan M Fenimore, Stephanie M Barbon, Hayley A Brown, Evelyn Auyeung, Gerardo Cespedes, Colin Li Pi Shan, John M Torkelson
8:48AM–9:00AM	MAR-A65.00005: Experimentally Informed Development of a Bismaleimide (BMI) Resin Cure Process Simulation Britannia Vondrasek, Trevor Wavrunek, Cecil Evers, Kaylee Thagard, Zhiyong Liang, Gregory Odegard
9:00AM–9:12AM	MAR-A65.00006: Deconvolution of Overlapping Thermal Transitions in Polyolefin Blends Through Simultaneous Calorimetry and Raman Spectroscopy Paul Roberts, Chad Ray Snyder
9:12AM–9:24AM	MAR-A65.00007: Eyring theory for plasticity in amorphous polymers violates Curie's principle Didier R LONG, Paul Sotta, Thomas C Merlette, Elian Masnada
9:24AM–9:36AM	MAR-A65.00008: Experimental Relaxation Behavior and the Role of the alpha-Process and the Slow Arrhenius Process (SAP) Ronald P White, Jane E Lipson
9:36AM–9:48AM	MAR-A65.00009: Energy Dissipation and Stress Redistribution in Composite Gels Mauro Lorenzo Mugnai, Emanuela Gado, Rose Tchuenkam Batoum
9:48AM–10:00AM	MAR-A65.00010: The extent of nonequilibrium dictates the activation energy for relaxation of molecular recoiling stress in dewetting thin polymer films Mithun Chowdhury, Mithun Madhusudan, Federico Caporaletti, Jotyprya Sarkar, Rohit V Menon, Sivasurender Chandran, Ronald P White, Jane.E. G Lipson, Simone Simon Napolitano
10:00AM–10:12AM	MAR-A65.00011: Pressure Dependence of Surface Tension of Polymer Melts under High Vacuum Rong-Ming Ho, Thanmayee Shastry, Aum Sagar Panda, Anchang Shi, Ashika A. P.
10:12AM–10:24AM	MAR-A65.00012: A multiscale simulation protocol to calculate contact angles of liquid droplets on rough polymer substrates Ioannis Tanis, Jan van Male, Carlos F Solano
10:24AM–10:36AM	MAR-A65.00013: When Polymers Part Ways: Modeling Mechanical Failure at Polymer-Polymer Interfaces Mark A Wilson, Hannah Dedmon, Elizabeth Palmiotti
10:36AM–10:48AM	MAR-A65.00014: Combined Molecular Dynamics and Synchrotron X-ray Analysis of Structure-Property Relationships in Nonaromatic Triazine-Based Epoxy Resins Yoshiaki Kawagoe, Yuuki Kinugawa, Keigo Matsumoto, Masashi Ohno, Naoki Kishimoto, Takahiko Kawai, Tomonaga Okabe
10:48AM–11:00AM	MAR-A65.00015: From miscibility to aging: Insight and predictions using the segmental interaction energy Jane E Lipson, Ronald P White

**Monday, March 16, 2026 8:00 am – 11:00 am**

**Session MAR-A67: Charged Polymer Solutions and Networks**

Sponsoring Units: DPOLY DSOF

Chair: Santanu Kundu, Mississippi State; Amanda Marciel, Rice University

Room: Convention Center Bluebird 3C

8:00AM–8:12AM	MAR-A67.00001: Shear Response of Polyelectrolytes in Aqueous Solutions Gary S Grest, Shalika Meedin, Dvora Perahia
8:12AM–8:24AM	MAR-A67.00002: Ion transport in solid polymer electrolytes with helical secondary structure Christopher M Evans, Yingying Chen
8:24AM–8:36AM	MAR-A67.00003: Experimental methods for Quantifying Counterion Condensation Elmira Abbasi GharehTapeh, Carlos G Lopez
8:36AM–8:48AM	MAR-A67.00004: Liquid-liquid Phase Separation in Multicomponent Polymer Systems Tahmida Raheen Iqbal, Edward Richard Van Keuren
8:48AM–9:00AM	MAR-A67.00005: Structure and rheology of polyelectrolytes with anisotropic counterions Carlos G Lopez, Can Hou, Walter Richtering
9:00AM–9:12AM	MAR-A67.00006: Harnessing discontinuous phase transitions in polyelectrolyte hydrogels for mesoscale filament assembly Xin Hu, Alfred J Crosby, Benjamin R Greenvall, Eric Chia, Zhaojie Zhang, Stephen S Nonnenmann
9:12AM–9:24AM	MAR-A67.00007: Unfrozen Water in Polyelectrolyte Brushes: The Role of Counterion Association in Phase Behavior George Mallinos, Ali N Dhinojwala, MD. Golam Kibria, Saveen Jayaweera
9:24AM–9:36AM	MAR-A67.00008: Multifunctional Ion Pairs (MFIPs) Enable Topologically Regular Ion-Mediated Dynamic Gels Owen A Lee, Alexander D Claiborne, Sirilak Mekcham, Megan Hill
9:36AM–9:48AM	MAR-A67.00009: Influence of Mechanical Performance of Elastomeric Electrolytes on the Stability of Lithium metal Batteries Jinseok Park, Bumjoon J Kim
9:48AM–10:00AM	MAR-A67.00010: Effects of network elasticity on asymmetric EDL capacitance-voltage responses of ionoelastomers Heewoon shin, Owen A Lee, Ryan C Hayward, Hyeong Jun Kim
10:00AM–10:12AM	MAR-A67.00011: Microion-Driven Free Swelling of Polyelectrolyte Cylindrical Microgel Shells Mohammed O Alziyadi, Asma Nasser Alkabsh
10:12AM–10:24AM	MAR-A67.00012: Segmental dynamics in PEO-based polymer electrolytes doped with ionic liquid P.A.A.L.D. Pattuwearachchi, Fatemeh Naderi Samani, Naresh C Osti, and Reza Foudazi.
10:24AM–11:00AM	MAR-A67.00013: Complex Coacervates for Polymorphism Control in Molecular Crystallization Invited Speaker: Alamgir Karim

**Monday, March 16, 2026 8:00 am – 11:00 am**

**Session MAR-A68: Polyelectrolyte Complexes and Biomolecular Condensates I**

Sponsoring Units: DPOLY DBIO DSOF

Chair: Aman Agrawal, University of Chicago; Samanvaya Srivastava, University of California, Los Angeles

Room: Convention Center Bluebird 3D

8:00AM–8:12AM	MAR-A68.00001: Understanding the Effect of Stereochemistry on Peptide-based Polyelectrolyte Complexation Kaleb B Chan, Phillip A Taylor
8:12AM–8:24AM	MAR-A68.00002: Charge Stabilization and Dynamics in Polyelectrolyte Phase Separation J. Pedro de Souza, Andrew Vodinh-Ho, Howard A Stone
8:24AM–8:36AM	MAR-A68.00003: Design Principles for Polyelectrolyte Complex Micelles: Insights from Thermodynamics and Structure Vishnu Dharmaraj, Yun Fang, Matthew V Tirrell
8:36AM–9:12AM	MAR-A68.00004: Models for Correlation-Based Attractions in Particle-Polymer Coacervation Invited Speaker: Charles E Sing
9:12AM–9:24AM	MAR-A68.00005: Molecular Drivers of Oligonucleotide Polyelectrolyte Complex Assembly, Stability, and Dynamics Aasim F Hussain, Emily H Kim, John M Sansalone, Amrita J Arora, Joshua D Scheel, Khaled AboulFotouh, Edward Zhuang, Ysabel Palacios, Narayana R Aluru, Alexander E Marras
9:24AM–9:36AM	MAR-A68.00006: Nano-coacervates from in-situ Polymerization of Dipolar-driven Mesomorphic State surviving in harsh environments Di Jia, Murugappan Muthukumar, Ming Lun Li, Yiming Yang, Yusen Jie
9:36AM–9:48AM	MAR-A68.00007: Electrical modulation of glass transition in polyelectrolyte complexes HyeongJun Kim
9:48AM–10:00AM	MAR-A68.00008: Swelling equilibria, dynamics, and rheology of charged coacervate gels Cheng-Han Li, Kuo Chen, Murugappan Muthukumar
10:00AM–10:12AM	MAR-A68.00009: Interpretable prediction of multicomponent IDR phase separation with quantitative accuracy Zhuang Liu, Beijia Yuan, William M Jacobs
10:12AM–10:24AM	MAR-A68.00010: Unconventional Structure-Dynamics Coupling in Polyzwitterion- Polyelectrolyte Aqueous Mixtures Siao-Fong Li, Panagiotis Christakopoulos, Jan-Michael Y Carrillo, Piotr A Zolnierczuk, Rajeev Kumar
10:24AM–10:36AM	MAR-A68.00011: Sticky Interactions Govern Sequence-Dependent Dynamics in Biomolecular Condensates Keerthivasan Muthukumar, Dinesh Sundaravadivelu Devarajan, Youngchan Kim, Jeetain Mittal
10:36AM–10:48AM	MAR-A68.00012: Hierarchical Dynamics of Intrinsically Disordered Proteins in Biomolecular Condensates Murugappan Muthukumar
10:48AM–11:00AM	MAR-A68.00013: Impact of Charge Placement on Polymer Blend Compatibilization Jerrick Edmund, Haley K Beech, Christopher Balzer, Dan Sun, KeRay Chen, Glenn H Fredrickson, Craig J Hawker, Rachel A Segalman

**Monday, March 16, 2026 12:00 pm – 3:00 pm**

**Session MAR-B64: Polymer Structure and Dynamics Across Multiple Length and Time Scales**

Sponsoring Units: DPOLY DSOF

Chair: McKenzie Coughlin, NIST; Pierre Kawak, University of South Florida

Room: Convention Center Bluebird 2H

12:00PM–12:36PM	MAR-B64.00001: Enabling Polyolefin Circularity through Melt Functionalization and Upcycling Invited Speaker: Megan L Robertson
12:36PM–12:48PM	MAR-B64.00002: Effect of Submicron Structures on the Mechanical Behavior of Crystalline Polymers Mikihito Takenaka
12:48PM–1:00PM	MAR-B64.00003: From Atomistic and Mesoscopic Insight to Macroscopic Shear Response of Ionizable Polymers Dvora Perahia, Shalika Meedin, Chsathurika Kosgallana, Gary S Grest
1:00PM–1:12PM	MAR-B64.00004: Shear Banding in Polymer Melt Simulations Depends on Convective Constraint Release Lucas L Nelson, Gary S Grest, Peter D Olmsted
1:12PM–1:24PM	MAR-B64.00005: Conformation and Dynamics of Bottlebrush Polymers Gerald J Schneider, Karin J Bichler, Bruno Jakobi
1:24PM–1:36PM	MAR-B64.00006: A polymeric defense coat – characterization of a unique exopolysaccharide from <i>Vibrio cholerae</i> biofilm Jing Yan, Alexis Pierre Moreau
1:36PM–2:12PM	MAR-B64.00007: Mapping Equilibrium and Non-Equilibrium Structural Evolution in Semi-Dilute Polymer Solutions and Hydrogels Invited Speaker: William N Sharratt
2:12PM–2:24PM	MAR-B64.00008: Anisotropic Diffusion of Nanorods within Entangled Polymer Network and Gel Mary Mel B Baynosa, Ashis Mukhopadhyay
2:24PM–2:36PM	MAR-B64.00009: Diffusive motion in polymer composites: coupling particle and polymer dynamics across scales Christian A Aponte-Rivera, Benjamin Eric Dolata
2:36PM–2:48PM	MAR-B64.00010: Understanding Perylene's Sensitivity to Local Polymer Dynamics at Short Nanosecond Relaxation Times Sarita Yadav, Mark Maust, Simon B Blakey, Connie Barbara Roth
2:48PM–3:00PM	MAR-B64.00011: Correlating Structural Disorder and Inelastic Neutron Scattering Spectra through Graph-Based Voxelizeation Technique Toulik Maitra, Chih-Hsuan Yang, Adam J Moule, Baskar Ganapathysubramanian

**Monday, March 16, 2026 12:00 pm – 3:00 pm**

**Session MAR-B65: Dynamic Covalent Polymer Networks - Applications, Dynamics, and Topology**

Sponsoring Units: DPOLY DSOF

Chair: Phillip Taylor, University of Virginia; Ralm Ricarte, Florida State University

Room: Convention Center Bluebird 3A

12:00PM–12:12PM	MAR-B65.00001: How Pigment Influences Self-Healing in Coatings based on Vinylogous Urethanes Bryan D Vogt, Jacob A Capets, Christian W Pester
12:12PM–12:24PM	MAR-B65.00002: Non-monotonic dependence of conductivity and viscoelastic properties on salt and crosslink density in vitrimer electrolytes Samyak N Chordia, Christopher M Evans, Paul V Braun, Shailesh N Joshi, Timothy S Arthur
12:24PM–12:36PM	MAR-B65.00003: Influence of Cross-linker Nucleophilicity and Diffusion on Polystyrene Vitrimer Dynamics Daniel C Barzycki, Dana Ezzeddine, Sachin Shanbhag, Ralm G Ricarte
12:36PM–12:48PM	MAR-B65.00004: Effect of Entanglements on Vitrimer Dynamics Natalie Buchanan, Jeffrey G Ethier
12:48PM–1:00PM	MAR-B65.00005: Unexpectedly large entropic barrier controls bond rearrangements in vitrimers Shinian Cheng, Lilliana Rey, Beibei Yao, Sophia K Sabelja, Gaukhar Toleutay, Ivan Popov, Alexei P Sokolov
1:00PM–1:12PM	MAR-B65.00006: Temperature and pressure effects on the dynamics of vitrimers George Floudas, Michail Danikas, Matteo Conti, Nathan J van Zee, Renaud J Nicolay, Laurence Ramos
1:12PM–1:24PM	MAR-B65.00007: Time-Temperature-Chemistry Superposition in Dynamic Covalent Networks Alexa S Kuentler
1:24PM–1:36PM	MAR-B65.00008: Incorporation of Dynamic Dissociative Crosslinkers in Associative Covalent Adaptable Networks: Towards Controllable Flow in Vitrimers Jared J Rivera Otero, Alexa S Kuentler
1:36PM–2:12PM	MAR-B65.00009: Topology annealing effects: Meso-scale analysis of bond exchangeable network Invited Speaker: Mikihiro Hayashi
2:12PM–2:24PM	MAR-B65.00010: Leveraging orthogonal dynamic chemistries to engineer tough and reprocessable double networks Aaliyah Z Dookhith, Yan Zheng, Sanat K Kumar, Neil D Dolinski
2:24PM–2:36PM	MAR-B65.00011: Microdynamics in Vitrimers During Curing Mark David Foster, Sophia Aracri, Seiyong Yoon, Satej Joshi, Suresh Narayanan, Qingteng Zhang, Mark D Sutton, James M Eagan, Junpeng Wang
2:36PM–2:48PM	MAR-B65.00012: The Evolution of Microstructure under Tensile Stress and the Effect of Temperature on Vitrimer Ji Eun Hyun
2:48PM–3:00PM	MAR-B65.00013: Molecular Simulation Study of Penetrant Diffusion in Vitrimer Network Min-Hsien Lin, Tsai-Wei Lin, Junrou Huang, Baicheng Mei, Kenneth Steven Schweizer, Christopher M Evans, Charles E Sing

**Monday, March 16, 2026 12:00 pm – 3:00 pm**

**Session MAR-B67: Polymer Physics of Biotechnology and Biopolymers**

Sponsoring Units: DPOLY DBIO

Chair: Alexander Marras, University of Texas at Austin; Melody Morris, University of Massachusetts Amherst

Room: Convention Center Bluebird 3C

12:00PM–12:36PM	MAR-B67.00001: Multiscale Bio-Interfacing Strategies for Engineered Living Materials Invited Speaker: Jinhye Bae
12:36PM–12:48PM	MAR-B67.00002: Shear & Extensional Rheology of Xanthan Gum Solutions Somayeh Sepahvand, Louie Edano, Nadia Nikolova, Vivek Sharma
12:48PM–1:00PM	MAR-B67.00003: Effect of deionizing collagen in the properties of biocomposites prepared from the reinforcement of a tung oil-based thermosetting resin Wathsala Mayurika Amadoru Jayawardana, Rafael L Quirino, Parker Williams, Hannah Hartman, Christopher Dzorkpata, Collin Morris, Dominique Kornegay, Kody Burrows, Amanda White
1:00PM–1:12PM	MAR-B67.00004: Subway Tile Self-assembly of Computationally Designed Peptides Jacob Schwartz, Dai-Bei Yang, Yao Tang, Tianren Zhang, Jeffery G Saven, Darrin J Pochan
1:12PM–1:24PM	MAR-B67.00005: Response of Two-State Biopolymers to Macromolecular Crowding Mahesh Aryal, Alan Richard Denton
1:24PM–1:36PM	MAR-B67.00006: The role of repeat motifs in proteins to define self-assembly and network formation Mert Vural, Xiangting Lei, JERRY HONTS, Melik C Demirel, Saad Bhamla
1:36PM–1:48PM	MAR-B67.00007: Integrating simulation and experiment for advanced characterization of multi-domain protein dynamics Shayna Hilburg, Yun Liu, Christina Bergonzo
1:48PM–2:00PM	MAR-B67.00008: Direct structure characterization of polyelectrolytes provide new insights on a pathway to protein binding mechanisms Vivek M Prabhu, Raman Hlushko, Alexander K Andrianov
2:00PM–2:12PM	MAR-B67.00009: Redox Polymer Networks for Encapsulation of Electroactive Bacteria and Mediated Charge Transport Rafael Verduzco, Xinyuan Zuo, Jaime Guel, Caroline Ajo-Franklin, Siliang Li, Fiona Chen, Ravindra Saxena, Harsh Vardhan
2:12PM–2:24PM	MAR-B67.00010: Engineered Biohybrid Mycelia Materials with Hierarchical Structure Control Olivia Pear, Dylan Moss, Kelly Balch, Jenna Stanislaw, Arjun Khakhar, Kōnane Bay
2:24PM–3:00PM	MAR-B67.00011: Targeted polyelectrolyte complex micelles treat vascular complications in vivo Invited Speaker: Matthew V Tirrell

**Monday, March 16, 2026 12:00 pm – 3:00 pm**

**Session MAR-B68: Mechanical Performance of Polymer Networks, Gels and Elastomers 1**

Sponsoring Units: DPOLY

Chair: Sriteja Mantha, Karim Gadelrab, and Nicola Molinari, Bosch Research

Room: Convention Center Bluebird 3D

12:00PM–12:36PM	MAR-B68.00001: Reprocessable Polymer Network Formation and Deconstruction using Light-Responsive Star Polymers Invited Speaker: Danielle J Mai
12:36PM–12:48PM	MAR-B68.00002: From Free Energies to Phase Diagrams of Compressible Microgels Oreoluwa Ebenezer Alade, Alan Richard Denton
12:48PM–1:00PM	MAR-B68.00003: Elucidating the impact of density, alignment, and moisture content on the mechanical properties of cellulose nano-assemblies using multiscale molecular dynamics simulations Meagan Crowley, Peter Ciesielksi, Alexander J Pak, Lintao Bu, Vivek Bharadwaj, Michael Crowley, Shubham Vyas
1:00PM–1:12PM	MAR-B68.00004: Molecular Dynamics Investigation of Network Connectivity and Hydration Effects on the Elastic Behavior of Crosslinked Poly(aminoamide) Networks Muthuantrige J Fernando, James M Eagan, Mesfin Tsige
1:12PM–1:24PM	MAR-B68.00005: Pulling knotted polymer rings and concatenated knotted polymer rings in order to understand the effects of entanglement on the mechanical properties of polymer materials Franco Ferrari, Marcin R Piatek, Luca Tubiana, Neda Abbasi Taklimi
1:24PM–1:36PM	MAR-B68.00006: Leveraging polymer architecture to build multi-materials with extreme stiffness contrast Divya Iyer, Nadia Chapple, Ikeoluwa Apata, Juan Manuel Urueña, Adarsh Krishnamurthy, Baskar Ganapathysubramanian, Craig J Hawker, Angela Pitenis, Michael L. Chabiny, Christopher M Bates
1:36PM–1:48PM	MAR-B68.00007: Low-Strain Reinforcement as a Volume-Expansion Effect in Filled Elastomers with Glassy Interphases Pierre Kawak, Harshad Bhapkar, David S Simmons
1:48PM–2:00PM	MAR-B68.00008: Highly Entangled Bottlebrush Polymer Networks Myoeum Kim, Baiqiang Huang, Shiwang Cheng, Li-Heng Cai
2:00PM–2:12PM	MAR-B68.00009: Decoupling Softness and Damping in Brush Elastomers for Tissue-Mimetic Mechanics Sergei S Sheiko, Emilie A Moses, Claire J Wang, Joseph Collins, Andrey V Dobrynin
2:12PM–2:24PM	MAR-B68.00010: Interfacial Water Sorption Behavior in Hygrothermally Aged Epoxy Resins Ko Yamaguchi, Daisuke Kawaguchi, Atsushi Shundo, Satoru Yamamoto, Tatsuki Abe, Yuma Morimitsu, Noboru Miyata, Tsukasa Miyazaki, Hiroyuki Aoki, Keiji Tanaka
2:24PM–2:36PM	MAR-B68.00011: The Influence of Thiol-Ene Mechanism on Polymer Network Topology Brandon C Jeong, Rithwik Ghanta, Alexa S Kuenstler, Antonia Statt
2:36PM–2:48PM	MAR-B68.00012: Molecular modeling of swelling and chain retention in temperature-sensitive composite hydrogels Boran Ma, Alexander Rosario
2:48PM–3:00PM	MAR-B68.00013: Transient network structure and dynamics in HEUR/oil mixed aqueous solutions Ryoko Shimada, Hiroshi Watanabe

**Monday, March 16, 2026 3:30 pm – 6:30 pm**

**Session MAR-C63: Heat Transfer and Molecular Ordering in Polymers**

Sponsoring Units: DPOLY

Chair: Vera Bocharova, Oak Ridge National Laboratory; Robert Sacci, Oak Ridge National Laboratory

Room: Convention Center Bluebird 2G

3:30PM–4:06PM	MAR-C63.00001: Molecular Phononics: Understanding and Controlling Thermal Transport in Polymers from Single Molecules to Micro/Nanoscale Fibers Invited Speaker: Longji Cui
4:06PM–4:18PM	MAR-C63.00002: Layer Stacking Order Tunes Thermal and Mechanical Properties in the 2D Covalent Organic Framework TAPB-DMPDA Aditya Dey, Manoj Settipalli, Austin M Evans, Alan J McGaughey
4:18PM–4:30PM	MAR-C63.00003: Effect of Hardener Functional Groups on the Higher-Order Structures and Thermal Conductivity of Cured Epoxy Resins Rika Marui, Kan Hatakeyama-Sato, Yuta Nabae, Teruaki Hayakawa
4:30PM–4:42PM	MAR-C63.00004: Composite phase change electrolytes for combined electro-chemical and thermal energy storage Robert Sacci, Jamieson Bretchl, Andrew Ullman, Guang Yang, Jagjit Nanda, Kashif Nawaz
4:42PM–4:54PM	MAR-C63.00005: Dynamically Tuning the Kuhn Length to Expand Property Control of Polymer Networks Emilie A Moses, Ed T Samulski, Dimitri A Ivanov, Andrey V Dobrynin, Sergei S Sheiko
4:54PM–5:06PM	MAR-C63.00006: Intracrystalline Dynamics in Poly(3-hydroxybutyrate) and Its Role in Morphological Evolution and Mechanical Implications Mohd Afiq Bin Anuar, Yu Qiang, Katalée Jariyavidyanont, Albrecht Petzold, René Androsch, Thomas Thurn-Albrecht, Kay Saalwaechter
5:06PM–5:18PM	MAR-C63.00007: Flow Induced Crystallization in Polymer Melts with Molecular Dynamics simulations Tzortzis Koulaxizis, Antonia Statt
5:18PM–5:30PM	MAR-C63.00008: Re-entanglement Kinetics of Shear-induced Isotropic and Nematic Poly-ether-ether-ketone Ping Yi Leslie poh, Xiaoshi Zhang, Alicyn M Rhoades, Gijs de Kort, Ralph H Colby
5:30PM–5:42PM	MAR-C63.00009: A Kinetic Monte Carlo Model of Secondary Nucleation of Linear and Short-Branched Polyolefins Ronald G Larson, Zhiqiang Shen, Jeffrey Weinhold
5:42PM–5:54PM	MAR-C63.00010: Molecular insight on thermal welding of semicrystalline polymer interfaces Michele Valsecchi, Sanat K Kumar, Gary S Grest
5:54PM–6:06PM	MAR-C63.00011: Investigating the Hydrolytic Degradation of Liquid Crystalline Elastomers towards their use in Biomedical Applications Lorin C Danielsen, Jason A Burdick, Timothy J White
6:06PM–6:18PM	MAR-C63.00012: Theory of Uniaxial-Biaxial Nematic Phase Transition in Ribbon-Like Conjugated Polymers Jiayi Huang, Artem M Romyantsev
6:18PM–6:30PM	MAR-C63.00013: Biaxial nematic ordering of conjugated polymers modeled as ribbon-like chains Srikant Sagireddy, Jian Qin

**Monday, March 16, 2026 3:30 pm – 6:30 pm**

**Session MAR-C65: Dynamic Covalent Polymer Networks - Heterogeneous Bulk and Gel Systems**

Sponsoring Units: DPOLY DSOFIT

Chair: Alexa Kuenstler, University of Illinois at Urbana-Champaign; Phillip Taylor, University of Virginia

Room: Convention Center Bluebird 3A

3:30PM–3:42PM	MAR-C65.00001: Dynamic Covalent Bonds Bridge Immiscible Polymers Javed Akhtar, Satyesh K Yadav, Sooraj Kunnikuruvan, Tarak K Patra
3:42PM–3:54PM	MAR-C65.00002: Modeling the Phase Separation Dynamics of Binary Vitriimer Networks Yun-Ju Chen, Yu-Hsuan Tsao, Christopher M Evans, Charles E Sing
3:54PM–4:06PM	MAR-C65.00003: The Impact of Highly Functional Microspheres on Diels–Alder Network Formation Gaeun Kim, Sanchari Chowdhury, Youngmin Lee
4:06PM–4:18PM	MAR-C65.00004: Crosslinker-Mediated Compatibilization Mechanisms in Dynamic Polymer Networks Tarak K Patra, Abhishek S Chankapure, Sanat K Kumar
4:18PM–4:30PM	MAR-C65.00005: Phase Behavior of Immiscible Polydimethylsiloxane/Polybutadiene Vitriimer Blends Ralm G Ricarte, Nat Torres, Daniel C Barzycki
4:30PM–4:42PM	MAR-C65.00006: Linear Rheology of Immiscible Polydimethylsiloxane/Polybutadiene Vitriimer Blends Nat Torres, Daniel C Barzycki, Ralm G Ricarte
4:42PM–4:54PM	MAR-C65.00007: Microphase-Controlled Chain Relaxation in Dynamic Covalent Networks Rajiblochan Sahoo, Rahul Karmakar, Sanat K Kumar, Tarak K Patra
4:54PM–5:06PM	MAR-C65.00008: Enhanced Crystallinity of Disulfide Network through UV Irradiation-Activated Bond Exchange Yu-Hsuan Tsao, Christopher M Evans
5:06PM–5:42PM	MAR-C65.00009: Post-Synthesis Topological Editing in Polymer Networks Invited Speaker: Monica Olvera De La Cruz
5:42PM–5:54PM	MAR-C65.00010: Probing the Relationship between Solvent Quality and Nonlinear Rheology in Dynamic Covalent Polymer Networks Muhammed Zeeshan Ahmed, Phillip A Taylor
5:54PM–6:06PM	MAR-C65.00011: Quantifying Defect Formation in Swollen Vitriimer Networks as a function of Chain Overlap Joshua A Mysona, Maureen Ononiwu
6:06PM–6:18PM	MAR-C65.00012: Competitive Inhibition as a Tool to Modulate and Predict Hydrogel Mechanics Alexander D Claiborne, Owen A Lee, Sirilak Mekcham, Megan Hill
6:18PM–6:30PM	MAR-C65.00013: Physical and Thermodynamic Origins of Dynamic tetraPEG Hydrogel Shear Elasticity and Phase Behavior Nathaniel Conrad, Carolyn M Watkins, Adrienne M Rosales

**Monday, March 16, 2026 3:30 pm – 6:30 pm**

**Session MAR-C67: Tuning Polymer Properties via Macromolecular Architecture and Interactions I: Physical Principles and Topological Design**

Sponsoring Units: DPOLY

Chair: Divya Iyer, University of California, Santa Barbara; Jerrick Edmund, University of California, Santa Barbara

Room: Convention Center Bluebird 3C

3:30PM–4:06PM	MAR-C67.00001: Effects of Topological Constraints on Equilibrium Swelling of Polymer Gels Invited Speaker: Ting Ge
4:06PM–4:18PM	MAR-C67.00002: Inducing Hidden Length in Bottlebrush Hydrogels for Improved Resilience Claire J Wang, Dimitri A Ivanov, Andrey V Dobrynin, Sergei S Sheiko
4:18PM–4:30PM	MAR-C67.00003: Chain stiffness and solvent quality effects in reversible cyclization processes Thomas E Gartner, Olusotemidayo I Oyedele
4:30PM–4:42PM	MAR-C67.00004: Bottlebrush architecture enhanced pi–pi stacking drives supramolecular hydrogel assembly Xiaoxiao Ma, Baiqiang Huang, Jinchang Zhu, Ka Un Lao, Liheng Cai
4:42PM–4:54PM	MAR-C67.00005: Microphase Separation of Cyclic-Structured Block Copolymer Melts Andrzej Grzyb, Aykut Erbas, Jaroslaw S Klos, Micheal Lang, Jaroslaw Paturej
4:54PM–5:06PM	MAR-C67.00006: Theory of Sequence-Dependent Coil-Globule Transition in Non-Ionic AB Copolymers Artem M Rumyantsev
5:06PM–5:18PM	MAR-C67.00007: Supramolecular Polymer SelfAssembly Modulated by Gradient-Like Monomer Architects Xiangyu Zhang, Thi Vo
5:18PM–5:30PM	MAR-C67.00008: From Ring/Linear Blends to Tadpoles: The Role of Connectivity Effects on Polymer Conformations Haoliu Chen, Mesfin Tsige
5:30PM–5:42PM	MAR-C67.00009: Hierarchical Self-Assembly of Block Polymeric Foldamers into Membranes with Tunable Pore Sizes Hyeonmin Jeong, Thi Vo
5:42PM–5:54PM	MAR-C67.00010: Local Structure Formation in Non-Cylindrical Bottlebrush Polymer Melts Haisu Kang, Joanna Vo, Damien S Guironnet, Charles E Sing
5:54PM–6:06PM	MAR-C67.00011: Tailored Terminus Facilitates 3D Assembly of Peptoids Yen-Jea Lee, Peter Ercius, Xubo Luo, Glenn Butterfoss, Tianyi Yu, Jian Zhang, David Prendergast, Andrew M Minor, Nitash P Balsara, Ronald N Zuckermann, Brooks A Abel, Xi Jiang

**Monday, March 16, 2026 3:30 pm – 6:30 pm**

**Session MAR-C68: Mechanical Performance of Polymer Networks, Gels and Elastomers 2**

Sponsoring Units: DPOLY

Chair: Junsoo Kim, Northwestern University

Room: Convention Center Bluebird 3D

3:30PM–4:06PM	MAR-C68.00001: Interfacial Fracture of Soft Polymer Networks: Revisiting Gent's Picture Invited Speaker: Gabriel E Sanoja
4:06PM–4:18PM	MAR-C68.00002: Cohesive Origin of Cavitation in Polymer Networks Saleh Assadi, Franck J Vernerey, Fay Salmon
4:18PM–4:30PM	MAR-C68.00003: Multiaxial Characterization of Soft Polymers to Characterize a Failure Criterion Christopher W Barney, Majed N Saadawi
4:30PM–4:42PM	MAR-C68.00004: Impacts of Network Structure on Adhesion Strength of Epoxy Resins Reiki Eto, Tatsuki Abe, Keiji Tanaka
4:42PM–4:54PM	MAR-C68.00005: Trap Entanglements by Intervening Polymerization Process Junsoo Kim
4:54PM–5:06PM	MAR-C68.00006: Nanoscale Insights into Strain-Induced Crystallization: Revealing Self-Reinforcement Mechanisms in Filled Elastomers Tomohiro Miyata, Shusuke Kanomi, Kai Chen, Wakana Miyoshi, Tatsuya Kikuchi, Takahiro Kitaura, Toshihiro Kawakatsu, Hiroshi Jinnai
5:06PM–5:18PM	MAR-C68.00007: Examining the Effects of Solvent Quality on Material Fracture in Double Network Hydrogels Soham Irtiza Swapnil, Phillip A Taylor
5:18PM–5:30PM	MAR-C68.00008: Exploring the foundation of bond dissociation theory for elastomeric failure Shi-Qing Wang, Asal Siavoshani, Zehao Fan, Tianji Pang
5:30PM–5:42PM	MAR-C68.00009: Unraveling Entanglements Effect on Rate-Dependent Damage in Polymer Networks Zachary T White, Saleh Assadi, Franck J Vernerey
5:42PM–5:54PM	MAR-C68.00010: Enhancing Adhesion On-Demand in Bottlebrush Pressure Sensitive Adhesives Tanner Wolf, Sergei S Sheiko, Andrey V Dobrynin
5:54PM–6:06PM	MAR-C68.00011: Fracture Behavior of Monodisperse and Polydisperse Polymer Networks: Effects of Topology and Strand-Length Dispersity Zidan Zhang, Jakub Krajniak, Aaliyah Z Dookhith, Han Zhang, Yuan Tian, Harnoor Singh Sachar, Nico Marioni, Tyler James Duncan, Jun Liu, Gabriel E Sanoja, Venkat Ganesan
6:06PM–6:18PM	MAR-C68.00012: Viscoelastic Contributions to Adhesion: Measurement and Modeling Andrew B Croll, Kurt Redmond VanDonselaar, Maryam Safaripour, david Boucher, Dean C Webster
6:18PM–6:30PM	MAR-C68.00013: Decoding Structure–Property Relationships in Biodegradable Polymers Using In Situ WAXS and Tensile Measurements Anjani K Maurya, Ruth T Arwani, Arun S Asundi, Ozge D Bozkurt, Ravikumar R Gowda, Katrina M Knauer, Eugene Chen, Christopher J Tassone

**Monday, March 16, 2026 3:30 pm – 6:30 pm**

**Session MAR-C70: Granular Hydrogels and Soft Particle Assemblies**

Sponsoring Units: DSOFD DBIO DPOLY

Chair: Victoria Muir, University of Delaware

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Room: Convention Center Bluebird 3F

3:30PM–4:06PM	MAR-C70.00001: Jam it all in there: an active material made from packed microgels, a protein network, and contractile cells Invited Speaker: Thomas E Angelini
4:06PM–4:18PM	MAR-C70.00002: How do growth conditions control the mechanics of biohybrid hydrogels? Samson Oluwagbenga Adelani, Morgan B Riffe, Jason A Burdick, Kōnane Bay
4:18PM–4:30PM	MAR-C70.00003: Granular Hydrogels as Model Porous Media for Collective Microbial Migration Victoria Grace Muir, Miles Meadows
4:30PM–4:42PM	MAR-C70.00004: To Swell or Not to Swell: Intermediate "Swelling Alloy" Phases in Microgel Crystals Andrew D Blake, Michael S Dimitriyev
4:42PM–4:54PM	MAR-C70.00005: Reversibility in the oscillatory motion of 2-D granular hydrogel packings Kenneth Liang, Arkadeep Paul, Sara M Hashmi
4:54PM–5:06PM	MAR-C70.00006: Sequential self-assembly of active colloids in microdroplets driven by phase separation CHI SONG, Changjin Wu, Ho Cheung Shum
5:06PM–5:18PM	MAR-C70.00007: All Cracked Up: How Solvents Stress Out Hydrogels Haley Shamah, Samira Wahab Khan, Michelle M Driscoll
5:18PM–5:30PM	MAR-C70.00008: Emergent properties from architected active microgel aggregates Kathy Liu, Joanna Aizenberg
5:30PM–5:42PM	MAR-C70.00009: Structure and Dynamics in Soft Systems on Approach to Jamming Sylvie V Shaya, Katherine Xiaoxin Wang, Julia Dshemuchadse, Erin G Teich
5:42PM–5:54PM	MAR-C70.00010: PVA Cryo-microgels for rapidly fabricating solid soft tissue phantoms using embedded 3D-Printing Mujtaba Rafique Ghoto, Christopher S O'Bryan
5:54PM–6:06PM	MAR-C70.00011: Distinct Chemical Cues Reprogram Cellular and Multicellular Phenotypes in Ovarian Cancer Spheroids Meenakshi Ganesh, M Sreepadmanabh, Jimpi Langthasa, Ramray Bhat, Tapomoy Bhattacharjee
6:06PM–6:18PM	MAR-C70.00012: Simulations and Topological Data Analysis for Characterization of Particle-Stabilized Emulsion Gels Nikhil Karthikeyan, Ulf D Schiller

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**Monday, March 16, 2026 6:00 pm – 7:36 pm**

**Session VIR-C01: Polymer Physics**

Sponsoring Units: DPOLY DBIO DSOFT

Chair: Wathsala Amadoru Jayawardana, Georgia Southern University

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Room: Virtual Virtual Platform - Room 1

6:00PM–6:12PM	VIR-C01.00001: Effect of Fabry-Perot Structure on Electroabsorption and Quadratic Electro-optic Modulation in the Nonconjugated Conductive Polymer Iodine-doped Polyethylene Terephthalate (PET). Mrinal Kanti Thakur, Kirthana Govula
6:12PM–6:24PM	VIR-C01.00002: Simulation Study of the Origin of Coacervate Density Insensitivity to Polyelectrolyte Length Asymmetry in a Salt-Free Solution Atanu Baksi, Divya Iyer, Holly Senebandith, Vanessa Huaco, Rong Feung Peter Goh, Lucas Willey, Samanvaya Srivastava, Jonathan K. Whitmer
6:24PM–6:36PM	VIR-C01.00003: On Styrene-Block Isoprene-Block Styrene Block Copolymers Filled with Carbon-Coated Ni Nanoparticles Mircea Chipara, Ashraf Elkady, Jose Teixeira, Victor Pesina Avalos, Lydia Morales, Parinaz Amaniabdomalaki, Juanangel Montemayor, Karen Martirosyan
6:36PM–6:48PM	VIR-C01.00004: Novel Spontaneous Freeform PMMA Thin-Film Development and Quantification Selina Zhang, Kevin Zhang, Jonathan C Sokolov, Miriam Rafailovich
6:48PM–7:00PM	VIR-C01.00005: Synergistic Dielectric Modulation and Bioactivity in PVDF/HAP/CCTO Nanocomposites for Smart Bone Regeneration A P Kajal Parida, Pawan Kumar
7:00PM–7:12PM	VIR-C01.00006: Interplay of tail length and confinement in the formation of interior loops in flexible chains Surya K Ghosh, Vrinda Garg, Rejoy Mathew
7:12PM–7:24PM	VIR-C01.00007: Semiflexibility speeds up the translocation of polymers Vrinda Garg, Surya K Ghosh, Rejoy Mathew, Andrey G Cherstvy
7:24PM–7:36PM	VIR-C01.00008: Viscoelastic dynamics of complex soft materials from mechanical testing to terahertz frequencies via atomistic modeling Ankit Singh, Vinay Vaibhav, Caterina Czibula, Timothy W Sirk, Alessio Zaccone

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**Tuesday, March 17, 2026 8:00 am – 11:00 am**

**Session MAR-F56: Polymer Physics Prize**

Sponsoring Units: DPOLY

Chair: Zhen-Gang Wang, Caltech

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Room: Convention Center Bluebird 1C

8:00AM–8:36AM	MAR-F56.00001: Current-Induced Motion of Polymer Chains and Relevance to Rechargeable Batteries Invited Speaker: Nitash P Balsara
8:36AM–9:12AM	MAR-F56.00002: Machine Learning-Based Computational Methods for Interpreting Small Angle Scattering Data from Soft Materials Invited Speaker: Arthi Jayaraman
9:12AM–9:48AM	MAR-F56.00003: Modeling ion correlations in electrical double layers and its applications to inhomogeneous charged polymers Invited Speaker: Rui Wang
9:48AM–10:24AM	MAR-F56.00004: Redox-Active Polymers as Platforms for Adaptive and Trainable Soft Materials Invited Speaker: Shrayesh Patel
10:24AM–11:00AM	MAR-F56.00005: Exploring Network Morphologies in Block Copolymers Invited Speaker: Moon Park

**Tuesday, March 17, 2026 8:00 am – 11:00 am**

**Session MAR-F65: Polymer Degradation, Aging, and Lifetime**

Sponsoring Units: DPOLY DSOFT

Chair: Hannah Dedmon, Sandia National Laboratories; R Bharath Venkatesh, ExxonMobil

Room: Convention Center Bluebird 3A

8:00AM–8:36AM	MAR-F65.00001: Delay Session Start
8:36AM–9:12AM	MAR-F65.00002: Competing Relaxation Pathways in the Physical Aging of Glasses Invited Speaker: Daniele Cangialosi
9:12AM–9:24AM	MAR-F65.00003: Thermal Recycling of a Diels-Alder Functional Epoxy: Evolution of Thermomechanical Properties Samantha J. (Lindholm) Knight, Nicole Penners, Gaeun Kim, Arnob Saha, Sanchari Chowdhury, Youngmin Lee
9:24AM–9:36AM	MAR-F65.00004: Reactive Molecular Dynamics Simulations of Atomic Oxygen Degradation of a Polyimide Film Jacob R Breese, Lisa M Hall, Cody Bezik, Vikas Varshney
9:36AM–9:48AM	MAR-F65.00005: New Submission Nanoplastics and Volatile Formation During Accelerated Degradation of Polypropylene Shrishti Das, Sanat K Kumar
9:48AM–10:00AM	MAR-F65.00006: Architecturally Controlling Degradation of Polymers with Tissue-Mimetic Mechanical Properties Jessica Garcia, Sergei S Sheiko, Magomed Anikin
10:00AM–10:12AM	MAR-F65.00007: Development of a High-Throughput Platform for the Kinetic Analysis of Enzymatic Depolymerization Alexandra O Grinevich, Melody A Morris
10:12AM–10:24AM	MAR-F65.00008: Degradation and Nanoplastics Formation due to External Stresses in Semicrystalline Polymers Sameer Rajendra Kalghatgi, Michele Valsecchi, Sanat K Kumar
10:24AM–10:36AM	MAR-F65.00009: Time-Dependent Ambient Aging and Rehydration of PVA-MA Hydrogels: Correlating Water Loss with Electromagnetic Recovery Deborah ParraCervantes
10:36AM–10:48AM	MAR-F65.00010: Thermo-Oxidative Aging of Semi-crystalline Polyimide Films: Experimental Characterization and Predictive Modeling Maryam Shakiba
10:48AM–11:00AM	MAR-F65.00011: Influence of Nano-Structure on the Degradation Pathways of Ethylene-Co-Vinyl Acetate Polymer Hannah Dedmon, Michael Evan Chandross, Mark A Wilson

**Tuesday, March 17, 2026 8:00 am – 11:00 am**

**Session MAR-F67: Sustainable Polymers**

Sponsoring Units: DPOLY

Chair: Emily Davidson, Princeton University; Kailong Jin, Arizona State University

Room: Convention Center Bluebird 3C

8:00AM–8:36AM	MAR-F67.00001: Delay Session Start
8:36AM–9:12AM	MAR-F67.00002: Upcycling Virgin and Waste Thermoplastic Polyethylene, Polypropylene, and Their Copolymers into Recyclable, Reprocessable Networks That Fully Recover Cross-link Density and Provide Sustainability Advantages Invited Speaker: John M Torkelson
9:12AM–9:24AM	MAR-F67.00003: Multiscale Modeling of Polydisperse Entangled Polymer Melts Under Equilibrium and Flow Heyi Liang, Kenji Yoshimoto, Stuart J Rowan, Juan de Pablo
9:24AM–9:36AM	MAR-F67.00004: Compatibilization of Polyolefin Blends Under Shear McKenzie Lee Coughlin, CARLOS R LOPEZ-BARRON, Anthony P Kotula, Kalman B Migler
9:36AM–9:48AM	MAR-F67.00005: Impact of Molecular Structure on the Ability of Commercial Polyolefins to Compatibilize High-Density Polyethylene/Isotactic Polypropylene Blends Mark D Dadmun, Bailey Eberle
9:48AM–10:00AM	MAR-F67.00006: Recoverable Macroporous Polyanion Bead Catalysts for Scalable Continuous Chemical Depolymerization of Polyethylene Terephthalate Yongsu Kim, Youngwon Lee, Ji Hee Yun, Noh-Moon Lee, Bonjae Koo, Jonggeol Na, Hyeong Jun Kim
10:00AM–10:12AM	MAR-F67.00007: Enhanced Ductility Through Tuning Crystallinity of Chemically Recyclable Polyolefins Sahana V Sundar, Cherish Nie, Hang Zhang, Shawn M Maguire, Richard Alan Register, Paul J Chirik, Rodney D Priestley, Emily Catherine Davidson
10:12AM–10:24AM	MAR-F67.00008: Enhancing the mechanical performance of polyolefin blends through immersion annealing Zhe Qiang, Carmen B Dunn
10:24AM–10:36AM	MAR-F67.00009: Compatibilization of iPP/PS Blends with Diblock and Triblock Copolymers Daun Jeong, Shuquan Cui, Nusrat Jahan, Christopher J Ellison, Frank S Bates
10:36AM–10:48AM	MAR-F67.00010: Counterion-Free Ionic Associating Polymers via In-Situ Ionization Jie Xu, Shuyi Xie
10:48AM–11:00AM	MAR-F67.00011: Unraveling Structure-Property Relationships in Cellulose-based Anion Conducting Polymerized Ionic Liquids Benjamin Huebner, Abneris Morales, Abbigail Leach, Kevin Miller, David Salas-de la Cruz, Benjamin A Paren

**Tuesday, March 17, 2026 8:00 am – 11:00 am**

**Session MAR-F68: Electrochemical Devices and Charge Transport**

Sponsoring Units: DPOLY

Chair: Seongon Jang, University of Pennsylvania

Room: Convention Center Bluebird 3D

8:00AM–8:36AM	MAR-F68.00001: Delay Session Start
8:36AM–8:48AM	MAR-F68.00002: Multiscale Simulations for Organic Mixed Ionic Electronic Conducting Polymer Performance Cesar Alejandro Castro, Yucheng Zhang, Gustavo R Perez-Lemus, Jie Xu, Juan de Pablo
8:48AM–9:00AM	MAR-F68.00003: First-Principles Modeling of Interfacial Charge Transfer Exciton States in Organic Solar Cell Vishal Jindal, Michael J Janik, Scott T Milner
9:00AM–9:12AM	MAR-F68.00004: Exploring Electrochemical Hysteresis in Organic Mixed Ionic–Electronic Conductors via a Multiscale Predictive Framework Haoyu Wu, Xingyu Liu, Jonathan K. Whitmer, Bryan D Paulsen
9:12AM–9:24AM	MAR-F68.00005: Reaction Pathways Driving the Solid Electrolyte Interphase Formation in Lithium-Metal Batteries in the Presence of Solid Polymer Electrolytes Tanmay Sarkar Akash, Siddhartha Das
9:24AM–9:36AM	MAR-F68.00006: Breaking Ion Clusters: Size Asymmetry for Fast Ion Transport in Polymer Electrolytes GANESH KUMAR RAJAHMUNDRY, Tarak K Patra
9:36AM–9:48AM	MAR-F68.00007: Tailoring Ionic Conductivity of Polymeric Ionic Liquid Block Copolymers through Morphology Control. Samuel Kpakpo Junior Kpakpo Junior Adotey, Gila E Stein, Yangyang Wang
9:48AM–10:00AM	MAR-F68.00008: Impact of Composition and Viscosity on Ion Transport and Dendrite Resistance in Viscoelastic Polymer Electrolytes Peyton Carden, Jiyoung Ock, Yangyang Wang, Beth L Armstrong, Chelsea Chen
10:00AM–10:12AM	MAR-F68.00009: Ionic liquid doped polymer electrolytes: Structure to conductivity Fateme Naderi Samani, Reza Foudazi
10:12AM–10:24AM	MAR-F68.00010: Polymerized Stockmayer Fluid MD Simulation of Ion Transport in Polymeric Ionic Liquid–LiTFSI Blends Issei Nakamura, Jester N Itliong, Amalie L Frischknecht, Mark J Stevens
10:24AM–10:36AM	MAR-F68.00011: Epoxide-Diamine Crosslinked Polymer Networks as Sodium Metal Battery Electrolytes SHREYAS PATHREEKER, Nisha Shah, William Ridgely Fullerton, Eric Detsi, Christopher Yuren Li, Russell J Composto
10:36AM–10:48AM	MAR-F68.00012: Superionic Bifunctional Polymer Electrolytes for Actuators Ruiyang Wang
10:48AM–11:00AM	MAR-F68.00013: Tuning Lithium Transport in TFSI-based Polyzwitterion Electrolytes Beibei Yao, Michelle L Lehmann, Mackenzie Young, Alexei P Sokolov, Catalin P Gainaru, Tomonori Saito

**Tuesday, March 17, 2026 12:00 pm – 3:00 pm**

**Session MAR-G54: New Developments in Polymer Nanocomposites: Experiment, Theory, and Applications**

Sponsoring Units: DPOLY DSOFD

Chair: Valeriy Ginzburg, Michigan State University

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Room: Convention Center Bluebird 1A

12:00PM–12:36PM MAR-G54.00001: Complex Blends For Nanomaterial Synthesis Across Scales  
Invited Speaker: Ting Xu

12:36PM–1:12PM MAR-G54.00002: Focus on Cellulosic Materials: from Nanocomposites to Trees  
Invited Speaker: Miriam Rafailovich

1:12PM–1:48PM MAR-G54.00003: Towards Hyperuniform Hybrid Materials with Self-Heal Ability  
Invited Speaker: Michael R Bockstaller

1:48PM–2:24PM MAR-G54.00004: Microgel softness alters the dynamics of tracer nanoparticles in supercooled suspensions  
Invited Speaker: Jacinta C Conrad

2:24PM–3:00PM MAR-G54.00005: Recent advances in polymer nanocomposites for aerospace and space applications  
Invited Speaker: Hilmar Koerner

**Tuesday, March 17, 2026 12:00 pm – 3:00 pm**

**Session MAR-G65: Padden Award Symposium**

Sponsoring Units: DPOLY

Chair: Emily Davidson, Princeton University; Chinedum Osuji, University of Pennsylvania

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Room: Convention Center Bluebird 3A

12:00PM–12:12PM	MAR-G65.00001: Strain-stiffening in photo-clickable bottlebrush hydrogels via crosslink clustering Baiqiang Huang, Liheng Cai
12:12PM–12:24PM	MAR-G65.00002: Are Neutral Polyzwitterions Really Neutral? Charge Symmetry Breaking! Yeseul Lee, Murugappan Muthukumar
12:24PM–12:36PM	MAR-G65.00003: Effect of Methyl Substitution Pattern on Methylcellulose Solution Behavior and Multiscale Structure Stephen Kronenberger, Arthi Jayaraman
12:36PM–12:48PM	MAR-G65.00004: Arrested and delayed rupture of elastomers Asal YousefiSiavoshani, Shi-Qing Wang, Ming-Chi Wang, Junpeng Wang, Chen Wang, Aanchal Jaisingh
12:48PM–1:00PM	MAR-G65.00005: When Solvent Matters: Fundamental Phase Reversals in Polyelectrolyte Coacervation Pierre J Walker, Zhen-Gang Wang
1:00PM–1:12PM	MAR-G65.00006: Biomimetic Block Polycatechols Form High Strength Wet Adhesives Fahed Albreiki, Orchid Pyone, Helene Do, Swaraali Save, Samanvaya Srivastava
1:12PM–1:24PM	MAR-G65.00007: Elasticity and Fracture of Polymer-like Entangled Network Jiabin Liu, Juntao Huang, Shaoting Lin
1:24PM–1:36PM	MAR-G65.00008: Reaction/Diffusion Competition Controls Anomalous Vitrimer Relaxation Processes Makayla Branham-Ferrari, Shinian Cheng, Alexei P Sokolov, David S Simmons
1:36PM–1:48PM	MAR-G65.00009: Roughness-dependent scaling of contact area and separation gap with pressure for glassy polymers Shubhendu Kumar, Utkarsh R Patil, Stephen Merriman, Ali N Dhinojwala
1:48PM–2:00PM	MAR-G65.00010: Controlling equilibrium swelling of polyampholyte gels using charge sequence Andrew Srimalka Wijesekera, Ting Ge
2:00PM–2:12PM	MAR-G65.00011: Leveraging Dynamic Bonds to Probe Equilibrium Topology in Polymer Networks Devosmita Sen, Yu Zheng, Bradley David Olsen
2:12PM–2:24PM	MAR-G65.00012: Nanotetrapods Promote Polymer Flow Through Confinement Induced Packing Frustration JotyPriya Sarkar, Mithun Chowdhury, Sivasurender Chandran, Sachin MB Gautham, Tarak K Patra, Fariyad Ali, Anindya Dutta, Mithun Madhusudan

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**Tuesday, March 17, 2026 12:00 pm – 3:00 pm**

**Session MAR-G67: Tuning Polymer Properties via Macromolecular Architecture and Interactions II: Synthesis, Structure, and Function**

Sponsoring Units: DPOLY

Chair: Pierre Kawak, University of South Florida; Sam Layding, University of Pennsylvania

Room: Convention Center Bluebird 3C

12:00PM–12:36PM	MAR-G67.00001: Structural and Dynamical Insights into the Formation Process of a Cross-Linked Polymer Network Invited Speaker: Maya Endoh
12:36PM–12:48PM	MAR-G67.00002: Asymmetric Interfacial Chain Diffusion in High-Performance Thermoplastics Keigo Kawahara, Tatsuki Abe, Shin Hirata, Masato Honma, Satoru Yamamoto, Keiji Tanaka
12:48PM–1:00PM	MAR-G67.00003: Self-Assembly Behavior of Hem-Telechelic Polymer System Jingchao Qin, Whitney S Loo
1:00PM–1:12PM	MAR-G67.00004: Controlling Polymer Melt Viscoelasticity via Photo-Reversible Hydrogen Bonding Ayaulym Abilova, Rithwik Ghanta, Abike Sholeye, Alexa S Kuenstler
1:12PM–1:24PM	MAR-G67.00005: Realizing Sub-3 nm Vertical Lamellar Features in Thin Films by In-Situ Hydrolysis of PSM-b-P4VBP Xuchen Gan, Yashodha Kahandawaarachchi, Xindi Li, Mingqiu Hu, Zhan Chen, zichen jin, Preetika Rastogi, Paul D Ashby, Javid Rzayev, Thomas P. Russell
1:24PM–1:36PM	MAR-G67.00006: Low-Temperature Stability of the Double Gyroid Morphology in Ultrahigh-chi Low-N Multiblock Copolymers Margaret K Brown, Viola A Burlein, Sharin K Rashid, Stefan Mecking, Karen I Winey
1:36PM–1:48PM	MAR-G67.00007: Domain Alignment and Solvent Swelling Impact Ion Transport in a Multiblock Copolymer Benjamin T Ferko, Viola A Burlein, Stefan Mecking, Karen I Winey
1:48PM–2:00PM	MAR-G67.00008: Cryo-EM Reveals Structure and Assembly of Polymer Mixed Conductors Enrique D Gomez, Masoud Ghasemi
2:00PM–2:12PM	MAR-G67.00009: Entropy-Driven Phase Separation in Polymer-Grafted Nanoparticles Blends Akhtar Gul, Alamgir Karim, Rongguan Yin, Michael R Bockstaller, Krzysztof Matyjaszewski, Jack F Douglas
2:12PM–2:24PM	MAR-G67.00010: Disordered Hyperuniformity and Structure-Property Correlation in a Single-Component Nanocomposite material Thin Film Akhtar Gul, Alamgir Karim, Masiuddin Muzzammil Mohammed, Krzysztof Matyjaszewski, Michael R Bockstaller, Rongguan Yin, Mett Tarnsangpradit, Jack F Douglas
2:24PM–2:36PM	MAR-G67.00011: Topology-Driven Miscibility in Polymer–Nanoparticle Composites via Loop–Linear Graft Blends Sri Maddukuri, Christopher Ebuka Mbonu, Arman Moussavi, Pinar Akcora, Sinan Keten
2:36PM–2:48PM	MAR-G67.00012: Chain Topology–Mediated Mechanical Behavior in Polymer-Grafted Nanoparticle Composites Christopher Ebuka Mbonu
2:48PM–3:00PM	MAR-G67.00013: Improved description of the surface morphology of dendritic phytyglycogen nanoparticles Benjamin E Morling, Robert Arthur Wickham, John R Dutcher

**Tuesday, March 17, 2026 12:00 pm – 3:00 pm**

**Session MAR-G68: Polyelectrolyte Complexes and Biomolecular Condensates II**

Sponsoring Units: DPOLY DSOFD DBIO

Chair: Jonathan Whitmer, University of Notre Dame; Di Jia, Institute of Chemistry, Chinese Academy of Sciences

Room: Convention Center Bluebird 3D

12:00PM–12:12PM	MAR-G68.00001: Investigating Phase Boundaries of Crowded Polyelectrolyte Complex Coacervates Systems Arthur Odenheimer, Atanu Baksi, Vihar Trada, Justin Caram, Jonathan K. Whitmer, Samanvaya Srivastava
12:12PM–12:24PM	MAR-G68.00002: Biomolecules for non-biological things: Peptide ‘Bundlemer’ design for model polyelectrolyte nanoparticle creation and hierarchical solution assembly Darrin J Pochan
12:24PM–1:00PM	MAR-G68.00003: Biophysics of Disordered Protein/RNA Condensates Invited Speaker: Ashok Deniz
1:00PM–1:12PM	MAR-G68.00004: Coacervate-based bioreactors for enzyme cascades Aoon Rizvi, Varun Maheshwari, Vihar Trada, Samanvaya Srivastava
1:12PM–1:24PM	MAR-G68.00005: Ion Selective Membrane Enabled by Specific Ion Interactions in Cationic Polyelectrolyte Coacervates Jowon Shin, Hyeong Jun Kim
1:24PM–1:36PM	MAR-G68.00006: Correlating Mobile Ion Radius with Ion Transport Activation Energy in Single-Ion Conducting Polymers Harmandeep Singh, Catalin P Gainaru, Ivan Popov, Michelle L Lehmann, Anisur Rahman, Kenneth Steven Schweizer, Rajeev Kumar, Tomonori Saito, Alexei P Sokolov
1:36PM–1:48PM	MAR-G68.00007: Quantitative Analysis of Enzyme Partitioning and Interfacial Stabilization in Polyelectrolyte Coacervates Vihar Trada, Caitlyn Fick, Varun Maheshwari, Aoon Rizvi, Samanvaya Srivastava
1:48PM–2:00PM	MAR-G68.00008: Enzymatic Degradation of Precipitates and the Processing of Coacervate Droplets of Cellulose-Derived Materials to Study Phase Transitions Whitney C Blocher McTigue, Chaeyoung Lim, Ana L Stopanovski Becker
2:00PM–2:12PM	MAR-G68.00009: Complex Formation of Biopolymers through Electrochemical Process Somanath Pallapolu, Mohammad Moinul Hossain, Logan T. Kearney, Amit K Naskar, Santanu Kundu
2:12PM–2:24PM	MAR-G68.00010: Starch Granules as Programmable Nucleation Sites for DNA Nanostar Self-Assembly Ian M Lillie, Ashlee D McGovern, Peter M Iovine, Rae M Robertson-Anderson
2:24PM–2:36PM	MAR-G68.00011: Identifying liquid-liquid phase boundaries in multicomponent mixtures forming coacervates Lynn M Walker, Olivia Haider, Jamie Schubert
2:36PM–2:48PM	MAR-G68.00012: Effect of charged lipid composition in vesicle membrane on the polyelectrolyte – lipid membrane interactions Bharat Kumar, Bibhu Ranjan Sarangi, Nithya M, Olivia Vincent
2:48PM–3:00PM	MAR-G68.00013: RNA-Polycation complex: too strong a binding Aman Agrawal, Matthew V Tirrell, Jack W Szostak

**Tuesday, March 17, 2026 12:00 pm – 3:00 pm**

**Session MAR-G72: Dynamics of Polymers in Confinement**

Sponsoring Units: DPOLY

Chair: Laura-Roxana Stingaciu, Oak Ridge National Laboratory; Naresh Osti, Oak Ridge National Laboratory

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Room: Convention Center Bluebird 3H

12:00PM–12:12PM	MAR-G72.00001: Self-Assembly of Semiflexible Polymers within Dynamic Droplet Confinement Nasir Amiri, Xin Yong
12:12PM–12:24PM	MAR-G72.00002: Block Composition Dictates Infiltration Kinetics of Block Copolymers into Nanopores Uiseok Hwang, Sang Yup Lee, Robert A Riggleman, Daeyeon Lee
12:24PM–12:36PM	MAR-G72.00003: Knotting in a lattice model of confined ring polymers Esaias J Janse van Rensburg
12:36PM–12:48PM	MAR-G72.00004: Coupled Effects of Domain Structure and Surface Affinity on Block Copolymer Transport in Nanopores Sang Yup Lee, Taeyoung Heo, Uiseok Hwang, Robert A Riggleman, Daeyeon Lee
12:48PM–1:00PM	MAR-G72.00005: Depth-Resolved Chain Dynamics and Interfacial Effects in Free-standing and Supported Glass-Forming Polymer Films Bao Ma, David S Simmons
1:00PM–1:36PM	MAR-G72.00006: Dynamics and macroscopic properties of one component polymer nanocomposites Invited Speaker: Margarita Kruteva
1:36PM–1:48PM	MAR-G72.00007: Interfacial Confinement of Thermal Motion in Adsorbed Polystyrene Chains Yuma Morimitsu, Satoru Yamamoto, Keiji Tanaka
1:48PM–2:00PM	MAR-G72.00008: Seventeen Years of Backscattering Silicon Spectrometer (BASIS): Unraveling the Dynamics of hard and soft materials Naresh C Osti, Niina H Jalarvo, Eugene Mamontov
2:00PM–2:12PM	MAR-G72.00009: Reversible Electrokinetic Confinement (RECON) Device for Dynamic Confinement of Single Macromolecules and Nanoparticles Matheus Pessôa, Preethi Ravikumar, Seraphine Kautz, Walter W Reisner
2:12PM–2:24PM	MAR-G72.00010: Gradient in Chain Fluidity of Polystyrene near Solid Substrates Shintaro Saeki, Yuma Morimitsu, Keiji Tanaka
2:24PM–2:36PM	MAR-G72.00011: Probing matter by Neutron Spin-Echo: A high-resolution spectroscopic technique that unveils dynamics of materials at mesoscale Laura-Roxana Stingaciu, Piotr A Zolnierczuk
2:36PM–2:48PM	MAR-G72.00012: Interfacial dynamics of polymers: Spatial gradient and the collective interface effect Juncheng Zheng, Shiwang Cheng

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**Tuesday, March 17, 2026 2:00 pm – 5:00 pm MT**

**Session MAR-H00-10: Poster Session I: Polymer Physics**

Sponsoring Units: DPOLY

Room: Convention Center Exhibit Hall D, E, F, Level 2

MAR-H00-10.00001	Molecular Origins of Flow in Polystyrene Vitrimers: Daniel C Barzycki, Dana Ezzeddine, Andy Imbeah-Baiden, Joshua A Mysona, Sachin Shanbhag, Ralm G Ricarte
MAR-H00-10.00002	Immiscible Polydimethylsiloxane/Polybutadiene Vitrimer Blends: Nat Torres, Daniel C Barzycki, Ralm G Ricarte, Zachery Bauer, Cassie Duclos
MAR-H00-10.00003	Network Topology and Associative Bond Exchange Control the Viscoelastic Response of Elastomeric and Glassy Vitrimer: Dana Ezzeddine, Daniel C Barzycki, Sachin Shanbhag, Ralm G Ricarte
MAR-H00-10.00004	The Effect of Competing-Mechanism Bond Exchange on Dynamic Network Rearrangement: Min-Hsien Lin, Jared J Rivera-Otero, Alexa S Kuenstler, Charles E Sing
MAR-H00-10.00005	Controlling Dynamics in Reprocessable Polymer Networks via Mixed-Mechanism Exchangeable Bonds: Jared J Rivera Otero, Min-Hsien Lin, Charles E Sing, Alexa S Kuenstler
MAR-H00-10.00006	Combinatorial Entropy Controls Novel Viscoelasticity in Model Vitrimers: Haoyu Wu, Jonathan K. Whitmer
MAR-H00-10.00007	Confinement and substrate-driven polymorph selection in PVDF thin films: Jiaen Wu, Sanfeng Wu, Nihar R Pradhan, Emily Catherine Davidson
MAR-H00-10.00008	Surface-Adsorbed Nanodroplets of Symmetric Diblock Copolymers Have Versatile and Stimuli-Responsive Nanostructure: Artem Petrov, Guillermo Alejandro Hernandez-Mendoza, Alfredo Alexander-Katz
MAR-H00-10.00009	Solid-state enzyme stabilization by diffusion and chemical matching: Tianyi Jin, Akorfa Dagadu, Alfredo Alexander-Katz
MAR-H00-10.00010	Poly(2-vinyl pyridine) Brush Grafting Density Controls Gold Nanorod Adsorption and Orientation: Zixuan Lin, Katie Sun, Kyoungweon Park, Richard Arthur Vaia, Russell J Composto, Karen I Winey
MAR-H00-10.00011	Structure and Dynamics of PEO Grafted to Nanoparticles in Water: Abdul Nasir Abdullah, John M Bracewell, Dvora Perahia, Gary S Grest
MAR-H00-10.00012	Can peptides reduce the interfacial energy of immiscible polymer interfaces? Rituparna Samanta, Lawrence A Stern, Sarang S Shindalkar
MAR-H00-10.00013	Linking Morphology to Radiative Decay Pathways by Using a Combined Experimental–Computational Study of CzDBA Emission Dynamics: Toulík Maitra, Kaiwen Guo, Denis Andrienko, Gert-Jan Wetzelaer, Yungui Li, Paul W Blom
MAR-H00-10.00014	Imaging Nanoscopic Domains in PM6:Y6 Organic Bulk Heterojunctions using PEEM: Saryu Saryu, Elizabeth Obiageri Udeh, Timothy Scarborough, Hashitha T Degambadage, Cindy L Berrie, Wai-Lun Chan
MAR-H00-10.00015	Structure-Property Relationships in Solvent-Swollen Sulfonated Polystyrene Ionomers: Benjamin T Ferko, Anthony M Senouillet, Karen I Winey
MAR-H00-10.00016	Investigation of Broad Shear Modulus Profile Formed Across Glassy-Rubbery Interfaces of Polybutadiene and Polystyrene with Varying Molecular Weights: David B Cai, Alexander A Couturier, Justin C Burton, Connie Barbara Roth
MAR-H00-10.00017	Buckling-driven Heterogeneous Mechanochemical Response in Thermoplastic Copolymer Elastomers: Brandon C Jeong, Staci Strader, Antonia Statt

MAR-H00-10.00018	Revealing Network Architecture Effects on Semi-Crystalline Polymer Networks: Rithwik Ghanta, Elena Granzeier, Brandon C Jeong, Antonia Statt, Alexa S Kuenstler
MAR-H00-10.00019	Pendant Groups in the Majority Domain of Aliphatic Multiblock Copolymers Prohibit the Double Gyroid Morphology: Margaret K Brown, Viola A Burlein, Benjamin T Ferko, Anne Saumer, Stefan Mecking, Karen I Winey
MAR-H00-10.00020	Impact of CO <sub>2</sub> chemisorption on dynamics of polyamines across multiple time scales: Shiwang Cheng, Neda Hashemipour
MAR-H00-10.00021	Molecular dynamics investigation of percolating membranes: Alexander R Klotz, Mario Z Vasilev
MAR-H00-10.00022	In-Line Molar Mass Determination in Semidilute Polymer Solutions: Andrey V Dobrynin, Johann Rapp, Eric Weeda, Ryan Sayko, Nick Legaux, Foad Vashahi, Sergei S Sheiko, Frank A Leibfarth
MAR-H00-10.00023	Processive Pathway of Solvent-Induced Self-Assembly of PS-b-P2VP Thin Films: Jonathan Failla, Aiden Gauer, Gregory S Doerk, Dmytro Nykypanchuk, Tad Koga, Maya Endoh
MAR-H00-10.00024	How Ring Deletion Impacts the Structure of Interlocked Ring Polymer Sheets: Jason T Spada, Lisa M Hall, Jacob R Breese
MAR-H00-10.00025	Response of Two-State Biopolymers to Macromolecular Crowding: Mahesh Aryal, Alan Richard Denton
MAR-H00-10.00026	Computer simulations of conformational behavior of bottlebrush polymers with van der Waals and reversible interactions: Yiyang Kuang, Elena Dormidontova
MAR-H00-10.00027	Slow Kinetics of Confined Diblock Copolymer upon Infiltration into a Bicontinuous, Nanoporous Gold Scaffold: David Bujdos, Jongbeom Kim, Eric Stach, Russell J Composto
MAR-H00-10.00028	High-Throughput Tensile Tester for Ultrathin Crosslinked Polymer Films: Kelly Balch, Kōnane Bay
MAR-H00-10.00029	Time-Resolved Gelation of Photopolymerizable Melts: Ayaulym Abilova, Rithwik Ghanta, Jiachun Shi, Simon A Rogers, Alexa S Kuenstler
MAR-H00-10.00030	Nonlinear Elasticity of Slide-Ring Gels: Finite-Extensibility and Ring-Clustering Effects under Large Deformation: Hao Guo, Sergey Panyukov, Michael Rubinstein
MAR-H00-10.00031	From Free Energies to Phase Diagrams of Compressible Microgels: Oreoluwa Ebenezer Alade, Alan Richard Denton
MAR-H00-10.00032	Swollen and collapsed phases in polymer networks under tension: Michele Valsecchi, Sanat K Kumar, Andrea Ninarello, Emanuela Zaccarelli
MAR-H00-10.00033	Structure and ion conductivity in hydrated precise polymer electrolytes with quaternary ammonium groups: William A Presson, William F Drayer, Alexandra Whittle, Nadia Z Singleton, Justin G Kennemur, Amalie L Frischknecht, Karen I Winey
MAR-H00-10.00034	A Molecular Dynamics Model of Interfacial Polymerization: Growth and Properties of Polyamide Membranes: Cody Hawthorne, Scott T Milner
MAR-H00-10.00035	Ion Transport in Nanostructured Block Copolymer Membranes for Ion-Selective Separations: Luis Felipe Caspari Thiele, Hee Jeung Oh, Ralph H Colby
MAR-H00-10.00036	Multiscale understanding of ion and water transport in weak polyelectrolyte membranes for sustainable technologies: Yongha Kim, Hee Jeung Oh
MAR-H00-10.00037	SAN-based block polymers as a platform for manufacturing strong isoporous membranes: Adam Nathan Mann, Noah P Wamble, Louise Kuehster, Matthew Robert Landsman, Anthony J Arrowood, Gregory M Su, Nathaniel A Lynd, Benny D Freeman, Gabriel E Sanoja

MAR-H00-10.00038	On the Thermal Features of Polystyrene-Polyvinylidene Fluoride Blends: Parinaz Amaniabdomalaki, Lydia Morales, Erick Flores, Victoria Padilla, Mircea Chipara
MAR-H00-10.00039	Bio-Based Thermosetting Polymers from Microbial Oils for Machine Learning-Assisted Design: Wathsala Mayurika Amadoru Jayawardana, Rafael L Quirino, Ellen T Arantes, Ryan O'Connor, Hal Alper
MAR-H00-10.00040	Automating Polymer Molecular Dynamic Simulations: Yuan Tian, Gervasio Zaldivar, Ge Sun, Juan de Pablo
MAR-H00-10.00041	Data-driven Parameterization of Chemically Specific Field-theoretic Simulations: Andrew Golembeski, Nicholas Sherck, Eduard Schreiner, Joshua Lequieu
MAR-H00-10.00042	Effect of Shear Flow and Precursor Polymer Design on Single-Chain Nanoparticle Formation: Matthew Chertok, Howard A Stone, Michael A. Webb
MAR-H00-10.00043	Charge Regulation Effects on Polyelectrolyte-Mediated Nanoparticle Interactions: Vijay Yadav
MAR-H00-10.00044	Tunable Mucin–Chitosan Complex Coacervates as Model Biological Interfaces: Ali Hatami, Mary Mel B Baynosa, Ashis Mukhopadhyay
MAR-H00-10.00045	Hybrid Field Theory included Transfer Matrix Pairing for Complex Coacervation: Jacob Castañeda, Charles E Sing
MAR-H00-10.00046	Complex Coacervate as a Novel Platform for non-classical Crystallization: Saniya Zafar, Julia Sabadini, Alamgir Karim
MAR-H00-10.00047	Heavily Crosslinked Polymerized Ionic Liquid (PIL) Networks for High-Performance Ionic Diodes and Low-Voltage Electroadhesives: Owen A Lee, Paula Pranda, Joseph Roback, Matthew Ticknor, Seulki Kang, Ryan C Hayward
MAR-H00-10.00048	Hydration Dynamics in Perdeuterated Poly(N-isopropyl acrylamide) Aqueous Solution Probed with Quasi-elastic Neutron Scattering: Eric Rende, Marcell Wolf, Thomas Mueller, Dirk Schanzenbach, André Laschewsky, Alfons Schulte, Christine M. Papadakis
MAR-H00-10.00049	Small Molecule Mediated Self Assembly of Multicomponent Nanocomposites: Kiera Y Tai, Seungyeop Kim, Anders A Johnson, Ting Xu
MAR-H00-10.00050	Effect of nanoparticles on the deformation-induced crystallization of polymers: Juncheng Zheng, Qingchu Yang, Shiwang Cheng
MAR-H00-10.00051	Influence of polyelectrolyte mixtures on the nanomechanical properties of calcium oxalate monohydrate crystals: Conor G Harris, Jeffrey A Wesson, Matthew V Tirrell
MAR-H00-10.00052	Thermodynamic Insights into the Translocation of a Star Polymer Through a Nanopore: Bhavesh R Sarode, Harshwardhan H Katkar
MAR-H00-10.00053	Change in Chain Dimensions upon Coil-Helix Transition: Karthik C Sinha, Alexey A Gavrillov, Artem M Rumyantsev
MAR-H00-10.00054	Hidden Length, Microphase Separation and Deformation of Copolymer Brush Networks: Zilu Wang, Claire J Wang, Emilie A Moses, Sergei S Sheiko, Andrey V Dobrynin
MAR-H00-10.00055	Inter- and Intramolecular Effects on Conformation in Polymers and Liquid Crystals: Jacob S Votava, Emily Catherine Davidson, Michael A. Webb
MAR-H00-10.00056	Incorporating Complex Pair Potentials Into Field-theoretic Simulations: Anh Ngo, Joshua Lequieu
MAR-H00-10.00057	Polymer properties and activity coefficients for mechanistically informed AI for polymer networks: Devosmita Sen, Chuting Deng, Heecheol Jang, Beck Miller, Heather J Kulik, Monica Olvera De La Cruz, Bradley David Olsen
MAR-H00-10.00058	Universal fundamental relations for polymer-solvent phase behavior: Bradley David Olsen, Oliver Xie, Hannah Uhl
MAR-H00-10.00059	Dependence of the polymer adsorption transition on chain stiffness and surface interaction range: Jutta Luettmer-Strathmann, Mark Peterson Taylor

MAR-H00-10.00060	Study of the Effect of Added Salts on the Interfacial Dynamics of Model Charged and Uncharged Water-Soluble Polymers: Soumik Ghosh
MAR-H00-10.00061	Extracting nontrivial work from ordinary chemical reactions: Yining Gan, Tian Huang, Steve Granick
MAR-H00-10.00062	Multi-Material Laser Print Spray Manufacturing of Microscale Structures: Shiqi Ma, Shubin Xie, Jouan Yu, Matthew McLaughlin
MAR-H00-10.00063	Coalescence study on polymer blend powders for powder bed fusion based Additive Manufacturing: Saifuddin Ahmed, Mark D Dadmun
MAR-H00-10.00064	Additive manufacturing of molecular architecture encoded stretchable polyethylene glycol hydrogels and elastomers: Baiqiang Huang, Myoem Kim, Pu Zhang, Emmanuel Oduro, Daniel A Rau, Liheng Cai
MAR-H00-10.00065	Modeling Flow and Morphology in Extrusion-Based 3D Printing of Semicrystalline Polymers: Nikolaos Kolezakis, Gregory C Rutledge, Geoffrey R Mitchell, Joao Matias, Pedro G Martinho, Paula Pascoal-Faria
MAR-H00-10.00066	Engineering Friction-Activated Biopolymer Microcapsules for Controlled Release of Lipophilic Material: Jahilit M Flores, Maria Calderon, Samiul Amin
MAR-H00-10.00067	Continuous Spun Fibers via Centrifugal Force Spinning: Louie Edano, Cheryl L Slykas, Vihar Trada, Carina D Martínez Narváez, Naveen Reddy, Vivek Sharma
MAR-H00-10.00068	Mechanisms of Alignment of Lamellar-Forming Block Copolymers under Shear Flow: Andrei Zvelindovsky, Marco Pinna, Javier Diaz, Christopher Denison, Ignacio Pagonabarraga
MAR-H00-10.00069	Molecular Orientation of Polymer Chains of Poly(ethylene 2,6-naphthalate) Determined Using Mueller Matrix Infrared Spectroscopic Ellipsometry: Rafal Korlacki, Nina Hong, James N Hilfiker, Craig Herzinger, Steve Green, Gerry Cooney
MAR-H00-10.00070	Impact of Lamellar Infill and Thickening on the Rigid Fraction of PLLA: Sindee L Simon, Logan Williams
MAR-H00-10.00071	Torsional Polymer Chains: Flexibility Mechanisms, Lifshitz Entropy, and Biaxial Orientational Order: Jiayi Huang, Artem M Romyantsev
MAR-H00-10.00072	Associative Polymers with Controlled Sticker Placement: How Reversible Bond Distribution and Density Govern Polymer Dynamics: Myoem Kim, Shalin Patil, Lutz Wiegart, Shiwang Cheng, Li-Heng Cai
MAR-H00-10.00073	Gelation kinetics of PVDF/GVL thermoreversible gels: Anuja S Jayasekara, Lily Buyea, Karin Wyatt, Peggy Cebe
MAR-H00-10.00074	Using Molecular Models and Recovery Rheology to Predict the Stress Response of Polymer Networks: Benjamin L Chiu, Jiachun Shi, Charles E Sing, Simon A Rogers
MAR-H00-10.00075	Nanocapsule Incorporation Strategies to Enhance Polymer Network Properties: Amanda S Rosario, Eleanor L Quirk, Pournima Narayanan, Daniel N Congreve, Danielle J Mai
MAR-H00-10.00076	Digital Light Processing of Multi-Materials with Extreme Stiffness Contrast: Divya Iyer, Nadia Chapple, Ikeoluwa Apata, Juan Manuel Urueña, Adarsh Krishnamurthy, Baskar Ganapathysubramanian, Craig J Hawker, Angela Pitenis, Michael L. Chabiny, Christopher M Bates
MAR-H00-10.00077	Tailoring Ionic Conductivity of Polymeric Ionic Liquid Block Copolymers through Morphology Control: Samuel Kpakpo Junior Kpakpo Junior Adotey, Gila E Stein, Yangyang Wang
MAR-H00-10.00078	Synthesis and properties of mono- and di-sulfonic acid polymers with precisely controlled substitutional positions: Sangyun Jin, Xuelang Gao, Moon Jeong Park

MAR-H00-10.00079	Leveraging the Photoresponse of Azobenzene to Induce Light-Triggered Modulation of Bulk Property Changes in Polymer Networks: Eun Suk Lee, Brandon C Jeong, Parham Ghasemianhangarani, Theresa Schoetz, Antonia Statt, Alexa S Kuentler
MAR-H00-10.00080	Phase Behavior of Anionic Polyelectrolytes Mediated by Divalent Cations: Jihoon Oh, Felipe S Carvalho, Decai Yu, Thomas Kalantar, Matthew Belowich, Zhen-Gang Wang
MAR-H00-10.00081	Lithium Transport Simulations in Glassy Zwitterionic Electrolytes Show No Superionic Conductivity: Pramudit Tripathi, Scott T Milner
MAR-H00-10.00082	On the origin of the slow mode and low q upturn in salt-free polyelectrolyte solutions: Carlos G Lopez
MAR-H00-10.00083	Phase Inversion Processing of PVDF-HFP Membranes for Enhanced Ionic Liquid Uptake, beta-Phase Content, and Electroactive Actuation: Nihad Ahmadli, Alamgir Karim, Hala Farghaly
MAR-H00-10.00084	Dynamic Bottlebrush Random Copolymers as Triggered Macromolecular Surfactants: Kyoungwon Lee, zichen jin, Xuchen Gan, Dupyo Jeon, Todd Emrick, Thomas P Russell
MAR-H00-10.00085	Rapid Self-Healing of Robust Surface-Tethered Covalent Adaptable Coatings: Bryan D Vogt, Jacob A Capets, Christian W Pester
MAR-H00-10.00086	Degradation Studies of Dielectric Materials Used in Space Environments: Ongun Ozcelik, Irem Bobrek, Ecem Bobrek, Tugay Kaya, Gozde Ince
MAR-H00-10.00087	Self-Assembly and Morphology Control in Janus Bottlebrush Block Copolymers: Stanley Koesman
MAR-H00-10.00088	Self-Assembly of End-functionalized Amphiphilic Block Copolymers: Namjun Kim, Moon Jeong Park
MAR-H00-10.00089	Reconciling Dynamic and Structural Scattering for Charged Nanoassemblies: Jacob Leonardo, Thomas Tarutin, Mu-Ping Nieh

**Tuesday, March 17, 2026 3:30 pm – 6:30 pm**

**Session MAR-J66: Additive Manufacturing of Soft Materials**

Sponsoring Units: DSOFD DPOLY

Chair: Christopher O'Bryan, University of Missouri

Room: Convention Center Bluebird 3B

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3:30PM–4:06PM	MAR-J66.00001: Morphogenic Growth 3D Printing Invited Speaker: Sameh H Tawfick
4:06PM–4:18PM	MAR-J66.00002: Multimaterial Morphogenic Growth Printing Brandon R Clarke, Yun Seong Kim, Donald Bistri, Ignacio Arretche, Derrick Sanders, Pranav Krishnan, Rohan Shah, Nancy Sottos, Phillipe Geubelle, Jeffrey S Moore, Jennifer A Lewis, Sameh H Tawfick
4:18PM–4:30PM	MAR-J66.00003: Strain Softening-Stiffening of Composite Hydrogels with Microfibrillar Networks Chenxian Xu, Yug C Saraswat, Mushtaq A Shaikh, Nazanin Shakoury, Pedro Henrique Wink Reis, Lilian C Hsiao
4:30PM–4:42PM	MAR-J66.00004: Bottom-Up Photonic Structuring through Flow-Directed 3D Printing of Liquid Crystalline Cellulose Inks Monirosadat (Sanaz) Sadati, Kyle George, Peter D Olmsted, Nader Taher-Qazvini
4:42PM–4:54PM	MAR-J66.00005: Determining Printability of Nanostructured Epoxy/Block Copolymer Blends for Direct Ink Writing Yu-Min Wang, Simon A Rogers, Daniel V Krogstad
4:54PM–5:06PM	MAR-J66.00006: Multi-Stimuli frontal polymerization of fiber distributed Polymeric composites for agile manufacturing A B M Tahidul Haque, Kamruzzaman Kanon, Sakshar Chowdhury, Easir Papon
5:06PM–5:18PM	MAR-J66.00007: Multi-material additive manufacturing of polymeric composite structures with seamless soft-hard interface integration from molecular bonding Emmanuel Oduro, Shahryar Ramezani Bajgiran, Daniel A Rau, Baiqiang Huang, Alexander Church, Li-Heng Cai
5:18PM–5:30PM	MAR-J66.00008: Data-Driven-Design: A Novel Approach for Use-Inspired Multi-material Design of Architected Lattices Amir Salahshoor
5:30PM–5:42PM	MAR-J66.00009: In-Process Printing and Magnetization of Ferromagnetic Elastomer with Localized Magnetic Profile for Anisotropic Actuation Daeha Joung, Phillip Glass, Sung Hyun Park
5:42PM–5:54PM	MAR-J66.00010: Ionogel Thin Films as Compatibilizing Pretreatments for Electro-spray Deposition Tejasvi K Venkat, Hannah Mow, Emily Li, Weronika Wasniowska, Ayman Rouf, Noah M McAllister, Zainab Al-Jaleel, Jonathan P Singer
5:54PM–6:06PM	MAR-J66.00011: Understanding effect of flow-induced crystallization in Fused Filament Fabrication (FFF)-printing of HDPE Yuvprakash Singh, Jay Hoon Park
6:06PM–6:18PM	MAR-J66.00012: A Comparative Study of Processing Protocol on an Atypical Heusler Alloy Fe <sub>2</sub> (V <sub>1-x</sub> W <sub>x</sub> ) Al Ming Yin, Timir - Datta, Aliou Gadjiko, Godwin Mbamalu, Mike Wescott

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**Tuesday, March 17, 2026 3:30 pm – 6:30 pm**

**Session MAR-J70: Soft and Living Matter in Complex Environments I**

Sponsoring Units: DSOF DSNP DBIO DPOLY

Chair: Amir Pahlavan, Yale University

Room: Convention Center Bluebird 3F

3:30PM–4:06PM	MAR-J70.00001: Transport and dynamics of swimming microorganisms in chaotic flows: a Lagrangian perspective Invited Speaker: Ranjiangshang Ran
4:06PM–4:18PM	MAR-J70.00002: Quiet within, chaos without: harnessing turbulence for function across scales Daquian Gao, Matteo Sabato, Sarah Chong, Yaocheng Li, Martin J Falk, Zhe Xu, stefano sacanna, William Irvine
4:18PM–4:30PM	MAR-J70.00003: Anisotropic friction induced stabilization and motion in isotropic active fluids Cody Dylan Schimming, Brian A Camley
4:30PM–4:42PM	MAR-J70.00004: Follow my lead: Bacterial trail in entangled polymer solutions Youngtak Koo, Heeyeol Lee, Joonwoo Jeong
4:42PM–4:54PM	MAR-J70.00005: Viscoelasticity of airway mucus by live-cell rheometry Cody Moose, Gerald G Fuller
4:54PM–5:06PM	MAR-J70.00006: Spontaneous localization of wave-dressed active particles in disordered environments Pedro J Saenz, Abel Abraham, Stepan Malkov, Frane Ljubetic, Matthew Durey
5:06PM–5:18PM	MAR-J70.00007: Nature-Inspired Scale-Rich Networks Achieving Near-Optimal Transport Itai Silber, Ting Ting Gao, Csaba Both, Niek Mooij, Jeffery E Raymond, Nicholas A Kotov, Albert-Laszlo Barabasi
5:18PM–5:30PM	MAR-J70.00008: Hyperuniformity in 2D disordered lattices of adult Arctic Ophiuroids Pranav Vyas, Ethan Li, Manu Prakash
5:30PM–5:42PM	MAR-J70.00009: Flagellar Dynamics and Entanglement of E. coli Bacteria in Polymeric Hydrogel Yong Wang, Diksha Shrestha, Deborah Okyere, Sam Mortenson, Jingyi Chen
5:42PM–5:54PM	MAR-J70.00010: Elasticity promotes directional transport of Pseudomonas aeruginosa in native human airway mucus and complex fluids Liheng Cai, Riley Dickson
5:54PM–6:06PM	MAR-J70.00011: Elasto-electro-hydrodynamics of a charged soft particle near a charged soft wall Anirban CHATTERJEE, Thomas Salez, Yacine Amarouchene
6:06PM–6:18PM	MAR-J70.00012: Topological separation of bacterial active matter Ran Tao, Georgios Gounaris, Eleni Katifori, Arnold JTM Mathijssen
6:18PM–6:30PM	MAR-J70.00013: More is different: Spatiotemporal distribution of aerotactic bacteria under confinement Minjun Kim, Joonwoo Jeong

**Wednesday, March 18, 2026 8:00 am – 11:00 am**

**Session MAR-L52: High Pressure Physics I**

Sponsoring Units: GCCM DMP DPOLY

Chair: Jean-Paul Davis, Sandia National Laboratories

Room: Convention Center Meeting Room 707/709

8:00AM–8:36AM	MAR-L52.00001: Optimization of multiphysics at extreme conditions with differentiable codes and agent-driven simulations Invited Speaker: William J Schill
8:36AM–8:48AM	MAR-L52.00002: On the robustness of DFT–Kubo–Greenwood DC conductivity in warm dense matter Dillon C Yost, Michael Paul Desjarlais, Nathan B Meezan, Scott M Davidson, Leland Ellison
8:48AM–9:00AM	MAR-L52.00003: Melting of carbon at extreme conditions Sergey Galitskiy, Azat Tipeev, Joseph M Gonzalez, Jonathan T Willman, Kien Nguyen-Cong, Ivan I Oleynik
9:00AM–9:12AM	MAR-L52.00004: Unveil structural effects on the DC conductivity of warm dense matter via terahertz spectroscopy and ultrafast electron diffraction Benjamin K Ofori-Okai, Adrien Descamps, Edna Rebeca R Toro Garza, Megan M Ikeya, Stephanie B Hansen, Mianzhen Mo, Andrew D Baczewski, Danielle Brown, Luke B Fletcher, Emma E McBride, Xiaozhen Shen, Anthea Weinmann, Jie Yang, Jochen Schein, Zhijiang Chen, Xijie Wang, Siegfried H Glenzer
9:12AM–9:24AM	MAR-L52.00005: High-precision, room-temperature pressure standards to 300+ GPa from ramp-compression experiments Jean-Paul Davis, Justin L Brown
9:24AM–9:36AM	MAR-L52.00006: Shock-ramp compression of Au pressure standard on the Z machine Hannah J Bausch, Jean-Paul Davis
9:36AM–9:48AM	MAR-L52.00007: Ultrafast x-ray studies of laser-driven non-equilibrium dynamics in network-modified silicate glasses Ankit Singh, Cunshuo Li, Emma Bernard, Scott Smith, Pooja Rao, Nushrat Naushin, Claudia Parisuana-Barranca, William Moore, Zhengxin Xie, Eric C Galtier, Philip Heimann, Bob Nagler, Michael J Messerly, Arianna E Gleason, Meera Madhavi, Roopali Kukreja
9:48AM–10:00AM	MAR-L52.00008: Metal emissivity under dynamic compression Dan Dolan
10:00AM–10:12AM	MAR-L52.00009: Mechanisms of Laser Driven Shocks in Tamped Materials Harry B Radousky, Michael R Armstrong, Mathieu Bailly-Grandvaux, Julia S Dominesey, Javier E Garay, Alamgir Mondal, Ozgur Culfa, Patrick G LaChapelle, Shien-del Gamberberg, Suzanne J Ali, Farhat N Beg

**Wednesday, March 18, 2026 8:00 am – 11:00 am**

**Session MAR-L55: Transport in Polymers**

Sponsoring Units: DPOLY

Chair: Karen Winey, University of Pennsylvania; Benjamin Paren, Stevens Institute of Technology

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Room: Convention Center Bluebird 1B

8:00AM–8:36AM	MAR-L55.00001: Engineering ion selectivity in polymer membranes Invited Speaker: Venkat Ganesan
8:36AM–9:12AM	MAR-L55.00002: Ion Transport in Cation-Exchange Membranes: Structure-Hydration Interplay Invited Speaker: Ahmet Kusoglu
9:12AM–9:48AM	MAR-L55.00003: Interfacial and intradomain effects on transport in copolymer and inorganic-polymeric ion conductors Invited Speaker: Louis A Madsen
9:48AM–10:24AM	MAR-L55.00004: Ion and Water Transport in Polyelectrolyte Membranes Invited Speaker: Hee Jeung Oh
10:24AM–11:00AM	MAR-L55.00005: Charge Transport in Solid-State Composite Polymer Electrolytes Containing Charge-Transfer Complexes Invited Speaker: Jennifer L Schaefer

**Wednesday, March 18, 2026 8:00 am – 11:00 am**

**Session MAR-L62: Physics of Liquids and Glasses**

Sponsoring Units: DSNP DPOLY DCP

Chair: Tom Burkart, Massachusetts Institute of Technology

Room: Convention Center Bluebird 2F

8:00AM–8:12AM	MAR-L62.00001: Particle-scale origin of quadrupolar non-affine displacement fields in granular solids Weiwei Jin, Evan Willmarth, Dong Wang, Amit Datye, Udo Dietmar Schwarz, Mark D Shattuck, Corey O’Hern
8:12AM–8:24AM	MAR-L62.00002: Quadrupolar non-affine displacement fields in sheared two-dimensional Lennard-Jones glasses Evan Willmarth, Weiwei Jin, Mark D Shattuck, Corey S OHern
8:24AM–8:36AM	MAR-L62.00003: Finite compressibility and strain hardening in elasto-plastic models of amorphous matter. Craig E Maloney, Ahmed Elgailani, Damien Vandembroucq
8:36AM–8:48AM	MAR-L62.00004: Nonaffine motion of highly polydisperse emulsions in a quasi-2D L-shaped chamber Aikun Wang, Waad Paliwal., Eric R Weeks
8:48AM–9:00AM	MAR-L62.00005: Hysteresis, aging, return-point memory, energy dissipation, congruence, and avalanches in uniaxially stressed bi-dispersed frictional disks Robert Everett Ecke, Mahesh M Bandi
9:00AM–9:12AM	MAR-L62.00006: Nonreciprocal spin-glass transition and aging Giulia Garcia Lorenzana, Raphael Urfin, Ada Altieri, Michel Fruchart, Giulio Biroli, vincenzo vitelli
9:12AM–9:24AM	MAR-L62.00007: Relaxation rate fluctuations in glass-forming liquids Horacio E Castillo, Collin Collins, George Matsumura, Rajib K Pandit
9:24AM–9:36AM	MAR-L62.00008: Local rheology of granular flows is controlled by granular temperature Jacob B Hodges, Abe H Clark
9:36AM–9:48AM	MAR-L62.00009: Mechanically-ultrastable jammed sphere packings with a wide range of polydispersities Robert Scott Hoy, Parker Hewitt
9:48AM–10:00AM	MAR-L62.00010: Effect of Dipole Asymmetry on Interfacial Ion Distribution in Polar Fluids Ananya Venkatachalam, Samuel Lee Varner, Pierre J Walker, Bilin Zhuang, Zhen-Gang Wang
10:00AM–10:12AM	MAR-L62.00011: Exploring Liquid Silica with Deep Machine Learning Potentials Mingyuan Zheng, Jiaxing Yuan
10:12AM–10:24AM	MAR-L62.00012: Conditioning Hydrodynamic Brownian Motion Jason R Boynewicz, Michael C Thumann, Mark G Raizen
10:24AM–10:36AM	MAR-L62.00013: Effect of the DPD model parameters on the transport properties of ionic liquid Young Jin Lee, Qin M Qi

**Wednesday, March 18, 2026 8:00 am – 11:00 am**

**Session MAR-L65: New Perspectives on Gel Networks: Combining Rheology with Structural and Spectroscopic Tools**

Sponsoring Units: DPOLY DSOF

Chair: Guilhem Baeza, Université Jean Monnet; Thibaut Divoux, CNRS

Room: Convention Center Bluebird 3A

8:00AM–8:36AM	MAR-L65.00001: 3D volumetric rheometry of gel networks using optical coherence tomography and digital volume correlation Invited Speaker: Stephane Avril
8:36AM–9:12AM	MAR-L65.00002: NMR-based molecular rheology and structural characterization of model gels Invited Speaker: Kay Saalwaechter
9:12AM–9:24AM	MAR-L65.00003: Understanding polymer–colloid gels: a solvent perspective using low-field NMR Léo Hervéou, Gauthier Legrand, Thibaut Divoux, Guilhem P Baeza
9:24AM–9:36AM	MAR-L65.00004: LAOStrain response of carbon black-polymer hydrogels: insights from rheo-TRUSAXS and rheo-electric experiment Gauthier Legrand, Guilhem P Baeza, William Chèvremont, Sebastien Manneville, Thibaut Divoux
9:36AM–9:48AM	MAR-L65.00005: Hierarchical ABA triblock hydrogels: Midblock entanglement governs mechanics Sathika B Arachchige, Robert J Hickey
9:48AM–10:00AM	MAR-L65.00006: Breaking Down ‘Tough’ Colloidal Gels: A Close-Up View Savannah D Gowen, Florence Müller, Pierre Lehericey, Jan Vermant
10:00AM–10:12AM	MAR-L65.00007: Complexation of Hyaluronic Acid with Peptide-Based Supramolecular Hydrogel: Kinetic Pathway Dictates Electrostatic Complex Properties Haozhe Zheng, Aderonke O Ajongbolo, Sigrid A Langhans, Darrin J Pochan
10:12AM–10:24AM	MAR-L65.00008: Ionic modulation of IPN formation and recovery in hyaluronic acid/kappa-carrageenan hydrogels: Insights from echo-DWS microrheology, bulk rheology and FTIR Foluso Adeosun, Cindy Rivera, Valentina de Gennaro, Yael Faroud Rivera, Samiul Amin
10:24AM–10:36AM	MAR-L65.00009: Elastic recoil and inertia-driven dynamics upon shear cessation of conductive carbon black gels: a rheo-XPCS study Gunwoo Park, Dominik S Schmidt, Bart-Jan Niebuur, Lola González-García
10:36AM–10:48AM	MAR-L65.00010: Unraveling the Impact of Mechanism and Stoichiometry on Network Heterogeneity in Thiol-Ene Photopolymerizations Rithwik Ghanta, Brandon C Jeong, Alexa S Kuentler, Antonia Statt
10:48AM–11:00AM	MAR-L65.00011: Microscopic Relaxations of Polystyrene Solutions Cross-Linked by Dynamic Imine Bonds Dana Ezzeddine, Ralm G Ricarte

Wednesday, March 18, 2026 8:00 am – 11:00 am

**Session MAR-L67: Polymer Physics Insights from Computational, Theoretical, and Data-Driven Methods I**

Sponsoring Units: DPOLY

Chair: Joshua Lequieu, Drexel University; Rajeev Kumar, Oak Ridge National Laboratory

Room: Convention Center Bluebird 3C

8:00AM–8:12AM	MAR-L67.00001: Unifying Polymer DFT with SCFT and DPD: Phase behavior and self-assembly of associating polymers Walter G Chapman, Maximo Estrada, Nanning Jaeschke
8:12AM–8:24AM	MAR-L67.00002: Exploring Novel Block Copolymer Microstructures via Reciprocal-Space Niching Genetic Algorithms and Self-Consistent Field Theory Sheng-Jer Chen, Le-Chi Lin, Hsiu-Yu Yu
8:24AM–8:36AM	MAR-L67.00003: SoftDFT: Classical Density Functional Theory for Predicting the Structure and Thermodynamics of Complex Fluids Alejandro A Gallegos, Jianzhong Wu
8:36AM–8:48AM	MAR-L67.00004: Molecular closure to the PRISM equation derived from nonlinear response theory James Donley
8:48AM–9:00AM	MAR-L67.00005: Universality of the Perturbative Definition of the Flory-Huggins Parameter Artem Petrov, Guillermo Alejandro Hernandez-Mendoza, Alfredo Alexander-Katz
9:00AM–9:36AM	MAR-L67.00006: Topological transitions in Reversible and Active Hydrogels Invited Speaker: Friederike Schmid
9:36AM–9:48AM	MAR-L67.00007: Fluctuation/Correlation Effects on Block Copolymer Self-Assembly Vugar Hajizada, Akshay Malik, Qiang Wang
9:48AM–10:00AM	MAR-L67.00008: Including polymer stiffness, ion solvation, and glass transition temperature differences in a coarse-grained model of solid polymer electrolytes Yuanhao Zhang, Lisa M Hall
10:00AM–10:12AM	MAR-L67.00009: General equilibration of macromolecular systems by Kuhn-scale mapping and dynamic backmapping Jacob K Metcalfe, Michael A. Webb, Ryan J Szukalo
10:12AM–10:24AM	MAR-L67.00010: Architecture-Dependent Compatibilization in Immiscible Polymer Blends via Molecular Simulations Sangyeop Lee, Vikram Thapar, Jinhyuk Joo, Kihong Choi, Joona Bang, Myungeun Seo, Su-Mi Hur
10:24AM–10:36AM	MAR-L67.00011: Scattering from Melts of Combs and Bottlebrushes: Molecular Dynamics Simulations, Theory and Experiments. Andrey V Dobrynin, Zilu Wang, Claire J Wang, Emilie A Moses, Akmal Umarov, Dimitri A Ivanov, Sergei S Sheiko
10:36AM–10:48AM	MAR-L67.00012: Critical Micelle Concentration of Multiblock Copolymer Micelles in Immiscible Homopolymer Blends Cyrus A Watrin, Benjamin R. Magruder, Ashutosh K Nehete, Frank S Bates, Kevin D Dorfman
10:48AM–11:00AM	MAR-L67.00013: Behavior of a Grafted Flexible Homopolymer Under Applied Force John M Smith

**Wednesday, March 18, 2026 8:00 am – 11:00 am**

**Session MAR-L68: Fundamentals and Applications of Polymer Composites and Nanocomposites I: Properties**

Sponsoring Units: DPOLY DSOFIT

Chair: Christian Aponte-Rivera, Syracuse University; Spiros Anastasiadis, FORTH

Room: Convention Center Bluebird 3D

8:00AM–8:36AM	MAR-L68.00001: Superhydrophobic and Water-Repellent Coatings with Dual-scale Roughness based on MXene/Polymer Nanocomposites Invited Speaker: Spiros H Anastasiadis
8:36AM–8:48AM	MAR-L68.00002: Development of Non-Fluorinated Superhydrophobic Polymer Coatings Kiriaki Chrissopoulou, Erta Petsi, Fanourios Krasanakis, Minas M Stylianakis, Spiros H Anastasiadis
8:48AM–9:00AM	MAR-L68.00003: Dry-processed thick cathodes in polymer-based solid-state lithium-ion batteries Yunlong Guo
9:00AM–9:12AM	MAR-L68.00004: Solvation and Surface Effects in MOF-Polymer Interfaces Adam R Hinkle, Matthew Browe, Ivan O Iordanov, Thomas P Pearl
9:12AM–9:24AM	MAR-L68.00005: Ultrahigh Energy Density Dielectric Capacitor based on 2D MXene-PVDF Heterostructure Pallavi B Jagdale, Rohit Ranjan Srivastava, Roshan Padhan, James Fitzpatrick, Yury Gogotsi, Anupma Thakur, Babak Anasori, Anirudha V Sumant, Nihar R Pradhan
9:24AM–9:36AM	MAR-L68.00006: Tailoring the self-assembly of multilayer polymer grafted nanocube thin films Sherrie Qian
9:36AM–9:48AM	MAR-L68.00007: Characterization of Polymer Adsorption and Interfacial Structure in Nanocomposites via Polarized Resonant Soft X-ray Scattering Katelyn Randazzo, Daniel F Sunday, Dean M DeLongchamp
9:48AM–10:00AM	MAR-L68.00008: Soft-AE: Enabling accessible autonomous exploration of conducting polymer and nanocomposite systems Pavel Shapturenka, Christopher W Johnson, Minki Lee, Chinedum O Osuji
10:00AM–10:12AM	MAR-L68.00009: Effect of nanoparticles on the deformation-induced crystallization of polymers Qingchu Yang, Juncheng Zheng, Shiwang Cheng
10:12AM–10:24AM	MAR-L68.00010: Self-assembled disordered hyperuniformity in polymer-grafted nanoparticle thin films Derek E Huang, Murray Skolnick, Kyoungweon Park, Kenya Hazell, Salvatore Torquato, Andrew Gillman, Lawrence Drummy
10:24AM–10:36AM	MAR-L68.00011: Tuning the Mechanics of Soft Particle-Polymer Composites Through Granule Chemistry Shirlaine Juliano, Jasmine Samniego, Ian M Lillie, Geraldine Ramirez, Peter M Iovine, Rae M Robertson-Anderson
10:36AM–10:48AM	MAR-L68.00012: Rheological Behavior of Polymer-Grafted Silica Nanomaterials Embedded in Ice Matrices Kevin Kayang, Shoumik Saha, Dilip Gersappe
10:48AM–11:00AM	MAR-L68.00013: Phase Change–Liquid Metal Elastomer Composites as Multifunctional Thermal Interface Materials Andrea Mikulášová, Ethan Krings, Jesse Lee Kuebler, Lucia Fernandez-Ballester, Eric Markvicka

**Wednesday, March 18, 2026 12:00 pm – 3:00 pm**

**Session MAR-M65: Dillon Medal Symposium**

Sponsoring Units: DPOLY

Chair: Michael Rubinstein, Duke University

Room: Convention Center Bluebird 3A

12:00PM–12:36PM	MAR-M65.00001: Physics of architecturally complex polymers and networks Invited Speaker: Liheng Cai
12:36PM–12:48PM	MAR-M65.00002: Latches and Bottlebrush Poroelasticity for Amplified Movement in Soft Matter Alfred J Crosby, Nolan Miller, Xiaona M Xu, Gregory M Grason
12:48PM–1:00PM	MAR-M65.00003: Shear alignment of ABC bottlebrush triblock terpolymers Tim P Lodge, Shuquan Cui, Christopher J Ellison, Frank S Bates
1:00PM–1:12PM	MAR-M65.00004: Hierarchical Dynamics in Bottlebrush Polymers Shiwang Cheng, Juncheng Zheng, Baiqiang Huang, Liheng Cai
1:12PM–1:24PM	MAR-M65.00005: Direct Observation of Polymer Chain Tumbling in Entangled Solutions Under Shear Flow Charles M Schroeder
1:24PM–1:36PM	MAR-M65.00006: Deformation Morphologies of Polymeric Materials at Extreme Rates Edwin L Thomas
1:36PM–1:48PM	MAR-M65.00007: Active polymers Steve Granick, Qi Pan, Tian Haun, Yining Gan
1:48PM–2:00PM	MAR-M65.00008: David A Weitz
2:00PM–2:12PM	MAR-M65.00009: Transport Properties of Hydrogels with Structural Anisotropy Eugenia Kumacheva
2:12PM–2:24PM	MAR-M65.00010: Selective ion transport in uniform sub-nm pores in polymer membranes Chinedum O Osuji
2:24PM–2:36PM	MAR-M65.00011: A coherent state field theory for gelation of f-arm star polymers Jian Qin, Daniel Vigil, Glenn H Fredrickson
2:36PM–2:48PM	MAR-M65.00012: Interdisciplinary Polymer and Data Science Graduate Training by Bringing Contemporary Industry Problems into the Classroom Arthi Jayaraman
2:48PM–3:00PM	MAR-M65.00013: The Effective Coordination Number Distribution: An Insightful Property to Understand Interaction Parameters Alfredo Alexander-Katz

**Wednesday, March 18, 2026 12:00 pm – 3:00 pm**

**Session MAR-M67: Assembly of Biopolymers and Soft Matter**

Sponsoring Units: DPOLY DSOF

Chair: Yasemin Basdogan, University of Rochester

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Room: Convention Center Bluebird 3C

12:00PM–12:36PM	MAR-M67.00001: Delay Session Start
12:36PM–12:48PM	MAR-M67.00002: Dielectric Characterization of Moringa Seed-Derived Mo-CBP3 Protein Souleymane Diallo, Huat Thart Chiang
12:48PM–1:00PM	MAR-M67.00003: Nonlinear Electrophoresis of DNA in Moderately Confining Nanofluidic Slits Lia Meladze, Stephen Levy
1:00PM–1:12PM	MAR-M67.00004: Can a MARTINI-like coarse-grained model describe nanoplastic-lipid membrane interactions? Anderson D. S. Duraes, Caleb Liu, Wenlin Zhang
1:12PM–1:24PM	MAR-M67.00005: Linker-mediated binding of multivalent nanoparticles: towards superselective and ultrasensitive biomarker detection Ran Ni
1:24PM–1:36PM	MAR-M67.00006: Regulating Shape of Biopolymer Liquid Crystal Droplets Megan Janquart, Kimberly L Weirich
1:36PM–1:48PM	MAR-M67.00007: Mechanical modulation of photo-responsive DNA-PEG biosynthetic composites Ashlee D McGovern, Shaina Hughes, Ian M Lillie, Lola Fadairo, Wynter Paiva, Nathan Oldenhuis, Rae Robertson-Anderson
1:48PM–2:00PM	MAR-M67.00008: Self-Assembly Dynamics of Chemically Driven Multicomponent Systems Moritz Obenauer, William M Jacobs
2:00PM–2:12PM	MAR-M67.00009: Simulations of interacting colloids using a Stochastic Kinetic Theory Gaurang Shukla, Patrick T Underhill
2:12PM–2:24PM	MAR-M67.00010: Coarse-Grained Modeling of Fluids and Polymer-Gas Systems Using Differentiable Molecular Dynamics Krishnendu Mukherjee, Zidan Zhang, Mohammed G Hashim, Ali Hayek, Husain H Naji, Zainab A Aithan, Jihad A Badra, Venkat Ganesan
2:24PM–2:36PM	MAR-M67.00011: Characterization of thickness dependent morphology in nanoconfined PS/PLA polymer blended thin films Eric Lin, Brenna Ren, Kaden Ren, Zhixing Huang, Miriam Rafailovich
2:36PM–2:48PM	MAR-M67.00012: Charge Regulation in Supramolecular Polymers Christopher Balzer, Glenn H Fredrickson

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**Wednesday, March 18, 2026 12:00 pm – 3:00 pm**

**Session MAR-M68: Charged Polymers and Polymer ILs**

Sponsoring Units: DPOLY

Chair: Jason Madinya, University of Delaware; Youngmin Lee, New Mexico Institute of Mining and Technology

Room: Convention Center Bluebird 3D

12:00PM–12:36PM	MAR-M68.00001: Delay Session Start
12:36PM–12:48PM	MAR-M68.00002: Theory of the molecular factors that control activated ion transport and decoupling in polymerized ionic liquids Ken S Schweizer, Ankita Das
12:48PM–1:00PM	MAR-M68.00003: Effect of Electrostatics on the Structural and Dynamic Properties of Polyzwitterions Qinyu Zhu, Rajeev Kumar
1:00PM–1:12PM	MAR-M68.00004: Role of Cation Size and Dipolar motion Restriction in the Viscosity of Polymerized Ionic Liquids Jester N Itliong, Amalie L Frischknecht, Mark J Stevens, Issei Nakamura
1:12PM–1:24PM	MAR-M68.00005: Ionically Modulated PIMs: Balancing Mobility and Cohesion for Optimal Self-Healing and Stiffness Fatemeh Sabokroozrozbahani, Jason E Bara, Jihong A Ma
1:24PM–1:36PM	MAR-M68.00006: Impact of the Ionic Liquids-Initiated Curing Mechanisms on Epoxy Polymeric Networks Yu-Min Wang, Daniel V Krogstad
1:36PM–1:48PM	MAR-M68.00007: Dynamics of Adsorbed Counterions of Surface-Anchored Polyelectrolytes Jiang Zhao
1:48PM–2:00PM	MAR-M68.00008: Combination of Atomistic Simulations and Density Functional Theory Calculations for Probing the Binding of Multi-atomic Counterions to Densely Grafted Polyelectrolyte Brushes Siddhartha Das, Raashiq Ishraaq
2:00PM–2:12PM	MAR-M68.00009: Theory of collective charge transport and the inverse Haven ratio in polymerized ionic liquids and glasses Ankita Das, Kenneth Steven Schweizer, Catalin P Gainaru, Alexei P Sokolov
2:12PM–2:24PM	MAR-M68.00010: Like-charge attraction and association in polyelectrolyte solutions Amruthesh Thirumalaiswamy, Francis W Starr, Jack F Douglas
2:24PM–2:36PM	MAR-M68.00011: Anomalous guest polymer behavior within complex coacervates Shensheng Chen, Zongpei Wu, Júlia Bonesso Sabadini, Pierre J Walker, Zhen-Gang Wang, Watson Loh, Sarah L Perry
2:36PM–2:48PM	MAR-M68.00012: Free Energy and Kinetics of Polymer Translocating Through Nanopore: Simulation and Theory Bhavesh R Sarode, Harshwardhan H Katkar
2:48PM–3:00PM	MAR-M68.00013: Impact of Li-Salt Doping on the Dynamics of Imidazolium-Based Polymerized Ionic Liquids Mohanad Abdullah, Gaukhar Toletay, Michelle L Lehmann, Joshua T Damron, Ivan Popov, Catalin P Gainaru, Alexei P Sokolov

Wednesday, March 18, 2026 12:00 pm – 3:00 pm

**Session MAR-M70: Soft and Living Matter in Complex Environments III**

Sponsoring Units: DSOF DSNP DPOLY DBIO

Chair: Ranjiangshang Ran, Emory University

Room: Convention Center Bluebird 3F

12:00PM–12:36PM	MAR-M70.00001: Diffusiophoretic Transport of Colloids in Complex Environments: from soil to the oceans Invited Speaker: Mobin Alipour
12:36PM–12:48PM	MAR-M70.00002: Biogenic bubbles enable long-range microbial dispersal Babak Vajdi Hokmabad, Thomas Appleford, Hao Nghi Luu, Meera Ramaswamy, Maziyar Jalaal, Sujit S Datta
12:48PM–1:00PM	MAR-M70.00003: Shear and Confinement Control Bacterial Accumulation in Narrow Ducts Andy S Garcia-Gordillo, Ameya Gajanan Prabhune, Nuris Figueroa-Morales
1:00PM–1:12PM	MAR-M70.00004: Multimodal sperm motility and surface navigation across diverse flow regimes Mengna Liu
1:12PM–1:24PM	MAR-M70.00005: Tunable Double Yielding in Bacterial Biofilms Laura Elizabeth Gowlovech Porath, Samuel Charlton, Jan Vermant, Eleonora Secchi
1:24PM–1:36PM	MAR-M70.00006: Controlling the formation of bacterial biofilms using solute gradients Ali Nikkhah, Sangwoo Shin
1:36PM–1:48PM	MAR-M70.00007: Scaling and Structure in Underwater Environments and Octopus Camouflage Leenoy Meshulam, Ariel Wu, Giovanni D Mazucci, Keishu Asada, Maxime Hamon, Sam Reiter
1:48PM–2:00PM	MAR-M70.00008: Liquefying the granular material: how limbless sand dollars achieve self-reorienting feat Qinglin Wu, Yuwei Wu, Zexiang Huang, Yufei Xiao, Jianing Wu, Saad Bhamla
2:00PM–2:12PM	MAR-M70.00009: How Do Biofilms Evolve to Endure Metal-rich Environments? Jenna Stanislaw, Kōnane Bay, Cresten Mansfeldt
2:12PM–2:24PM	MAR-M70.00010: 3D confinement physically regulates cell cycle progression in budding yeast Tapomoy Bhattacharjee, M Sreepadmanabh, Mridul Gautam, Nikita Bagade, Sunil Laxman
2:24PM–2:36PM	MAR-M70.00011: De Novo Emergence of Minimal Protocellular Compartments Nayan Chakraborty, Shashi Thutupalli
2:36PM–2:48PM	MAR-M70.00012: Patterns in tight spaces: The role of confinement in driven matter. Pamud Akalanka Bethmage, Ryker Fish, Brennan Sprinkle, Michelle M Driscoll
2:48PM–3:00PM	MAR-M70.00013: Polymer in a bath of chemical reaction Qi Pan, Steve Granick

**Wednesday, March 18, 2026 3:30 pm – 6:30 pm**

**Session MAR-P55: Structure and Properties of Ionic Polymer Solutions and Electrolytes**

Sponsoring Units: DPOLY

Chair: Artem Rumyantsev, North Carolina State University; Aman Agrawal, University of Chicago

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Room: Convention Center Bluebird 1B

3:30PM–4:06PM	MAR-P55.00001: Ionic Correlations in Polymer Nanostructures: From Charged Block Copolymers to Supramolecular Ionic Crosslinking Invited Speaker: Zhen-Gang Wang
4:06PM–4:42PM	MAR-P55.00002: Glass Transitions in Polyelectrolyte Complex Materials Invited Speaker: Sarah L Perry
4:42PM–5:18PM	MAR-P55.00003: Polymers in Ionic Solvents: Effects of Limited Hydration Invited Speaker: Svetlana A Sukhishvili
5:18PM–5:54PM	MAR-P55.00004: Active Protein–RNA Polyelectrolyte Condensates: Structure, Rheology, and Non-Equilibrium States Invited Speaker: Priya R Banerjee
5:54PM–6:30PM	MAR-P55.00005: Effects of electrostatics on charged macromolecules: single-chain conformation, multi-chain aggregation and solution thermodynamics Invited Speaker: Rui Wang

**Wednesday, March 18, 2026 3:30 pm – 6:30 pm**

**Session MAR-P65: Block Copolymers, Polymers and Biomacromolecules at Interfaces**

Sponsoring Units: DPOLY DSOF

Chair: Reza Foudazi, University of Oklahoma; Whitney Loo, University of Wisconsin - Madison

Room: Convention Center Bluebird 3A

3:30PM–3:42PM	MAR-P65.00001: Interfacial Phase Separation of Polymers and Polymer-Grafted Nanoparticles: "Lily Pads" at Liquid Interfaces Katelynn O'Donnell, Alexander E Ribbe, Thomas P Russell, David Hoagland
3:42PM–3:54PM	MAR-P65.00002: Ionizable Polymer Thin Films at the Water Interface Ernestine Akorlor, Dvora Perahia, Gary S Grest
3:54PM–4:06PM	MAR-P65.00003: Interfacial behavior of linear, ring, and [2]catenane PEO at the water/vapor interface Qishun Xu, Mesfin Tsige
4:06PM–4:18PM	MAR-P65.00004: Deformation of block copolymer nanoparticles at air/water interfaces Seyoung Kim, Sangyoon Kim, Xinzhe Jin, Nafisa Arfa, Daniel J Fesenmeier, You-Yeon Won
4:18PM–4:54PM	MAR-P65.00005: Modeling Lipid-Block Copolymer Phase Separation and Mixing Behavior Invited Speaker: Antonia Statt
4:54PM–5:06PM	MAR-P65.00006: Importance of Polymer Chain Conformation in Lipid-Block Copolymer Hybrid Membranes James F Tallman, Antonia Statt
5:06PM–5:18PM	MAR-P65.00007: Predicting bio-corona-induced adsorption and uptake of nanoplastics Wenlin Zhang, Anderson D. S. Duraes
5:18PM–5:30PM	MAR-P65.00008: Developing a Nano-Mechanical Probe for Polymer Thin Films using Photoactive Azo Dyes Alphin Joseph Maliyekkal Joshy, William A Presson, Connie Barbara Roth
5:30PM–5:42PM	MAR-P65.00009: Collective chain packing of flexible linear amorphous polymers at polymer-solid interfaces Yashasvi Bajaj, Zhixing Huang, Jan-Michael Y Carrillo, Mesfin Tsige, Maya Endoh, Tadanori Koga
5:42PM–5:54PM	MAR-P65.00010: Interfacial Adhesion Mechanism of Polyelectrolyte Brushes Induced by Oppositely Charged Polycations Matthew V Tirrell, Jinwoo Park
5:54PM–6:06PM	MAR-P65.00011: Selectivity of Gold Nanoparticle Adsorption in a Weak Polyelectrolyte Brush Controlled Through Grafting Density Changes Katie Sun, Zixuan Lin, Russell J Composto, Karen I Winey
6:06PM–6:18PM	MAR-P65.00012: Plant-based Proteins and Gums Dictate Rheology of Plant Milks Vivek Sharma, Lena Hassan, Karim Al Zahabi, Ece N Bayraktar, Nadia Nikolova
6:18PM–6:30PM	MAR-P65.00013: Copolymer compatibilizer sequence effects on polymer interfaces across a range of $\chi$ Amanda R Sharrer, David S Simmons

Wednesday, March 18, 2026 3:30 pm – 6:30 pm

**Session MAR-P67: Polymer Physics Insights from Computational, Theoretical, and Data-Driven Methods II**

Sponsoring Units: DPOLY

Chair: Tianyi Jin, Massachusetts Institute of Technology; Artem Petrov, Massachusetts Institute of Technology

Room: Convention Center Bluebird 3C

3:30PM–3:42PM	MAR-P67.00001: Kinetic Modeling of Crosslinked Thiol-yne Polymerizations Jamison Barcelona, Yunfeng Hu, Christopher N Bowman
3:42PM–3:54PM	MAR-P67.00002: Geometric Theory of Elastic Curves Bounded on Non-Euclidean Surfaces Fahim Bin Selim, Nadir Kaplan
3:54PM–4:06PM	MAR-P67.00003: Rapid neural network prediction of linear copolymer melt free energies Ian Chen, Alfredo Alexander-Katz
4:06PM–4:18PM	MAR-P67.00004: A Multi-Scale Theory of Electro-Viscoelasticity in Polymer Melts Zachary Wolgram, Jeffrey G Ethier, Matthew J Grasinger
4:18PM–4:30PM	MAR-P67.00005: Molecular Insights into the Interfacial and Mechanical Behaviors of Functional Polymers Wenjie Xia
4:30PM–5:06PM	MAR-P67.00006: Designing Bottlebrush Networks: Where Theory, Simulations, and AI Meet Forensics Invited Speaker: Andrey V Dobrynin
5:06PM–5:18PM	MAR-P67.00007: Theory and Simulation Studies of the Self-Assembly of Pentablock Copolymer Melts Tristan Myers, Sojung Park, Arthi Jayaraman
5:18PM–5:30PM	MAR-P67.00008: Determining orbital localization from chain conformation in amorphous Polyethylene, using supervised learning methods Max Pierre, Fritjof Nilsson, Mikael Hedenqvist, Mikael Unge
5:30PM–5:42PM	MAR-P67.00009: Effects of Solvent Entropy on Homopolymer Cononsolvency in Binary Solvent Mixtures Predicted by Flory-Huggins Theory Damin Bian, Pengfei Zhang, Baohui Li, Qiang Wang
5:42PM–5:54PM	MAR-P67.00010: AMDAT: Amorphous Molecular Dynamics Analysis Toolkit David S Simmons, Pierre Kawak, William F Drayer
5:54PM–6:06PM	MAR-P67.00011: Microcanonical Analysis of Adsorption Transitions for Branching Polymer-Substrate Systems Binghao Tian, Michael Bachmann
6:06PM–6:18PM	MAR-P67.00012: Developing a Minimal Model for the Coil-Helix Transition Karthik C Sinha, Alexey A Gavrillov, Artem M Romyantsev
6:18PM–6:30PM	MAR-P67.00013: DPD Visualization of Reaction-Induced Phase Separation in a Novel PPE/Thermosetting Resin System Shoko Mishima, Kaho Shibasaki, Nobuhiro Ishikawa, Yoshiaki Kawagoe, Tomonaga Okabe

Wednesday, March 18, 2026 3:30 pm – 6:30 pm

**Session MAR-P68: Fundamentals and Applications of Polymer Composites and Nanocomposites II: Structure and Dynamics**

Sponsoring Units: DPOLY

Chair: Michael Bockstaller, Carnegie Mellon University; Jan-Michael Carrillo, Oak Ridge National Laboratory

Room: Convention Center Bluebird 3D

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3:30PM–4:06PM	MAR-P68.00001: Nanoparticle Diffusion in Polymer Melts and Hydrated Polymers Invited Speaker: Karen I Winey
4:06PM–4:18PM	MAR-P68.00002: Mechanistic tradeoffs between low-strain reinforcement and high-strain cavitation in elastomeric nanocomposites Harshad Bhapkar, Pierre Kawak, David S Simmons
4:18PM–4:30PM	MAR-P68.00003: Modeling the Dielectric Relaxation in Semicrystalline Polymers – Understanding the Role of the Interphase between the Amorphous and Crystalline Domains Valeriy Ginzburg
4:30PM–4:42PM	MAR-P68.00004: Influence of Grafted Polymers on Translational and Rotational Diffusion of Au Nanorods Michael J. A. Hore, Nehal Nupnar, Abigail E Hovorka, Andrew M Joyce, Mithun K Debnath, Patrick Barrett, Metin Karayilan, Kiril A Strelitzky
4:42PM–5:18PM	MAR-P68.00005: Dispersing Nanofillers and Tuning Their Interfaces with Matrix Polymers in Nanocomposites: A Molecular Dynamics Perspective Invited Speaker: Shengfeng Cheng
5:18PM–5:30PM	MAR-P68.00006: How topological polymer loops on the nanoparticle surface control the mechanical properties of nanocomposites Tad Koga, Xiaoran Wang, Yashasvi Bajaj, Maya Endoh, Jan-Michael Y Carrillo, Tomomi Masui, Hiroyuki Kishimoto, Naresh C Osti, Jürgen Allgaier, Margarita Kruteva, Dieter Oswald Richter, Michihiro Nagao
5:30PM–5:42PM	MAR-P68.00007: Tailoring Mechanical and Viscoelastic Properties of Polymer Nanocomposites via Tuning Nanofiller Configuration Zhaoxu Meng, Zhangke Yang
5:42PM–5:54PM	MAR-P68.00008: Polymer Dynamics and Nanoscale Structure in Nanocomposites for Cement Application Benjamin A Paren, Weina Meng, Lucka Mai, Lena Lopes, Yuhuan Wang, Nusrath Jaha
5:54PM–6:06PM	MAR-P68.00009: Graft Density as a Design Parameter for Dynamics and Flow of Neat Poly(dimethylsiloxane) Grafted Silica Nanoparticles. Pavan Polisetty, Gary Germanton, Subramanian Ramakrishnan, Daniel T Hallinan
6:06PM–6:18PM	MAR-P68.00010: Shear-Induced Behavior of Nanocomposite Hydrogels Using Molecular Dynamics Simulations Shoumik Saha, Dilip Gersappe
6:18PM–6:30PM	MAR-P68.00011: New insight into the mechanism underlying the Payne Effect - In operando X-ray photon correlation spectroscopy study Xiaoran Wang, Leonidas Tsapatsaris, Lutz Wiegart, Tomomi Masui, Hiroyuki Kishimoto, Maya Endoh, Tad Koga

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**Thursday, March 19, 2026 8:00 am – 11:00 am**

**Session MAR-S55: Polymers at Interfaces: Thermodynamics and Transport Phenomenon**

Sponsoring Units: DPOLY

Chair: Whitney Loo, University of Wisconsin - Madison; Reza Foudazi, University of Oklahoma

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Room: Convention Center Bluebird 1B

8:00AM–8:36AM	MAR-S55.00001: The Role of Interactions Between Photoresists and Underlayers in EUV Lithography Invited Speaker: Daniel F Sunday
8:36AM–9:12AM	MAR-S55.00002: Designing single chain nanoparticles with protein-like interfacial behavior: insights from in-silico experiments Invited Speaker: Alfredo Alexander-Katz
9:12AM–9:48AM	MAR-S55.00003: Polymer Zwitterions at Semiconductor Interfaces - From Nanocrystals to 2D Surfaces Invited Speaker: Todd Emrick
9:48AM–10:24AM	MAR-S55.00004: Invited speaker on "Polymers at Interfaces: Thermodynamics and Transport Phenomenon" Invited Speaker: Jan Vermant
10:24AM–11:00AM	MAR-S55.00005: Thermodynamics of multiblock polymers at immiscible polymer/polymer interfaces Invited Speaker: Kevin D Dorfman

**Thursday, March 19, 2026 8:00 am – 11:00 am**

**Session MAR-S65: Progress in Advanced Characterization and Machine Learning Tools for Polymers**

Sponsoring Units: DPOLY

Chair: Jeffrey Ethier, Air Force Research Laboratory (AFRL); Yasemin Basdogan, University of Rochester

Room: Convention Center Bluebird 3A

8:00AM–8:36AM	MAR-S65.00001: Extracting knowledge from polymeric data via AI Invited Speaker: Debra J Audus
8:36AM–8:48AM	MAR-S65.00002: SEEDPoly: A Latent Embedding-Based Screening Framework for Polymer Design Yasemin Basdogan
8:48AM–9:00AM	MAR-S65.00003: Active Learning–Driven Design of Disordered Proteins Across Coarse-Grained Models Zachary G Lipel, Wesley Oliver, Michael A. Webb
9:00AM–9:12AM	MAR-S65.00004: Theory-Informed Machine Learning of Star and Polymer-Grafted Nanoparticle Solution Phase Behavior Charles Li, Jeffrey G Ethier, Debra J Audus
9:12AM–9:24AM	MAR-S65.00005: AI Agents for Topological Polymer Simulations and Small-Angle Scattering Analysis Lijie Ding, Jan-Michael Y Carrillo, Changwoo Do
9:24AM–9:36AM	MAR-S65.00006: Automating SAXS Curve Fitting with Machine Learning: A Scalable Workflow for Nanoscale Structural Analysis Christian Dietert, Jose L Banuelos, Jorge Alberto Munoz
9:36AM–10:12AM	MAR-S65.00007: Unraveling Nonequilibrium and Cooperative Dynamics in Soft Materials through Advanced XPCS, Rheology, and AI-Driven Analysis Invited Speaker: Wei Chen
10:12AM–10:24AM	MAR-S65.00008: Synchrotron X-Ray Mapping on Flow-Induced Crystallized Polymers Xiaoshi Zhang, Benson J Jacob, Jason Daniel Alexander, Ryan Flanigan, Kirt Page, Arthur Woll, Ralph H Colby, Alicyn M Rhoades
10:24AM–10:36AM	MAR-S65.00009: Nanometer-Scale Chain Orientation Transitions during Fracture of High-Density Polyethylene Characterized by Nanodiffraction Imaging Shusuke Kanomi, Hiroshi Jinnai
10:36AM–10:48AM	MAR-S65.00010: PRIMA: Photothermal Resonant Infrared Mechanical Analysis Lukas Michalek, Carina Yi Jing Lim
10:48AM–11:00AM	MAR-S65.00011: A Small Angle Scattering Method for Quantifying Interparticle Interaction Ranges in Monoclonal Antibody Solutions Chelsea E Edwards, Yun Liu

Thursday, March 19, 2026 8:00 am – 11:00 am

**Session MAR-S67: Organic Electronics & Photonics**

Sponsoring Units: DPOLY

Chair: Kyungtae Kim, Los Alamos National Laboratory (LANL); Youngmin Lee, New Mexico Institute of Mining and Technology

Room: Convention Center Bluebird 3C

8:00AM–8:36AM	MAR-S67.00001: Deep Blue Phosphorescent OLEDs: Can Organics Live Long Enough at High Energies to be Useful? Invited Speaker: Stephen R Forrest
8:36AM–8:48AM	MAR-S67.00002: Investigation of Microcavity Effect on Exciton-Polaron Quenching in Organic Light-Emitting Devices Yicheng Liu, Russell J Holmes
8:48AM–9:00AM	MAR-S67.00003: Detecting Molecular Orientation in Organic Photovoltaic Thin Films using Infrared Spectroscopic Ellipsometry Rafal Korlacki, Katherine Trinkaus, Nina Strasser, Nina Hong, James N Hilfiker, Karin Zojer, Moritz K Riede
9:00AM–9:12AM	MAR-S67.00004: The Photoexcited Mechanism of PM6:Y6 Organic Bulk Heterojunction Elizabeth Obiageri Udeh, Kushal Rijal, Neno Fuller, Saryu Saryu, Fatima M Lariz, Wai-Lun Chan
9:12AM–9:24AM	MAR-S67.00005: Memristive Properties of Ni–DNA Thin-Film Devices SHIN YI WANG, YU-SHAN TIEN, Yu-Chun Lin, Kuan-Cheng Lu, Chia-Yu Chang, Wen-Bin Jian, Yu-Chang Chen, Chia-Ching Chang
9:24AM–9:36AM	MAR-S67.00006: Probing Spin Transport in Open-Shell Organic Macromolecules for Spintronic Devices Jayant Naga, Bryan W Boudouris
9:36AM–9:48AM	MAR-S67.00007: Understanding the role of entropy and electron delocalization in triggering spontaneous charge separation at organic donor-acceptor interfaces Brian Palmer, Stephanie M Amos, Hartwin Peelaers, Wai-Lun Chan
9:48AM–10:00AM	MAR-S67.00008: Temperature trends of carrier transport in doped conjugated polymers Zlatan Aksamija, Muhamed Duhandzic
10:00AM–10:12AM	MAR-S67.00009: Organic Thin Film Transistors for Sustainable Electronics Sneha Chaudhary, Sanjiv Sambandan
10:12AM–10:24AM	MAR-S67.00010: Modeling electrical conductivity in porphyrin-based covalent organic frameworks COFs. Ahlam Maghfori, Yuanxi Wang, Bimal Neupane
10:24AM–10:36AM	MAR-S67.00011: Percolation by brush architecture: A pathway towards soft electronics Josiah Marshall, Zilu Wang, Liang Yan, Wei You, Andrey V Dobrynin, Sergei S Sheiko, Akmal Umarov, Ioannis Moutsios, Dimitri A Ivanov
10:36AM–10:48AM	MAR-S67.00012: Structural Effects on Conductivity in Open-Shell Macromolecules Yun-Fang Yang, Baiju P Krishnan, Hyunki Yeo, Bryan W Boudouris
10:48AM–11:00AM	MAR-S67.00013: Metal Bistriflimide Doping of MEH-PPV: Linking Ionic Crosslinking to Enhanced Conductivity and Stability Seth W McPherson, Yeh-Chuan Cho, Insoo Shin, Stephen A Maclean, Dmytro Nykypanchuk, Tai-De Li, Chieh-ting Lin, Jaemin Kong, Jason A Röhr, Andre D Taylor

Thursday, March 19, 2026 8:00 am – 11:00 am

**Session MAR-S68: Fundamentals and Applications of Polymer Composites and Nanocomposites III: Polymer-Inorganic Hybrids and Applications**

Sponsoring Units: DPOLY DSOFT

Chair: Boyce Chang, Iowa State University; Gregory Doerk, Brookhaven National Laboratory (BNL)

Room: Convention Center Bluebird 3D

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8:00AM–8:12AM	MAR-S68.00001: Post polymerization solvent effect on conducting polyaniline and electromagnetic interference shielding effectiveness in X-band regime Ruchika Sharma, Dwijendra P. Singh
8:12AM–8:24AM	MAR-S68.00002: Novel Flexible Dielectric and Ionic Electroactive Actuators for Soft robotics Hala Farghaly, Alamgir Karim, Nancy Pollard, Justin Smith
8:24AM–8:36AM	MAR-S68.00003: Polymer Nanobandage for Patterned Healing and Doping of Graphene Defects Matthew D Mellor, Claire Senger, Thomas P Russell, Todd Emrick, Reika Katsumata
8:36AM–8:48AM	MAR-S68.00004: Metal Oxide-Polymer Hybrid Material Synthesis via Metal Nitrate Infiltration and Decomposition Gregory S Doerk, Austin Dick, Beatrice Bellini, Xiao Tong, Kim Kisslinger, Ashley R Head, Carlos E Colosqui, Sanat K Kumar
8:48AM–9:00AM	MAR-S68.00005: Structure and Dynamics in Single-Ion Conducting Polymer Blends for Sodium-Ion Electrolytes Mengyi Ba, Thomai Andreopoulos, Devin Aron, Tylor Housel, Patryk Wasik, Benjamin A Paren
9:00AM–9:12AM	MAR-S68.00006: Crystallization kinetics of EMAA ionomers neutralized with zinc, and sodium cations Anuja S Jayasekara, Keegan T Watkins, Brian P Grady, Xiaoshi Zhang
9:12AM–9:24AM	MAR-S68.00007: Divalent ion identity tunes nanoscale ordering in single-ion conducting polymer blends Hsin-Ju (Jenny) Wu, Whitney S Loo, Aidiel Ikmal Bin Abu Hassan, Benjamin S Bossman
9:24AM–9:36AM	MAR-S68.00008: Controlled Self-Assembly of PPE-PDMS Block Copolymers: From Synthesis to Morphological Analysis Riku Takahashi, Kan Hatakeyama-Sato, Yuta Nabae, Teruaki Hayakawa
9:36AM–9:48AM	MAR-S68.00009: Silicon-Containing Hydrocarbon Polymers Prepared via Hydrosilylation Exhibiting Ultralow Dielectric Loss from 10 GHz to 75 GHz Yuka Azuma, Riku Takahashi, Natsuko Sashi, Kan Hatakeyama-Sato, Yuta Nabae, Ririka Sawada, Shinji Ando, Teruaki Hayakawa
9:48AM–10:00AM	MAR-S68.00010: Silicon-Containing Semi-Aromatic Polyimides incorporating Double-Decker Silsesquioxane for low dielectric properties Natsuko Sashi, Erina Yoshida, Hayato Maeda, Kan Hatakeyama-Sato, Riku Takahashi, Yuta Nabae, Ririka Sawada, Shinji Ando, Teruaki Hayakawa
10:00AM–10:36AM	MAR-S68.00011: Design, synthesis, and properties of polymer-cross-linked metal-organic cages/polyhedra Invited Speaker: Jeremiah Johnson
10:36AM–10:48AM	MAR-S68.00012: Molecular and Structural Engineering of Single Li <sup>+</sup> Ion Conducting Covalent Organic Framework Electrolytes for High-Performance Solid-State Lithium-Metal Batteries Chang Yun Son, Hye Ryung Byon
10:48AM–11:00AM	MAR-S68.00013: Well-Ordered Nanohybrids with Network Structure for Metamaterials Chien Chen, Ke-Hsin Yin, Jui-Chang Chuang, Chang-Chun Lee, Rong-Ming Ho, Yi-Ting Xie

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**Thursday, March 19, 2026 12:00 pm – 3:00 pm**

**Session MAR-U55: Machine Learning-Accelerated Materials Innovation**

Sponsoring Units: DPOLY

Chair: Kimberly Chaffin, Medtronic; Esther Tsai, Brookhaven National Laboratory

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Room: Convention Center Bluebird 1B

12:00PM–12:36PM	MAR-U55.00001: Accelerating Discovery and Design for Thin Film Polymer Self-Assembly through Machine Learning Invited Speaker: Gregory S Doerk
12:36PM–1:12PM	MAR-U55.00002: Combinatorial Polymer Design: From Flow-Driven Structure to Structure-Driven Flow Invited Speaker: Michael A. Webb
1:12PM–1:48PM	MAR-U55.00003: Invited Speaker: Wiliam Schertzer
1:48PM–2:24PM	MAR-U55.00004: Tangible Successes from Polymer Informatics Invited Speaker: Kenneth Kroenlein
2:24PM–3:00PM	MAR-U55.00005: Advancing Polymer Innovation with Polybot: An AI-Guided Robotic Laboratory Invited Speaker: Jie Xu

**Thursday, March 19, 2026 12:00 pm – 3:00 pm**

**Session MAR-U65: Polymer Structure, Morphology, and Self-Assembly**

Sponsoring Units: DPOLY

Chair: Reza Foudazi, University of Oklahoma; Whitney Loo, University of Wisconsin - Madison

Room: Convention Center Bluebird 3A

12:00PM–12:12PM	MAR-U65.00001: Phase behavior and dynamics of charge-neutral AB, ABA, and BAB block ionomer melts Shuyi Xie, Chia-Chi Tsai
12:12PM–12:24PM	MAR-U65.00002: Influence of Molecular Architecture on the Dynamics of Block Copolymer Chains at Equilibrium Suwon Bae
12:24PM–12:36PM	MAR-U65.00003: Enhanced Electromechanical Responses in Films Containing Charged Di-block Copolymers Rajeev Kumar, Panagiotis Christakopoulos, Jong Keum
12:36PM–12:48PM	MAR-U65.00004: Kinetics of Formation and Fusion of Block Copolymer Particles in Solvent Andrei Zvelindovsky, Javier Diaz, Marco Pinna, Ignacio Pagonabarraga
12:48PM–1:00PM	MAR-U65.00005: Controlling the Non-Conventional Self-Assembly of Charged Block Copolymer Thin Films Sang Hyun Choi, So Youn Kim
1:00PM–1:12PM	MAR-U65.00006: Simulating network phase formation in diblock bottlebrush copolymers Luyang Li, Kevin D Dorfman
1:12PM–1:24PM	MAR-U65.00007: Architecture-driven surface conformations of backbone dictate folded morphology in bottlebrush amphiphiles Kireeti Akkunuri, Thi Vo
1:24PM–1:36PM	MAR-U65.00008: Chiral Phases with Controlled Handedness from Block Copolymer Self-Assembly Induced by Chiral Small Molecules Sheng-Wei Shao, Yung-Chuan Chuang, Jing-Cherng Tsai, Eiji Yashima, Rong-Ming Ho
1:36PM–1:48PM	MAR-U65.00009: Brute Force Investigation of Complex Branched Block Copolymers to Stabilize Network Phases Daeseong Yong
1:48PM–2:00PM	MAR-U65.00010: Leveraging Shape and Interactional Anisotropy to Enhance Structural Control During Block Polymer Folding Yulu Teng, Thi Vo
2:00PM–2:12PM	MAR-U65.00011: Controlling the Hierarchical Porosity and Nanostructure of Polyethylene using Amphiphilic Additives Niloofer Afshari, Inna Yusnita Khairani, Manuel Häußler, Benjamin A Paren
2:12PM–2:24PM	MAR-U65.00012: Rational design of thermally reprocessable microphase-separated ionomer with creep resistance and recoverability Chia-Chi Tsai, Shuyi Xie
2:24PM–2:36PM	MAR-U65.00013: Machine Learning-Enhanced First Principles Inverse Design of Anion Exchange Membrane Morphology and Performance Justin Tahmassebpur, Mariel Tader, Héctor D Abruña, Tomas A Arias
2:36PM–2:48PM	MAR-U65.00014: Effect of Shear Flow and Precursor Polymer Design on Single-Chain Nanoparticle Formation Matthew Chertok, Howard A Stone, Michael A. Webb
2:48PM–3:00PM	MAR-U65.00015: Block copolymer membrane fabrication via EISA and NIPS Marcus Müller

**Thursday, March 19, 2026 12:00 pm – 3:00 pm**

**Session MAR-U67: Structure and Dynamics of Glasses**

Sponsoring Units: DPOLY DSNP

Chair: Camille Bishop, Wayne State University; Kushal Bagchi, Rice University

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Room: Convention Center Bluebird 3C

12:00PM–12:36PM	MAR-U67.00001: Why Do Polymeric Glass-Forming Liquids Tend to Have a Relatively High Segmental Fragility? Invited Speaker: Jack F Douglas
12:36PM–12:48PM	MAR-U67.00002: Kinetically arresting surface-directed phase separation in vapor-deposited glasses A. T. M. Mahbub Alahe, Thomas J Ferron, Camille Bishop
12:48PM–1:00PM	MAR-U67.00003: Depth-profiling molecular composition and orientation in vapor-deposited glasses using polarized resonant soft X-ray reflectivity Thomas J Ferron, A. T. M. Mahbub Alahe, Camille Bishop
1:00PM–1:12PM	MAR-U67.00004: Exploring The Relationship Between Stability and Anisotropy in Vapor Deposited Stable Glasses Juliana I Bonilla, Richard Stephens, Charles Carroll, Peng Luo, Rose K Cersonsky, Sarah E Wolf, Lisa Omulo, Patryk Wasik, Zahra Fakhraai
1:12PM–1:24PM	MAR-U67.00005: The role of elastic barriers in glass vitrification Zahra Fakhraai, Peng Luo, Sarah E Wolf, Shivajee Govind, Richard Stephens, Aixi Zhang, Juliana I Bonilla
1:24PM–1:36PM	MAR-U67.00006: Factors that Influence Long-Range Dynamical Gradients in Glasses and How They May Be Understood by Acoustic Waves Connie Barbara Roth, Alexander A Couturier, James H Merrill, David B Cai, Justin C Burton
1:36PM–1:48PM	MAR-U67.00007: Inherent structure energy as the descriptor of mobility in glass formers Grigori A Medvedev, Jack C Yungbluth, James M Caruthers
1:48PM–2:00PM	MAR-U67.00008: Terahertz electrodynamics of ionic transport in AgI-AgPO <sub>3</sub> glasses Jennifer S Freedberg, Joe Maduzia, Ranveer Singh, Changjun Lee, Andias Santoso, Placid M Ferreira, Fahad Mahmood
2:00PM–2:12PM	MAR-U67.00009: Crystallization from orientationally ordered supercooled liquids Kushal Bagchi, Lingyu Wang, Nurjahan Khatun
2:12PM–2:24PM	MAR-U67.00010: Reproducing classic Kovacs experiments on polydisperse hard sphere system James M Caruthers, Jack C Yungbluth, Grigori A Medvedev
2:24PM–2:36PM	MAR-U67.00011: The origin of sound damping in glasses: Defects and beyond Grzegorz Szamel, Elijah Jude Flenner
2:36PM–2:48PM	MAR-U67.00012: Instantons in a Prototypical Mean-field RFOT Model Patrick Charbonneau, Tomaso Rizzo, Giampaolo Folena, Francesco Zamponi, Enrico M Malatesta

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**Thursday, March 19, 2026 12:00 pm – 3:00 pm**

**Session MAR-U68: Transport Phenomena in Polymer Membranes: Experimental**

Sponsoring Units: DPOLY DSOF

Chair: Hee Jeung Oh, Pennsylvania State University

Room: Convention Center Bluebird 3D

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12:00PM–12:36PM	MAR-U68.00001: Leveraging the unusual polymer physics of grafted nanoparticles to design improved gas separation membranes Invited Speaker: Sanat K Kumar
12:36PM–12:48PM	MAR-U68.00002: Mechanisms underlying Organic Solute Selectivity of Zwitterionic Ligand Functionalized Polymer Membranes Kazuya Morishita, Ashleigh Herrera, Nafiseh Khoshnevisan, Ying Zheng, Zidan Zhang, Ayse Asatekin, Venkat Ganesan
12:48PM–1:00PM	MAR-U68.00003: Water channel structure and ion conductivity in simulations of precise anion exchange membranes Karen I Winey, William F Drayer, William A Presson, Alexandra Whittle, Nadia Z Singleton, Justin G Kennemur, Amalie L Frischknecht
1:00PM–1:12PM	MAR-U68.00004: Multiscale understanding of ion and water transport in weak polyelectrolyte membranes for sustainable technologies Yongha Kim, Hee Jeung Oh
1:12PM–1:24PM	MAR-U68.00005: Understanding Ion Transport and Selectivity of Lanthanide Series in Zwitterionic Polymer Membranes Ying Zheng, Nafiseh Khoshnevisan, Kazuya Morishita, Zidan Zhang, Ayse Asatekin, Venkat Ganesan
1:24PM–1:36PM	MAR-U68.00006: Nanoscale Structure–Conductivity Relationships in Hydrated Anion Exchange Membranes with Aromatic Backbones Xinyu Guo, Sariah Marth, Yui Koyama, Ramali C. Walgama, Chulsung Bae, Benjamin A Paren
1:36PM–1:48PM	MAR-U68.00007: Mechanistic Insights into Ion Transport and Selectivity in Membrane embedded Ligand-Appended Pillar[5]arene and Pillar[6]arene Channels Siqi Wang
1:48PM–2:00PM	MAR-U68.00008: Tuning the permeability and selectivity in polymer-grafted nanoparticle membranes for gas separations Maninderjeet Singh, Sanat K Kumar
2:00PM–2:12PM	MAR-U68.00009: Sorption and Diffusion of Ionic Chemotherapy Drugs in Charged Biosponge Block Copolymer Membranes Akshay Krishnam, Yongha Kim, Luis Felipe Caspari Thiele, Hee Jeung Oh
2:12PM–2:24PM	MAR-U68.00010: SISV tetrablock terpolymers as a universal material platform for co-designing the mechanical and transport properties of membranes Adam Nathan Mann, Noah P Wamble, Louise Kuehster, Ben J Pedretti, Jose C Diaz, Glenn H Fredrickson, Gregory M Su, Nathaniel A Lynd, Benny D Freeman, Gabriel E Sanoja
2:24PM–2:36PM	MAR-U68.00011: Solvation and ion transport within nanoporous polymers derived from lyotropic mesophases Christopher W Johnson, Chinedum O Osuji, Amish J Patel, Karen I Winey, Jessica Anna, Lizhu Zhang, Ranadeb Ball
2:36PM–2:48PM	MAR-U68.00012: Granular double networks as a platform for mechanically tough facilitated transport membranes for olefin/paraffin separations Tiffany Jeng, Aaliyah Z Dookhith, Jackson Frazier, Gabriel E Sanoja

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**Thursday, March 19, 2026 3:30 pm – 6:30 pm**

**Session MAR-W65: Non-Equilibrium Structures of Polymeric Materials**

Sponsoring Units: DPOLY DSOFT DSNP

Chair: Yangyang Wang, Oak Ridge National Laboratory; Shiwang Cheng, Michigan State University

Room: Convention Center Bluebird 3A

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3:30PM–3:42PM	MAR-W65.00001: Dynamic Photothermal Control of Ion Transport in Azobenzene-Based Polymer Networks Eun Suk Lee, Brandon C Jeong, Parham Ghasemianhangarani, Theresa Schoetz, Antonia Statt, Alexa S Kuenstler
3:42PM–3:54PM	MAR-W65.00002: Dissipative Interfacial Supramolecular Polymerization Zhiqin Xia, Paul D Ashby, Brett A Helms, Thomas P Russell
3:54PM–4:06PM	MAR-W65.00003: Environmental dynamic wrinkling in crack-free PDMS bilayers Joao Tavares Cabral, Christopher M Stafford, Zain Ahmad, Jack F Douglas
4:06PM–4:18PM	MAR-W65.00004: Influence of protocol history on shape memory effects in polymers SEBANTI CHATTOPADHYAY, Nathan C Keim, Patrick T Mather
4:18PM–4:30PM	MAR-W65.00005: Polarization and Ion Transport in Poly(ionic liquid)-Grafted Nanoparticles Pinar Akcora, Ruhao Li, Leon Smook, Sissi de Beer
4:30PM–5:06PM	MAR-W65.00006: Non-equilibrium film surface assemblies from chemically distinct block copolymer micelles Invited Speaker: Ulrich Wiesner
5:06PM–5:18PM	MAR-W65.00007: Ionic Clustering and Nonlinear Flow Response in Sulfonated Diblock Copolymers: A Molecular Dynamics Study Rosita Sivaraj, Dvora Perahia, Gary S Grest
5:18PM–5:30PM	MAR-W65.00008: Process-directed micro- and macrophase separation in diblock copolymer blends Jiayu Xie, Marcus Müller
5:30PM–5:42PM	MAR-W65.00009: Time-resolved small-angle neutron scattering investigation of induced demixing of a polymer blend under large-amplitude oscillatory shear Yangyang Wang, Malcolm Cochran, Changwoo Do, Wei-Ren Chen
5:42PM–5:54PM	MAR-W65.00010: Elongational Flow of Ring Polymer Melts with Associating Groups John Mark Bracewell, Thomas C O'Connor, Dvora Perahia, Gary S Grest
5:54PM–6:06PM	MAR-W65.00011: NEMD Simulations of Shear-Induced Orientation Switching in Smectic Liquid Crystal Elastomers Jan-Michael Y Carrillo, Jin-Hyeong Lee, Michael Li, Lijie Ding, Suk-kyun Ahn
6:06PM–6:18PM	MAR-W65.00012: Liquid Crystal Elastomers for Frameless and Directional Dielectric Elastomer Actuators Justin M Speregen, Timothy J White

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**Thursday, March 19, 2026 3:30 pm – 6:30 pm**

**Session MAR-W67: Interactions, Dynamics, and Self-Assembly of Macromolecules in Solution**

Sponsoring Units: DPOLY DSOFD DSNP

Chair: Shayna Hilburg and Chelsea Edwards, NIST

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Room: Convention Center Bluebird 3C

3:30PM–3:42PM	MAR-W67.00001: Chain Connectivity Contributions to Many-Body Interactions and Osmotic Pressure in Polymer Solutions Hao Guo, Brian Chan, Michael Rubinstein
3:42PM–3:54PM	MAR-W67.00002: Electrostatic and Hydrogen-Bond Interactions in End-Functionalized Polymer Brushes: Molecular-Scale Insights from Simulations Prapti Kakkar, Arnau J Romero, Surya Mallapragada, Alex Travesset
3:54PM–4:06PM	MAR-W67.00003: Random heteropolymers enable non-specific protein binding and loop-mediated stabilization Tianyi Jin, Akorfa Dagadu, Connor W Coley, Alfredo Alexander-Katz
4:06PM–4:42PM	MAR-W67.00004: Connecting Sequence, Conformation, and Dynamics in Synthetic Polymers Invited Speaker: Abigail Knight
4:42PM–4:54PM	MAR-W67.00005: Regulating the self-assembly of rigid sphere-rod amphiphiles via. the side-chain length: coarse-grained molecular dynamics informed by all-atom data Farzad Toiserkani, YIFAN ZHOU, Mesfin Tsige, Tianbo Liu
4:54PM–5:06PM	MAR-W67.00006: Amphiphilic interactions drive clustering in organic semiconductors Christine LaPorte Mahajan, Enrique D Gomez, Scott T Milner
5:06PM–5:18PM	MAR-W67.00007: Diffusometric Fingerprinting of Geometrically Similar Amphiphilic Molecular Assemblies Radhakrishna Sureshkumar, Mohammad Samie
5:18PM–5:30PM	MAR-W67.00008: Concentration-Driven Slowdown of Chain-Exchange Kinetics in Block Copolymer Micelle Solutions Evan Danielson, Taehyoung Kim, Joanna Marie White, Benjamin R. Magruder, Frank S Bates, Tim P Lodge
5:30PM–5:42PM	MAR-W67.00009: Polyelectrolyte probe diffusion in dilute and concentrated poly(4-styrene sulfonate) solutions with and without added salt Paul S Russo, Paul Balding, Alyssa M Blake, Yimin Mao, Rachel Borrelli, Miriam Siebenbuerger
5:42PM–5:54PM	MAR-W67.00010: Spontaneous Sphere to Vesicle Transition of Block Copolymer Micelles in an Ionic Liquid Yash A Nandola, Tim P Lodge
5:54PM–6:06PM	MAR-W67.00011: A coarse-grained molecular dynamics model for polyrotaxane based 3D printable hydrogels: At equilibrium and under steady shear Cameron David Smith, Wenlin Zhang
6:06PM–6:18PM	MAR-W67.00012: Viscosity Maximum with Temperature in Solutions of Methacrylate-Based Comb Copolymers Yukai Shi, Wei Zhang, Braeden Dilworth, Nga Nguyen, Ronald Lewis III, Ewan Galbraith, Tim P Lodge, Frank S Bates

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**Thursday, March 19, 2026 3:30 pm – 6:30 pm**

**Session MAR-W68: Transport Phenomena in Polymer Membranes: Computational**

Sponsoring Units: DPOLY DSOF

Chair: Hee Jeung Oh, Pennsylvania State University

Room: Convention Center Bluebird 3D

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3:30PM–4:06PM	MAR-W68.00001: Relationships between Water Domain Morphology and Diffusivity in Hydrated Ion-conducting Polymers Invited Speaker: Amalie L Frischknecht
4:06PM–4:18PM	MAR-W68.00002: Interplay of polymer hydrophilicity and charge density on water and ion solubility in hydrated polymer membranes Paul Robert Irving, Connor Coolidge, Soham Rane, Benny D Freeman, Venkat Ganesan
4:18PM–4:30PM	MAR-W68.00003: Simulations reveal flow-induced compaction in membranes Saiprasad Gochhayat, Scott T Milner
4:30PM–4:42PM	MAR-W68.00004: Using chemical heterogeneity and selective attractions to manipulate molecular transport in polymer liquids and networks Gopika Krishnan, Kenneth Steven Schweizer
4:42PM–4:54PM	MAR-W68.00005: Field-driven Simulations to Probe the Impact of Ionic Correlations on Solution Transport Coefficients in Binary, Ternary and Reciprocal Quaternary Aqueous Electrolytes Nico Marioni, Akhila Rajesh, Zidan Zhang, Benny D Freeman, Venkat Ganesan
4:54PM–5:06PM	MAR-W68.00006: Nonequilibrium Simulation of Gas Transport in Glassy Polymer Membranes Sam J Layding, Entao Yang, Zachary Wilson, Junyi Liu, Yi Ren, Pluton Pullumbi, Robert A Riggelman
5:06PM–5:18PM	MAR-W68.00007: Decoupling Polymer Rigidity and Penetrant Size Effects on Transport in Hydrated Membrane Systems using Coarse-Grained Simulations Soham Rane, Paul Robert Irving, Venkat Ganesan, Benny D Freeman
5:18PM–5:30PM	MAR-W68.00008: A Molecular Dynamics Model of Interfacial Polymerization: Growth and Properties of Polyamide Membranes Cody Hawthorne, Scott T Milner
5:30PM–5:42PM	MAR-W68.00009: Developing Cu <sup>2+</sup> -Selective Pressure Driven Enrichment Technology Using IDA-Functionalized Membranes Fiona Chen, Abdullah Alazmi, Ravindra Saxena, Rafael Verduzco
5:42PM–5:54PM	MAR-W68.00010: Mechano-Diffusion of Anisotropic Particles in Deformed Polymer Networks Jie Ma, shaoting lin
5:54PM–6:06PM	MAR-W68.00011: Impact of Relative Concentration of Sulfonate and Carboxylate Groups on Transport Properties in Ion-Exchange Membranes Akhila Rajesh, Jose C Diaz, Nico Marioni, Gregory M Su, Benny D Freeman, Venkat Ganesan
6:06PM–6:18PM	MAR-W68.00012: Impact of Zwitterionic Polymer Chemistry and Alkali Metal Identity on the Ion Transport Dynamics of Polymer-Supported Ionic Liquid Electrolytes Meron Y. Tadesse, Trisha Gorusu, Nico Marioni, Zidan Zhang, Kazuya Morishita, Venkat Ganesan
6:18PM–6:30PM	MAR-W68.00013: Ion Transport in Nanostructured Block Copolymer Membranes for Ion-Selective Separations Luis Felipe Caspari Thiele, Ralph H Colby, Hee Jeung Oh

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# Thank you

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