



DPOLY

Division of Polymer Physics

2018

**MARCH 5 - 9
LOS ANGELES, CA**

DPOLY Short Course on Polymer Gels and Networks

Saturday, March 3 1:00 p.m. - 6:00 p.m.

Sunday, March 4 8:15 a.m. - 5:00 p.m.

Room 409AB, Los Angeles Convention Center

Overview

The DPOLY short course will provide an overview of the basics and special topics in polymer physics of gels and networks, an important topic for both complex fluids and soft materials. The first day will focus on fundamentals of network synthesis and self-assembly for chemically and physically crosslinked networks with examples taken from hydrogels and elastomers, on the theoretical foundations of transient networks and on the basics of rubber elasticity including large strain behavior and fracture from the molecular to the macroscopic level. The second day will discuss topics at the forefront of current research in the field with a more experimental view of the rheology of dynamic networks, recent advances in the relation between network architecture and elasticity, an overview of molecular and mesoscopic simulations methods applied to networks and current challenges, a lecture on liquid crystalline elastomers and self-assembled networks, and finally three more application related lectures on methods for toughening gels and elastomers and a selective presentation of more specific application related to properties in both the biomedical field and the tire industry. The organizers have limited the number of speakers on purpose to be able to allocate enough time to each speaker to give a pedagogical presentation.

Who Should Attend

Students, postdocs, faculty and industrial researchers who are interested in learning about the synthesis, characterization and application of polymer gels, elastomers and soft networks.

Organizers

Professor Costantino Creton (ESPCI Paris) and Bradley Olsen (Chemical Engineering, MIT)

Confirmed Speakers

- Stephen Craig, Duke University
- Kenji Urayama, Kyoto Tech
- Kenneth Shull, Northwestern University
- Michael Rubinstein, Duke University
- Ralph Colby, Penn State University
- Brad Olsen, MIT
- Ge Ting, University of North Carolina
- Julie Kornfield, Caltech
- Sarah Heilshorn, Stanford
- Costantino Creton, ESPCI Paris
- Chris Robertson, Endurica

Cover image: Optical micrograph of a surface-attached hydrogel thin film undergoing creasing and delamination. Image collected by Dayong Chen and Copyright 2018, VISUAL, University of Massachusetts Amherst.

DPOLY SPECIAL EVENTS

DPOLY Reception

Sunday, March 4, 6:00-9:00pm
Karl-Strauss Brewing Company
600 Wilshire Blvd., Los Angeles

Soft Matter Reception for DPOLY and GSOFT

Tuesday, March 6, 6:45-8:00pm
Platinum E Ballroom
J.W. Marriott Los Angeles
900 West Olympic Blvd., Los Angeles

DPOLY Award Lectures

Polymer Physics Prize

Juan de Pablo
“The interplay between elasticity, defect structure, and motion in active nematic polymers”
Tuesday, March 6, 8:00am – 8:36am (Session E59)
Petree Hall D

Dillon Medal

Bradley Olsen
“Skipping Polymer Physics”
Tuesday, March 6, 2:30pm – 3:06pm (Session H59)
Petree Hall D

Frank J. Padden Award Finalists

Tuesday March 6, 11:15am – 1:27pm (Session F55)
Room 515A

DPOLY Business Meeting

Session J55: Tuesday, March 6, 5:45pm – 6:45pm
Room 515A

NSF Polymers Q&A and Decadal Workshop Summary

Session J65: Tuesday, March 6, 6:45pm – 7:45pm
Room 515A

The information provided in this booklet is unofficial and is accurate as of 1/31/2018. For official information, please refer to the APS March Meeting Program online (<http://meetings.aps.org/Meeting/MAR18>). **The online program takes precedence in case of any conflicts with printed materials.**

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Monday, March 5, 2018, 8:00 am – 11:00 am

Session A43: Focus Session: Polymer Crystallization from Classical to Functional Systems I

Sponsoring Units: DPOLY

Chair: Toshikazu Miyoshi, Akron Univ

Room: 503

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| Monday, March 5, 2018 8:00AM - 8:36AM | A43.00001: Polymer Crystals and Crystallization: A Rediscovered and Challenging Research Field Invited Speaker: Stephen Cheng |
| Monday, March 5, 2018 8:36AM - 8:48AM | A43.00002: The Role of Co-Units in Polymer Crystallization and Melting: New Insights from Fast Scanning Calorimetry on Poly(ethylene-co-octene) Evgeny Zhuravlev , René Androsch , Vadlamudi Madhavi , Arnold Lustiger , Christoph Schick |
| Monday, March 5, 2018 8:48AM - 9:00AM | A43.00003: Crystallization of Isotactic Poly(methyl methacrylate) Monolayer Observed by High-Resolution Atomic Force Microscopy in Real Time Yuki Ono , Jiro Kumaki |
| Monday, March 5, 2018 9:00AM - 9:12AM | A43.00004: Intramolecular Crystal Nucleation of Polymers Containing Sequence Defects Wenbing Hu , Huacheng Tao , Huanhuan Gao |
| Monday, March 5, 2018 9:12AM - 9:24AM | A43.00005: Crystallization of Binary Polymer Blends Ashok Dasmahapatra |
| Monday, March 5, 2018 9:24AM - 9:36AM | A43.00006: Folding of Semicrystalline Polymer as Functions of Kinetics, Molecular Weight, and Entanglement Shijun Wang , Shichen Yuan , Toshikazu Miyoshi |
| Monday, March 5, 2018 9:36AM - 9:48AM | A43.00007: The Underestimated Effect of Existence or Absence of Intra-Crystalline Chain Dynamics (α_c -relaxation) on Morphology and Stability of Semicrystalline Polymers Martha Schulz , Anne Seidlitz , Ricardo Kurz , Kay Saalwachter , Thomas Thurn-Albrecht |
| Monday, March 5, 2018 9:48AM - 10:00AM | A43.00008: Development of Ultrafast Scanning Calorimetry by the Liquid Drop Enhanced Cooling Method Dongshan Zhou , Evgeny Zhuravlev , Jing Jiang , Bin Yang , Christoph Schick , Shaochuan Luo , Gi Xue |
| Monday, March 5, 2018 10:00AM - 10:12AM | A43.00009: Yield Stress Enhancement in Polyethylene-Glassy Block Copolymers William Mulhearn , Richard Register |
| Monday, March 5, 2018 10:12AM - 10:24AM | A43.00010: The Impact of Isotopic Substitution on the Crystallization and Melting Behaviors of Selectively Deuterated Poly(ϵ -caprolactone)s Dongsook Chang , Lengwan Li , Tianyu Li , Jacek Jakowski , Jong Kahk Keum , Peter Bonnesen , Kunlun Hong |
| Monday, March 5, 2018 10:24AM - 10:36AM | A43.00011: Effect of Particle Grafting on Directing Organization Through Polymer Crystallization Andrew Jimenez , Sanat Kumar , Jacques Jestin |
| Monday, March 5, 2018 10:36AM - 10:48AM | A43.00012: Molecular weight and distribution of crystalline polymers by non-isothermal crystallization kinetics Shuangjun Chen , Limin Wang |
| Monday, March 5, 2018 10:48AM - 11:00AM | A43.00013: Monte Carlo Simulations of Stress Relaxation in Polymer Stretching Jiping Wang , Wenbing Hu |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A52: Focus Session: Mechano-Responsive Polymers and Soft Materials

Sponsoring Units: DPOLY GSOF

Chair: Matthew Green, Arizona State Univ

Room: 512

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| Monday, March 5, 2018 8:00AM - 8:12AM | A52.00001: Mechanophore activation in a crosslinked polymer matrix via instrumented indentation Chelsea Davis , Jeremiah Woodcock , Ketan Khare , Muzhou Wang , Ryan Beams , Stephan Stranick , Aaron Forster , Jeffrey Gilman |
| Monday, March 5, 2018 8:12AM - 8:24AM | A52.00002: Mechanically activated fluorescence in polymer matrix composites Meng Wang , Matthew Green |
| Monday, March 5, 2018 8:24AM - 8:36AM | A52.00003: Shifting the twist of organic microribbons by external stimulus Yifan Zhang , Yanke Che , jincai zhao |
| Monday, March 5, 2018 8:36AM - 9:12AM | A52.00004: Challenges and Opportunities of Polymer Mechanochemistry Invited Speaker: Roman Boulatov |
| Monday, March 5, 2018 9:12AM - 9:24AM | A52.00005: Stress-Sensing Thermoset Polymer Networks via Grafted Cinnamoyl Mechanophores in Epoxy Ryan Gunckel , Elizabeth Nofen |
| Monday, March 5, 2018 9:24AM - 9:36AM | A52.00006: Magnetic switching of the ferroelectric polarization in a patterned medium mediated by magnetostriction and flexoelectricity Shashi Poddar , Pedro de Sa , Ronggang Cai , Laurent Delannay , Bernard Nysten , Luc Piraux , Alain Jonas |
| Monday, March 5, 2018 9:36AM - 9:48AM | A52.00007: Strain-induced electrical charge transport in PEDOT:PSS thin films: role of wrinkles and cracks Biporjoy Sarkar , Dillip Satapathy , Manu Jaiswal |
| Monday, March 5, 2018 9:48AM - 10:24AM | A52.00008: Quantitative Studies of Polymer Mechanochemistry Invited Speaker: Stephen Craig |
| Monday, March 5, 2018 10:24AM - 10:36AM | A52.00009: Optomechanical Coupling for the Study of the Dynamic Mechanical Properties of Metal-coordinate Gels Irina Mahmud Rasid , Bradley Olsen , Niels Holten-Andersen |
| Monday, March 5, 2018 10:36AM - 10:48AM | A52.00010: Nonlinear Mechano-Optical Behavior and Strain-Induced Structural Changes of <i>L</i> -Valine-Based Poly(ester urea)s Keke Chen , Nathan Dreger , Fang Peng , Bryan Vogt , Matthew Becker , Miko Cakmak |
| Monday, March 5, 2018 10:48AM - 11:00AM | A52.00011: Bio-inspired design of Highly Sensitive and Reversible Mechanochromisms via surface engineering Songshan Zeng , Dianyun Zhang , Luyi Sun |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A53: Rheology and Flow of Soft Materials

Sponsoring Units: GSOF T GSNP DPOLY

Chair: Patrick Charbonneau, Duke University

Room: 513

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| Monday, March 5, 2018 8:00AM - 8:12AM | A53.00001: Flow induced crystallization of penetrable particles Alberto Scacchi , Joseph Brader |
| Monday, March 5, 2018 8:12AM - 8:24AM | A53.00002: Insight into Shear Thickening Suspensions using Boundary Stress Microscopy Vikram Rathee , Daniel Blair , Jeffrey Urbach |
| Monday, March 5, 2018 8:24AM - 8:36AM | A53.00003: Rough colloids in shear flow: transient and steady state rheology Alan Jacob , Lilian Hsiao |
| Monday, March 5, 2018 8:36AM - 8:48AM | A53.00004: Short Time-scale Colloidal Motion in Complex Materials Andrew Hammond , Eric Corwin |
| Monday, March 5, 2018 8:48AM - 9:00AM | A53.00005: Chain-length dependent rheology and relaxation dynamics in glass-forming oligomers and polymers Matthew Reynolds , Daniel Baker , Chinmay Das , Peter Hine , Robin Masurel , Peter Olmsted , Johan Mattsson |
| Monday, March 5, 2018 9:00AM - 9:12AM | A53.00006: Theory for the rheology of dense non-Brownian suspensions: divergence of viscosities and μ -J rheology Hisao Hayakawa , Koshiro Suzuki |
| Monday, March 5, 2018 9:12AM - 9:24AM | A53.00007: Relation between Flows in Complex Geometries and the Dynamics of Entangled Polymer Chains: a Multiscale Simulation Study Takeshi Sato , Takashi Taniguchi |
| Monday, March 5, 2018 9:24AM - 9:36AM | A53.00008: Normal stress differences in attractive colloid/polymer mixtures Nayoung Park , Jacinta Conrad |
| Monday, March 5, 2018 9:36AM - 9:48AM | A53.00009: Emergence and persistence of flow inhomogeneities in the yielding and fluidization of dense soft solids Vishwas Vasisht , Gabrielle Roberts , Emanuela Del Gado |
| Monday, March 5, 2018 9:48AM - 10:00AM | A53.00010: Shear-induced heterogeneity in flocculating micro/nanofibrillated cellulose microstructures Emily Facchine , Orlando Rojas , Saad Khan |
| Monday, March 5, 2018 10:00AM - 10:12AM | A53.00011: Rate-dependent diffusion in a mesoscopic model of amorphous plasticity: the role of viscous drag and disorder Kareem Khirallah , Botond Tyukodi , Craig Maloney |
| Monday, March 5, 2018 10:12AM - 10:24AM | A53.00012: Rate-Dependence of the Flow Stress in Amorphous Media: Effects of Disorder and Sample Preparation Botond Tyukodi , Kareem Khirallah , Craig Maloney |
| Monday, March 5, 2018 10:24AM - 10:36AM | A53.00013: Effect of Polymer Molecular Weight on the Viscosity Reduction in Graphene Oxide Suspension Yul Hui Shim , Kyung Eun Lee , Sang Ouk Kim , So Youn Kim |
| Monday, March 5, 2018 10:36AM - 10:48AM | A53.00014: Stress Correlations in Shear Thickening Suspensions Abhinendra Singh , Omer Sedes , Bulbul Chakraborty , Lou Kondic , Morton Denn , Jeffrey Morris |
| Monday, March 5, 2018 10:48AM - 11:00AM | A53.00015: Correlated Time-Variation of Bulk Microstructure and Rheology in Asphalt Binders Adam Ramm , Sakib Nazmus , Amit Bhasin , Michael Downer |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A54: Soft Interface Mechanics I

Sponsoring Units: GSOFD DBIO DPOLY

Chair: John Kolinski, Ecole Polytech Fed de Lausanne

Room: 514

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| Monday, March 5, 2018 8:00AM - 8:12AM | A54.00001: Smectic Capsids Robijn Bruinsma , Sanjay Dharmavaram , Joseph Rudnick |
| Monday, March 5, 2018 8:12AM - 8:24AM | A54.00002: Structural Evolution and Spatial Heterogeneity in Mucin Layers Tristan Hormel , Tapomoy Bhattacharjee , Christopher O'Bryan , Gregory Sawyer , Thomas Angelini |
| Monday, March 5, 2018 8:24AM - 8:36AM | A54.00003: Viral Capsid Assembly and Orientational Phase Transitions Sanjay Dharmavaram , Fangming Xie , Joseph Rudnick , William Klug , Robijn Bruinsma |
| Monday, March 5, 2018 8:36AM - 8:48AM | A54.00004: Role of Gaussian Curvature in the Budding of HIV-1 Viruses Baochen She , Sanjay Dharmavaram , Ioulia Rouzina , Robijn Bruinsma |
| Monday, March 5, 2018 8:48AM - 9:00AM | A54.00005: Force vs separation for axisymmetric nearly minimal surfaces Thomas Powers , Steven Pei , Leroy Jia , Robert Pelcovits |
| Monday, March 5, 2018 9:00AM - 9:12AM | A54.00006: Interfacial tension of motility-induced phases Adam Patch , David Yllanes , Daniel Sussman , M Cristina Marchetti |
| Monday, March 5, 2018 9:12AM - 9:24AM | A54.00007: Wrinkle-Fold Coexistence and Stress Propagation in Nanoparticles at the Oil-Water Interface Andres Mariano , Joe Forth , Jaffar Hasnain , Anju Toor , Phillip Geissler , Thomas Russell |
| Monday, March 5, 2018 9:24AM - 9:36AM | A54.00008: Tension in a Floating film Deepak Kumar , Thomas Russell , Benjamin Davidovitch , Narayanan Menon |
| Monday, March 5, 2018 9:36AM - 9:48AM | A54.00009: Elastohydrodynamic wake in a thin elastic film floating on water Kari Dalnoki-Veress , Jean-Christophe Ono-dit-Biot , Miguel Trejo , Elsie Loukiantchenko , Maximillian Lauch , Elie Raphael , Thomas Salez |
| Monday, March 5, 2018 9:48AM - 10:00AM | A54.00010: Rheological variability of <i>P. aeruginosa</i> pellicles Lingjuan Qi , Gordon Christopher |
| Monday, March 5, 2018 10:00AM - 10:12AM | A54.00011: Role of Lipid Structure in the Mechanical Properties and Stress Profiles of Lipid Biomembranes Juan Vanegas , Ben Himberg , Conner Winkeljohn |
| Monday, March 5, 2018 10:12AM - 10:24AM | A54.00012: Cusp-shaped elastic creases and furrows Anupam Pandey , Stefan Karpitschka , Jens Eggers , Jacco Snoeijer |
| Monday, March 5, 2018 10:24AM - 10:36AM | A54.00013: The geometrical effects of stiff film patterns on surface instability modes of elastic bilayers Tetsu Ouchi , Ryan Hayward |
| Monday, March 5, 2018 10:36AM - 10:48AM | A54.00014: Dense Packing of Soft Phytoglycogen Nanoparticles: Insight into the Compressibility and Radial Particle Density Michael Grossutti , Hurmiz Shamana , Aidan Maxwell , John Dutcher |

Monday, March 5, 2018
10:48AM - 11:00AM

A54.00015: Surface Wetting and Premelting of Tunable Colloidal
Crystals
Bo Li

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A55: Fous Session: Confined Polymer Glasses I: Influence of Irreversibly Adsorbed Layers and Free Surfaces

Sponsoring Units: DPOLY GSNP

Chair: Rodney Priestley, Princeton Univ

Room: 515A

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| Monday, March 5, 2018 8:00AM - 8:12AM | A55.00001: Unraveling the Dynamics of Thin Films of a Miscible PVME/PS Blend Sherif Madkour , Paulina Szymoniak , Andreas Schoenhals |
| Monday, March 5, 2018 8:12AM - 8:24AM | A55.00002: Mechanisms of Irreversible Polymer Adsorption Simone Napolitano , Weide Huang , Michele Sferrazza , David Nieto Simavilla |
| Monday, March 5, 2018 8:24AM - 8:36AM | A55.00003: Growth Kinetics and Molecular Mobility of Irreversibly Adsorbed Layers in Thin Polymer Films Marcel Gawek , Sherif Madkour , Andreas Schoenhals |
| Monday, March 5, 2018 8:36AM - 8:48AM | A55.00004: Effect of Chain Adsorption on the Mobility of Polymer Chains Ayse Caglayan , Sumeyye Ozer , Sushil K. Satija , David Uhrig , Kunlun Hong , Bulent Akgun |
| Monday, March 5, 2018 8:48AM - 9:00AM | A55.00005: Frozen Local Conformation of Interfacial Polyisoprene Chains at Room Temperature Keiji Tanaka , Shin Sugimoto , Manabu Inutusuka , Daisuke Kawaguchi |
| Monday, March 5, 2018 9:00AM - 9:12AM | A55.00006: The Interfacial Zone Around Nanoparticles in Polymer Nanocomposites and Its Relation to the Average Scale of Collective Motion within the Polymer Matrix Jack Douglas , Beatriz Betancourt , Francis Starr |
| Monday, March 5, 2018 9:12AM - 9:48AM | A55.00007: Glass transition and molecular mobility in polymers under nanoscale confinement Invited Speaker: Daniele Cangialosi |
| Monday, March 5, 2018 9:48AM - 10:00AM | A55.00008: Diminishing Effect of Bound Polymer Layers with Decreasing Nanoparticle Size Hamed Emamy , Sanat Kumar , Francis Starr |
| Monday, March 5, 2018 10:00AM - 10:12AM | A55.00009: Influence of a Crystalline Substrate on the Diffusion Coefficient of an Adsorbed Polymer Antonio M Cadilhe , Bismarck Costa |
| Monday, March 5, 2018 10:12AM - 10:24AM | A55.00010: Reproducibility of Adsorbed Layer Growth Under Different Sample Preparation Conditions and Its Possible Influence on the Physical Aging of Thin Polystyrene Films Michael Thees , Jennifer McGuire , Connie Roth |
| Monday, March 5, 2018 10:24AM - 10:36AM | A55.00011: Direct Observation of Polymer Surface Mobility via Nanoparticle Vibrations Hojin Kim , Eric Furst , Yu Cang , Eunsoo Kang , Bartłomiej Graczykowski , George Fytas , Maria Secchi , Maurizio Montagna, Rodney Priestley |
| Monday, March 5, 2018 10:36AM - 10:48AM | A55.00012: Scale-Free Interfacial Dynamic Decoupling Drives Free-Surface Effects on the Glass Transition David Simmons , Daniel Diaz-Vela , Jui-Hsiang Hung , Hao Guo |
| Monday, March 5, 2018 10:48AM - 11:00AM | A55.00013: Mobility Gradients, Growing Apparent Length Scales, and Layer-Dependent Decoupling in Free Standing Films Kenneth Schweizer , Anh Phan |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A56: Focus Session: Symposium Honoring William W. Graessley I

Sponsoring Units: DPOLY

Chair: Ralph Colby, Pennsylvania State Univ

Room: 515B

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| Monday, March 5, 2018 8:00AM - 8:36AM | A56.00001: Molecular theory for Polymer Rheology: When the Mist Clears – and When it Swirls Back Again Invited Speaker: Thomas McLeish |
| Monday, March 5, 2018 8:36AM - 8:48AM | A56.00002: Following the footsteps of Graessley to open the Pondera's box in nonlinear polymer rheology Jianning Liu , Yi Feng , Shiqing Wang |
| Monday, March 5, 2018 8:48AM - 9:00AM | A56.00003: Measurements of shear viscosity and normal stresses in entangled polymers Salvatore Costanzo , Giovanni Ianniruberto , Giuseppe Marrucci , Dimitris Vlassopoulos |
| Monday, March 5, 2018 9:00AM - 9:12AM | A56.00004: Dynamics of Entangled, Polydispersed Polymer Melts Gary Grest , Brandon Peters , K. Michael Salerno , Ting Ge , Dvora Perahia |
| Monday, March 5, 2018 9:12AM - 9:24AM | A56.00005: Force-Based Theory of the Shear Rheology of Entangled Polymer Melts Shijie Xie , Kenneth Schweizer |
| Monday, March 5, 2018 9:24AM - 9:36AM | A56.00006: Linear-Nonlinear Dichotomy of Rheological Responses in Particle-Filled Polymer Melts Wentao Xiong , Xiaorong Wang |
| Monday, March 5, 2018 9:36AM - 9:48AM | A56.00007: Effects of Branching on Rheology of Polyethylene Combs: A Molecular Dynamics Simulation study Sidath Wijesinghe , Dvora Perahia , Gary Grest |
| Monday, March 5, 2018 9:48AM - 10:24AM | A56.00008: Chi parameters from simulations Invited Speaker: Scott Milner , Wenlin Zhang , Daniel Kozuch |
| Monday, March 5, 2018 10:24AM - 10:36AM | A56.00009: Revisiting the Chain Behaviors of a Polymer at the Theta Point Pengfei Zhang , Nayef Alsaifi , Zhen-Gang Wang |
| Monday, March 5, 2018 10:36AM - 10:48AM | A56.00010: Electrostatic and hydrophobic interactions in NaCMC aqueous solutions: effect of degree of substitution and solvent medium on structure and rheology. Carlos Gonzalez Lopez , Ralph Colby , Joao Cabral |
| Monday, March 5, 2018 10:48AM - 11:00AM | A56.00011: Using the Semidilute Unentangled Regime to Measure Number-Average Molecular Weight for Ionic Polymers Joshua Bostwick , Aijie Han , Xiuli Li , Louis Madsen , Ralph Colby |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A57: Focus Session: Mechanics of Networks I: Allostery and Designed Response

Sponsoring Units: GSOF T GSNP DPOLY

Chair: Pedro Reis, Massachusetts Institute of Technology-MIT

Room: 518

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| Monday, March 5, 2018 8:00AM - 8:12AM | A57.00001: Exploring the limits of multifunctionality in tunable networks Jason Rocks , Henrik Ronellenfitsch , Andrea Liu , Sidney Nagel , Eleni Katifori |
| Monday, March 5, 2018 8:12AM - 8:24AM | A57.00002: Role of Connectivity in the Conformational Control of Maxwell Frames Jason Kim , Danielle Bassett |
| Monday, March 5, 2018 8:24AM - 8:36AM | A57.00003: Isotropic Auxetic Metamaterials from Disordered Networks Daniel Reid , Nidhi Pashine , Alec Bowen , Justin Wozniak , Sidney Nagel , Juan De Pablo |
| Monday, March 5, 2018 8:36AM - 9:12AM | A57.00004: Designing allostery-inspired response in mechanical networks Invited Speaker: Sidney Nagel |
| Monday, March 5, 2018 9:12AM - 9:24AM | A57.00005: Architecture of Allosteric Materials and Principles for Optimal Cooperativity Le Yan , Riccardo Ravasio , Carolina Brito , Matthieu Wyart |
| Monday, March 5, 2018 9:24AM - 9:36AM | A57.00006: Geometry and mechanics of knitted fabric Michael Dimitriyev , Elisabetta Matsumoto |
| Monday, March 5, 2018 9:36AM - 9:48AM | A57.00007: Limits on the Programmability of Spring Networks Salem Al Mosleh , Christian Santangelo |
| Monday, March 5, 2018 9:48AM - 10:00AM | A57.00008: The effect of varying crosslinking motifs on the microscale mechanics of co-entangled actin and microtubules Shea Ricketts , Jennifer Ross , Rae Anderson |
| Monday, March 5, 2018 10:00AM - 10:12AM | A57.00009: Associative memory in mechanical systems Menachem Stern , Arvind Murugan |
| Monday, March 5, 2018 10:12AM - 10:24AM | A57.00010: Plastic fluctuations in a knitted fabric Samuel Poincloux , Mokhtar Adda-Bedia , Frederic Lechenault |
| Monday, March 5, 2018 10:24AM - 10:36AM | A57.00011: Manipulating the chain network in glassy polymers to alter its mechanical responses Jianning Liu , Xiaoxiao Li , Weiyu Wang , Yue Lu , Zhichen Zhao , Jimmy Mays , Shiqing Wang |
| Monday, March 5, 2018 10:36AM - 10:48AM | A57.00012: Tuning the nature of mechano-memory in actin networks Danielle Scheff , Sayantan Majumdar , Margaret Gardel |
| Monday, March 5, 2018 10:48AM - 11:00AM | A57.00013: Nonlinear Mechanics of Origami's Critical Point: Understanding and Designing around Flat State Transitions Andrew Gillman , Kazuko Fuchi , Alexander Cook , Alexander Pankonien , Phil Buskhol |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A58: Invited Session: Frustration in Soft Matter Assemblies

Sponsoring Units: GSOFD DPOLY

Chair: Christian Santangelo, University of Massachusetts Amherst

Room: *Petree Hall C*

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| Monday, March 5, 2018 8:00AM - 8:36AM | A58.00001: Frustration in block copolymer assemblies Invited Speaker: Anchang Shi |
| Monday, March 5, 2018 8:36AM - 9:12AM | A58.00002: Molecular Frustration and Formation of Lyotropic Liquid Crystalline Frank-Kasper Phases Invited Speaker: Mahesh Mahanthappa |
| Monday, March 5, 2018 9:12AM - 9:48AM | A58.00003: Competing morphologies and escaping to infinite size in geometrically frustrated assemblies Invited Speaker: Gregory Grason |
| Monday, March 5, 2018 9:48AM - 10:24AM | A58.00004: Slimming down through frustration Invited Speaker: Martin Lenz , Thomas Witten , Pierre Ronceray |
| Monday, March 5, 2018 10:24AM - 11:00AM | A58.00005: Cumulative geometric frustration: From bent-core liquid crystals to spherulites of twisted molecular crystals Invited Speaker: Efi Efrati |

Monday, March 5, 2018, 8:00 am – 11:00 am

Session A59: Invited Session: Bridging New Polymer Chemistry and Polymer Physics

Sponsoring Units: DPOLY

Chair: Justin Kennemur, Florida State Univ

Room: *Petree Hall B*

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| Monday, March 5, 2018 8:00AM - 8:36AM | A59.00001: Precise Associating Polymers Exhibit New Morphologies and Promising Properties. Invited Speaker: Karen Winey |
| Monday, March 5, 2018 8:36AM - 9:12AM | A59.00002: Computationally Driven Design of Soft Materials Invited Speaker: Andrey Dobrynin |
| Monday, March 5, 2018 9:12AM - 9:48AM | A59.00003: Structure, Properties, and Function in Periodically Sequenced Poly(lactic-co-glycolic acid)s Invited Speaker: Tara Meyer , Jamie Nowalk , Jordan Swisher , Michael Washington |
| Monday, March 5, 2018 9:48AM - 10:24AM | A59.00004: Dynamic Order-Order Transitions and Kinetic Surface Trapping of Unique Morphologies for Sub-10 nm Nanostructured Ultrathin Films of Sugar-Polyolefin Conjugates Invited Speaker: Lawrence R. Sita |
| Monday, March 5, 2018 10:24AM - 11:00AM | A59.00005: The design of block copolymers and the control over their structures for energy storage Invited Speaker: Guoliang Liu |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B43: Focus Session: Polyelectrolyte Complexation I: Self-Assembly

Sponsoring Units: DPOLY DBIO

Chair: Samanvaya Srivastava, Univ of Chicago

Room: 503

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| Monday, March 5, 2018 11:15AM - 11:27AM | B43.00001: Liquid-Liquid Phase Separation by Tau-Polyanion Complex Coacervation and Its Relationship to Amyloid Fibrillization. Yanxian Lin , Yuge Hu , Songi Han |
| Monday, March 5, 2018 11:27AM - 11:39AM | B43.00002: Lyotropic behavior of polyelectrolyte complex micelles Martin In , Melody Mathonat , Anthony Phimpachanh , Philippe Dieudonné , Patrick Lacroix-Desmazes , Nathalie Marcotte , Corine Gérardin |
| Monday, March 5, 2018 11:39AM - 11:51AM | B43.00003: Modeling Multivalent-Induced Structural Inhomogeneities in Polyelectrolyte Brushes Nicholas Jackson , Jing Yu , Xin Xu , Marina Ruths , Blair Brettman , Matthew Tirrell , Juan De Pablo |
| Monday, March 5, 2018 11:51AM - 12:03PM | B43.00004: Structure and Properties of Complex Coacervate Core Micelles Taeyoung Heo , Inhye Kim , Eunji Lee , SooHyung Choi |
| Monday, March 5, 2018 12:03PM - 12:15PM | B43.00005: Coacervate core micelles: Controlling size with polymer architecture Debra Audus , Brady Garringer , Hayley Boigenzahn |
| Monday, March 5, 2018 12:15PM - 12:27PM | B43.00006: Polyelectrolyte Complex Micelles: Formation, Dissociation, and Chain Exchange Kinetics Hao Wu , Jeffrey Ting , Olivia Werba , Samanvaya Srivastava , Matthew Tirrell |
| Monday, March 5, 2018 12:27PM - 1:03PM | B43.00007: Micelleplexes: Complexation of Polyanions with Cationic AB Diblock and ABC Triblock Micelles Invited Speaker: Timothy Lodge |
| Monday, March 5, 2018 1:03PM - 1:15PM | B43.00008: Polyelectrolyte Complex Coacervation by Electrostatic Dipolar Interactions Sabin Adhikari , Michael Leaf , Murugappan Muthukumar |
| Monday, March 5, 2018 1:15PM - 1:27PM | B43.00009: Polyelectrolyte Driven Complexation of Sequence Specific Polypeptides Amanda Marciel , Matthew Tirrell |
| Monday, March 5, 2018 1:27PM - 1:39PM | B43.00010: Voltage-driven polyelectrolyte complexation inside a nanopore PRABHAT TRIPATHI , Byoung-jin Jeon , Murugappan Muthukumar |
| Monday, March 5, 2018 1:39PM - 1:51PM | B43.00011: Small Ion Effects on Self-Coacervation Phenomena in Block Polyampholytes Scott Danielsen , Kris Delaney , Glenn Fredrickson |
| Monday, March 5, 2018 1:51PM - 2:03PM | B43.00012: Polyelectrolyte Assemblies on Demand Claudia Dähling , Felix Plamper , Judith Houston , Aurel Radulescu , Markus Drechsler , Hideharu Mori , Dmitry Pergushov |
| Monday, March 5, 2018 2:03PM - 2:15PM | B43.00013: Self-Assembly of multiple patchy particles in presence of oppositely charged polyelectrolytes Rituparna Samanta , Venkatraghavan Ganesan |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B52: Focus Session: Polymer Crystallization from Classical to Functional Systems II

Sponsoring Units: DPOLY

Chair: Christopher Li, Drexel Univ

Room: 512

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| Monday, March 5, 2018 11:15AM - 11:51AM | B52.00001: Anisotropy of charge transport and thermoelectric properties in oriented conducting polymer films prepared by high temperature rubbing Invited Speaker: Martin Brinkmann , Amer Hamidi Sakr , Laure Biniek , Jean-Louis Bantignies , David Maurin , David Djurado |
| Monday, March 5, 2018 11:51AM - 12:03PM | B52.00002: Achieving Relaxor Ferroelectric Behavior in Nylon-based Polymers Lei Zhu , Zhongbo Zhang , Morton Litt |
| Monday, March 5, 2018 12:03PM - 12:15PM | B52.00003: Manipulating Crystallization Sequence in PEO-b-PCL Copolymers Ryan Van Horn , Natasha Brigham , Christopher Nardi , Kristi Allen , Allison Carandang |
| Monday, March 5, 2018 12:15PM - 12:27PM | B52.00004: Polymer crystallization at large supercooling, studied by modified Fast Scanning Calorimetry Evgeny Zhuravlev , Dongshan Zhou , Jing Jiang , Christoph Schick |
| Monday, March 5, 2018 12:27PM - 12:39PM | B52.00005: Impact of Tungsten Disulfide Nanotubes on the crystallization of poly(l-lactide) for thinner and stronger bioresorbable vascular scaffolds (BVS) Tiziana Di Luccio , Karthik Ramachandran , Zach Zixuan Shao , Loredana Tammaro , Carmela Borriello , Fausta Loffredo , Fulvia Villani , Francesca Di Benedetto , Sandy Leung , Tony McNally , David Boyd , Julie Kornfield |
| Monday, March 5, 2018 12:39PM - 12:51PM | B52.00006: Determining Polymer Spherical Crystal Disorder by Thermal and Spectroscopic Techniques Mark Staub , Christopher Li |
| Monday, March 5, 2018 12:51PM - 1:03PM | B52.00007: Melting and crystallization temperatures of semi-crystalline polymer thin films studied via spectral reflectance Giovanni Kelly, James Elman, Zhang Jiang, Joseph Strzalka, Julie Albert |
| Monday, March 5, 2018 1:03PM - 1:15PM | B52.00008: Polymer Crystallization on the Ice Surface Kyoungwook Kim , Moon Jeong Park |
| Monday, March 5, 2018 1:15PM - 1:27PM | B52.00009: Tuning Polymer Crystallinity in Polymer Nanocomposites Spiros Anastasiadis, Helen Papananou, Eleni Perivolari, Kyriakh Chrissopoulou |
| Monday, March 5, 2018 1:27PM - 1:39PM | B52.00010: Gradient and Patterned Polymer Brushes via a Polymer-Single-Crystal-Assisted-Grafting-to Approach Shan Mei , Christopher Li |
| Monday, March 5, 2018 1:39PM - 1:51PM | B52.00011: Thin Film Melt Stability of Cyclic Poly(ϵ -caprolactone) Giovanni Kelly , Fariyah Haque , Scott Grayson , Julie Albert |
| Monday, March 5, 2018 1:51PM - 2:03PM | B52.00012: Calorimetric Study of Crystallization of Polymer Films Formed from Quasi-Vapor Phase Deposition Yucheng Wang, Hyuncheol Jeong, Mithun Chowdhury, Rodney Priestley |
| Monday, March 5, 2018 2:03PM - 2:15PM | B52.00013: Study of Molecular Weight Effects on Crystallization Kinetics of Enantiomeric Poly(lactic acid) Blends via Flash DSC Measurement He Yucheng , Pengju Pan , Jiping Wang , Wenbing Hu |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B53: Mechanics of Networks II

Sponsoring Units: GSOF T GSNP DPOLY

Chair: Eleni Katifori, University of Pennsylvania

Room: 513

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| Monday, March 5, 2018 11:15AM - 11:27AM | B53.00001: Quasi-Continuum Analysis of Networked Materials Ahmed Ghareeb , Ahmed Elbanna |
| Monday, March 5, 2018 11:27AM - 11:39AM | B53.00002: Hierarchical Elastic Network Mechanics Jonathan Michel , Peter Yunker |
| Monday, March 5, 2018 11:39AM - 11:51AM | B53.00003: Linear Elasticity of DNA Hydrogels as a Function of DNA Nanostar Valence Nate Conrad , Tynan Kennedy , Omar Saleh , Deborah Fygenon |
| Monday, March 5, 2018 11:51AM - 12:03PM | B53.00004: Testing Rigidity Percolation Models of Articular Cartilage via Enzymatic Degradation Thomas Wyse Jackson , Lena Bartell , Moumita Das , Lawrence Bonassar , Itai Cohen |
| Monday, March 5, 2018 12:03PM - 12:15PM | B53.00005: Stretch-Induced Intramolecular Phase Separation in Polyrotaxane Glasses for the Mechanical Toughness Kazuaki Kato , Kaito Nemoto , Koichi Mayumi , Hideaki Yokoyama , Kohzo Ito |
| Monday, March 5, 2018 12:15PM - 12:27PM | B53.00006: Fracturing of topological Maxwell lattices Leyou Zhang , Xiaoming Mao |
| Monday, March 5, 2018 12:27PM - 12:39PM | B53.00007: Network formation and molecular dynamics in hydrogen-bonding telechelic polymers: a competition between association lifetime and structural relaxation Martin Tress , Kunyue Xing , Peng-Fei Cao , Shiwang Cheng , Tomonori Saito , Vladimir Novikov , Alexei Sokolov |
| Monday, March 5, 2018 12:39PM - 12:51PM | B53.00008: Strain Adaptive Stiffening in Self-Assembled Bottlebrush Networks Andrey Dobrynin , Heyi Liang , Andrew Keith , Yidan Cong , Sergei Sheiko |
| Monday, March 5, 2018 12:51PM - 1:03PM | B53.00009: Hardening and Softening Materials: the role of network topology in soft gels Minaspi Bantawa , Mehdi Bouzid , Emanuela Del Gado |
| Monday, March 5, 2018 1:03PM - 1:15PM | B53.00010: Correlated rigidity percolation and colloidal gels Shang Zhang , Mehdi Bouzid , Leyou Zhang , D. Zeb Rocklin , Emanuela Del Gado , Xiaoming Mao |
| Monday, March 5, 2018 1:15PM - 1:27PM | B53.00011: Mechanical Failure of Disordered Networks Estelle Berthier , Jonathan Kollmer , Karen Daniels |
| Monday, March 5, 2018 1:27PM - 1:39PM | B53.00012: Analyzing the Rigidity of Force Networks in Jammed Granular Packings Deshpreet Bedi , Bulbul Chakraborty |
| Monday, March 5, 2018 1:39PM - 1:51PM | B53.00013: The influence of adhesion on crumpled films Andrew Croll , Timothy Twohig , Theresa Elder |
| Monday, March 5, 2018 1:51PM - 2:03PM | B53.00014: Origins of the Poynting effect in elastic networks Brian Tighe , Karsten Baumgarten |
| Monday, March 5, 2018 2:03PM - 2:15PM | B53.00015: Stochastic buckling of a colloidal chain assembled by critical Casimir forces Simon Stuij , Jan Maarten van Doorn , Thomas Kodger , Joris Sprakel , Corentin Coulais , Peter Schall |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B54: Focus Session: Soft Interface Mechanics II

Sponsoring Units: GSOFD DBIO DPOLY

Chair: Qin Xu, ETH - Zurich

Room: 514

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| Monday, March 5, 2018 11:15AM - 11:27AM | B54.00001: Elastocapillary Wetting: Square Holes and Square Droplets Rafael Schulman , John Niven , Michiel Hack , Christian DiMaria , Kari Dalnoki-Veress |
| Monday, March 5, 2018 11:27AM - 11:39AM | B54.00002: Mechanics of Shape Shifting Droplets Ireth Garcia-Aguilar , Piermarco Fonda , Luca Giomi , Eli Sloutskin |
| Monday, March 5, 2018 11:39AM - 11:51AM | B54.00003: Enhanced dip-coating on a soft substrate Vincent Bertin , Manon Marchand , Christophe Poulard , Elie Raphael , Frederic Restagno , Emmanuelle Rio , Thomas Salez , François Boulogne |
| Monday, March 5, 2018 11:51AM - 12:03PM | B54.00004: Taking the plunge into forced wetting with unprecedented precision Mengfei He , Sidney Nagel |
| Monday, March 5, 2018 12:03PM - 12:15PM | B54.00005: X-ray microscopic observations of Cassie-Baxter wetting behaviors Su Jin Lim , Donggyu Kim , Yeseul Kim , Hee Kyeong Park , Suyeon Jeong , Changhyun Pang , Seunghwa Ryu , Byung Mook Weon |
| Monday, March 5, 2018 12:15PM - 12:27PM | B54.00006: Cassie-Baxter State Can Explain the Impaled State Donggyu Kim , Su Jin Lim , Yeseul Kim , Byung Mook Weon , Seunghwa Ryu |
| Monday, March 5, 2018 12:27PM - 12:39PM | B54.00007: Magnetorheology for Reduction of Blood Viscosity, Turbulence, and Atherosclerosis Rongjia Tao , Michael Autieri , Kazi Tawhid-Al-Islam |
| Monday, March 5, 2018 12:39PM - 12:51PM | B54.00008: Surface Stress and Surface Tension in Polymeric Networks Heyi Liang , Zhen Cao , Zilu Wang , Andrey Dobrynin |
| Monday, March 5, 2018 12:51PM - 1:03PM | B54.00009: On the delamination of thin elastic sheet from soft adhesive substrate Oz Oshri , Ya Liu , Kieran Patrick Fitzmaurice , Anna Balazs |
| Monday, March 5, 2018 1:03PM - 1:15PM | B54.00010: Self-Assembly by deionization, coacervation, and epitaxy Rodrigo Guerra , Paul Chaikin |
| Monday, March 5, 2018 1:15PM - 1:27PM | B54.00011: Investigating the role of geometry on the adhesive strength of mussel inspired structures Marcela Areyano , Luke Gockowski , Megan Valentine |
| Monday, March 5, 2018 1:27PM - 1:39PM | B54.00012: Interstitial Water Enhances Sliding Friction Adrian Defante , Alex Nyarko , Sukhmanjot Kaur , Tarak Burai , Ali Dhinojwala |
| Monday, March 5, 2018 1:39PM - 2:15PM | B54.00013: 2018 Maria Goeppert Mayer Award Talk Invited Speaker: M Lisa Manning |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B55: Focus Session: Confined Polymer Glasses II: Mobility Gradients

Sponsoring Units: DPOLY GSNP

Chair: Simone Napolitano, Univ Libre De Brussels

Room: 515A

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| Monday, March 5, 2018 11:15AM - 11:27AM | B55.00001: Average and Local Tg Shifts in Plasticized PVC from Simulations Yuxing Zhou , Scott Milner |
| Monday, March 5, 2018 11:27AM - 11:39AM | B55.00002: Impact of Changing PDMS Modulus on the Local Glass Transition Temperature Tg(z) of Neighboring Polystyrene Yannic Gagnon , Connie Roth |
| Monday, March 5, 2018 11:39AM - 11:51AM | B55.00003: Influence of Rough and End-Tethered Substrates on the Local Glass Transition Temperature Tg(z) of Polystyrene Xinru Huang , Connie Roth |
| Monday, March 5, 2018 11:51AM - 12:27PM | B55.00004: Think globally, act locally: How interfaces can alter mobility and glassiness Invited Speaker: Jane E Lipson , Ronald White |
| Monday, March 5, 2018 12:27PM - 12:39PM | B55.00005: Effect of Polymer-Polymer Interface on Polymer Chain Dynamics Sriramvignesh Mani , Rafikul Islam , Rajesh Khare |
| Monday, March 5, 2018 12:39PM - 12:51PM | B55.00006: Influence of Segregation Strength on the Local Glass Transition of Lamellar Diblock Copolymers Dane Christie , Richard Register , Rodney Priestley |
| Monday, March 5, 2018 12:51PM - 1:03PM | B55.00007: Stiffness Gradients in Supported Thin Polymer Films and in Polymer Model Nanocomposites: Evaluation via a Novel Fluorescence Method with Comparison to AFM Results John Torkelson , Shadid Askar , Min Zhang , L. Catherine Brinson |
| Monday, March 5, 2018 1:03PM - 1:15PM | B55.00008: Theory of spatially heterogeneous activated glassy relaxation in supported thin films Anh Phan , Kenneth Schweizer |
| Monday, March 5, 2018 1:15PM - 1:27PM | B55.00009: Glass Transition Temperature of Nanometer Ultra-thin Polymer Films Gerardo Mendoza , Xiaoyu Wei , Dmitry Bedrov , Arlette Baljon , Alexey Lyulin |
| Monday, March 5, 2018 1:27PM - 1:39PM | B55.00010: Glassy dynamics in one- and two-dimensional nanometric confinement - a comparison Friedrich Kremer , Wycliffe K. Kipnusu |
| Monday, March 5, 2018 1:39PM - 1:51PM | B55.00011: Characterization of PS and PMMA Chain Mobility Confined in AAO Xiaoliang Wang , Chen Zhang , Chao Teng , Gi Xue |
| Monday, March 5, 2018 1:51PM - 2:03PM | B55.00012: Suppressed Tg-Confinement Effects in Thin Films of Comb and Branched Polystyrene Relative to Linear Polystyrene Lingqiao Li , Xi Chen , Kailong Jin , John Torkelson |
| Monday, March 5, 2018 2:03PM - 2:15PM | B55.00013: The Effect of Extreme Spatial Confinement and Interfacial Interactions on the Glass Transition of Polymers in Polymer-infiltrated Nanoparticle Packings Haonan Wang , Jyo Lyn Hor , Daeyeon Lee , Zahra Fakhraei |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B56: Focus Session: Symposium Honoring William W. Graessley II

Sponsoring Units: DPOLY

Chair: Ramanan Krishnamoorti, Univ of Houston

Room: 515B

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| Monday, March 5, 2018 11:15AM - 11:51AM | B56.00001: Effect of Partial Saturation on Thermodynamic Interactions in Polydiene/Polyolefin Blends Invited Speaker: Megan Robertson , Jialin Qiu , Carlos Lopez-Barron , Ramanan Krishnamoorti |
| Monday, March 5, 2018 11:51AM - 12:03PM | B56.00002: Phase Behavior of Binary Polymer Blends Doped with Salt Shuyi Xie , Frank Bates , Timothy Lodge |
| Monday, March 5, 2018 12:03PM - 12:15PM | B56.00003: Relating Polymer Rheology and Miscibility to Chemical Architecture: A Review of Collaborations with Bill Graessley David Lohse |
| Monday, March 5, 2018 12:15PM - 12:27PM | B56.00004: Chain Exchange Kinetics of Triblock Copolymer Micelles: Effect of Corona Block Asymmetry En Wang , Frank Bates , Timothy Lodge |
| Monday, March 5, 2018 12:27PM – 12:39PM | B56.00005: Asymmetric Block Copolyelectrolyte Morphology Mapping Induced by Strong Electrostatics Sebastian Russell , Sanat Kumar , Luis Campos , Alan West |
| Monday, March 5, 2018 12:39PM – 12:51PM | B56.00006: Disorder-to-Order Transition upon Heating in an All-Hydrocarbon Polynorbornene Diblock Copolymer William Mulhearn , Richard Register |
| Monday, March 5, 2018 12:51PM – 12:39PM | B56.00007: Mobility of Polymer-Tethered Nanoparticles in Polymer Melts Ting Ge , Michael Rubinstein |
| Monday, March 5, 2018 1:03PM - 1:15PM | B56.00008: Corona Driven Orientational Control of Grafted Nanoparticle Self-Assembly Thi Vo , Fang Lu , Yugang Zhang , Oleg Gang , Sanat Kumar |
| Monday, March 5, 2018 1:15PM - 1:27PM | B56.00009: Slow Dynamics of Glass Transformation in Polymer/Colloid Systems Charles Han , Guangcui Yuan |
| Monday, March 5, 2018 1:27PM - 1:39PM | B56.00010: Driven Dynamics of Physical Polymer and Colloidal Gels Ahmad Omar , Yanze Wu , John Brady , Zhen-Gang Wang |
| Monday, March 5, 2018 1:39PM - 1:51PM | B56.00011: Imaging Synthetic Polymer Crystals and Defects on Atomic Length-Scales Nitash Balsara , Xi Jiang , Douglas Greer , Kenneth Downing , Ronald Zuckermann , Joyjit Kundu , David Prendergast |
| Monday, March 5, 2018 1:51PM - 2:03PM | B56.00012: Spatial Dependence of Molecular Relaxation in Deformed Polymers Christopher Lam , Wensheng Xu , Wei-Ren Chen , Zhe Wang , Christopher Stanley , Jan-Michael Carrillo , David Uhrig , Changwoo Do , Bobby Sumpter , Yangyang Wang |
| Monday, March 5, 2018 2:03PM - 2:15PM | B56.00013: Crystallinity Enhances the Tensile Ductility of Polyethylene Buckley Crist |

Monday, March 5, 2018, 11:15 am – 2:15 pm

Session B59: Invited Session: Polymer Physics from Academia to Industry and Back

Sponsoring Units: DPOLY FIAP

Chair: Rohan Hule, ExxonMobil Chemical Company

Room: *Petree Hall D*

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| Monday, March 5, 2018 11:15AM - 11:51AM | B59.00001: Microstructural Basis for the Unexpected Radial Strength of Poly L-lactide (PLLA) Bioresorbable Vascular Scaffolds During Hydrolysis Invited Speaker: Artemis Ailianou , Karthik Ramachandran , Mary Beth Kossuth , James P Oberhauser , Julie Kornfield |
| Monday, March 5, 2018 11:51AM - 12:27PM | B59.00002: Polymer Physics in Self-Assembled Nanopatterns: From Block Copolymers to Polymer Grafted Nanocrystals Invited Speaker: Ricardo Ruiz , Lei Wan |
| Monday, March 5, 2018 12:27PM - 1:03PM | B59.00003: Practical challenges for the implementation of polymers into highly engineered systems - an industrial perspective Invited Speaker: Jon Degroot |
| Monday, March 5, 2018 1:03PM - 1:39PM | B59.00004: Insight vs. Accuracy for Models and Experiments in industry: How to strive for simplicity, and the importance of top-down, multi-physics modeling Invited Speaker: Sumanth Jamadagni |
| Monday, March 5, 2018 1:39PM - 2:15PM | B59.00005: Thermoplastic Composite Solutions for Mass Markets: Opportunities and Challenges Invited Speaker: Nikhil Verghese |

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C46: Focus Session: Advanced Morphological Characterization of Polymeric Materials I: Soft and Hard X-ray, and Neutron Scattering

Sponsoring Units: DPOLY

Chair: Xiaodan Gu, Univ of Southern Mississippi

Room: 506

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| Monday, March 5, 2018 2:30PM - 2:42PM | C46.00001: Exploring Structure and Chemistry of Soft Matter with X-ray Absorption Spectroscopy and Resonant Scattering Gregory Su , Isvar Cordova , Liwen Wan , Christopher Mcguirk , Jeffrey Long , David Prendergast , Walter Drisdell , Cheng Wang |
| Monday, March 5, 2018 2:42PM - 2:54PM | C46.00002: Resonant soft X-ray scattering study of fluidic phases with no electron density modulation Chenhui Zhu , Miroslaw Salamonczyk , Natasa Vaupotic , Damian Pociecha , Cheng Wang , Ewa Gorecka |
| Monday, March 5, 2018 2:54PM - 3:06PM | C46.00003: Soft matter structure measurement by Polarized Resonant Soft X-ray Scattering Dean DeLongchamp |
| Monday, March 5, 2018 3:06PM - 3:42PM | C46.00004: Multimodal resonant x-ray scattering for polymer materials Invited Speaker: Cheng Wang |
| Monday, March 5, 2018 3:42PM - 3:54PM | C46.00005: Improving Optical Models of Polarized R-SoXS for Quantitative Measurement of Molecular Orientation within Polymer Nanostructures Victor Murcia , Brian Collins |
| Monday, March 5, 2018 3:54PM - 4:06PM | C46.00006: In-situ Resonant Soft X-ray Scattering Elucidates Crystalline-Amorphous Interfaces in Semicrystalline Polymers Eliot Gann , Tyler Martin , Subhrangsu Mukherjee , R. Joseph Kline , Lars Thomsen , Ronald Jones , Chad Snyder , Dean DeLongchamp |
| Monday, March 5, 2018 4:06PM - 4:18PM | C46.00007: X-ray Photon Correlation Spectroscopy in Linear Diblock Copolymer Melts Ronald Lewis , Grayson Jackson , Michael Maher , Kyungtae Kim , Suresh Narayanan , Mahesh Mahanthappa , Frank Bates |
| Monday, March 5, 2018 4:18PM - 4:30PM | C46.00008: Strain Hardening and Morphological Evolution in Acid-Containing Polyethylenes via 2D Quantitative Fitting of In Situ X-ray Scattering During Tensile Deformation Karen Winey , Edward Trigg , L. Robert Middleton |
| Monday, March 5, 2018 4:30PM - 4:42PM | C46.00009: Mapping Structural Evolution of Semi-crystalline Polymers to SAXS Patterns: An Explanation of the Butterfly Pattern William Kennedy , Hilmar Koerner , David Grubb , Sanjeeva Murthy |
| Monday, March 5, 2018 4:42PM - 4:54PM | C46.00010: Characterization of cellulose microfibril crystal orientation in primary cell walls using X-ray scattering Dan Ye , Sintu Rongpipi , Sarah Kiemle , Chenhui Zhu , Daniel Cosgrove , Esther Gomez , Enrique Gomez |
| Monday, March 5, 2018 4:54PM - 5:06PM | C46.00011: Thin film characterization using Grazing Incidence X-ray Scattering and Spectroscopy Mihael Coric , Nitin Saxena , Mika Pflüger , Peter Müller- |

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| <p>Monday, March 5, 2018 5:06PM - 5:18PM</p> | <p>Buschbaum , Michael Krumrey , Eva M. Herzig C46.00012: Multiple Metastable Micellar States in Disordered Diblock Copolymers Kyungtae Kim , Akash Arora , Ronald Lewis , Meijiao Liu , Weihua Li , Anchang Shi , Kevin Dorfman , Frank Bates</p> |
| <p>Monday, March 5, 2018 5:18PM - 5:30PM</p> | <p>C46.00013: Interrogating the Network Structure in Crosslinked Polymer Networks via Neutron Porosimetry Bradley Frieberg , Christopher Stafford , Edwin Chan , Christopher Soles</p> |

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C52: Focus Session: Physics of 3D Printing and Additive Manufacturing

Sponsoring Units: DPOLY GSOF

Chair: Bryan Vogt, Univ of Akron

Room: 512

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| Monday, March 5, 2018 2:30PM - 2:42PM | C52.00001: A Polymer Science Perspective on Improving Additive Manufacturing Connor Perryman , Sahar Rostom , Neiko Levenhagen , Mark Dadmun |
| Monday, March 5, 2018 2:42PM - 2:54PM | C52.00002: Chain alignment and welding of polymer interfaces Marco Galvani , Thomas O'Connor , Mark Robbins |
| Monday, March 5, 2018 2:54PM - 3:06PM | C52.00003: Weld formation during material extrusion additive manufacturing Jon Seppala , Sung Hoon Han , Kaitlyn Hillgartner , Chelsea Davis , Kalman Migler |
| Monday, March 5, 2018 3:06PM - 3:18PM | C52.00004: Spectral Analysis for Resonant Soft X-ray Scattering Enables Measurement of Interfacial Width in 3D Organic Nanostructures Thomas Ferron , Michael Pope , Brian Collins |
| Monday, March 5, 2018 3:18PM - 3:30PM | C52.00005: Utilizing Surface Segregating Additives to Improve the Isotropy of Fused Deposition Modeling Products Neiko Levenhagen , Mark Dadmun |
| Monday, March 5, 2018 3:30PM - 3:42PM | C52.00006: Computer Simulations of Continuous 3-D Printing Zilu Wang , Heyi Liang , Andrey Dobrynin |
| Monday, March 5, 2018 3:42PM - 4:18PM | C52.00007: Molecules to Manufacturing: Advancing the Polymeric Materials Toolbox for Additive Manufacturing Invited Speaker: Christopher Williams |
| Monday, March 5, 2018 4:18PM - 4:30PM | C52.00008: Process line measurements of polycaprolactone crystallization in additive manufacturing Anthony Kotula , Lily Northcutt , Kalman Migler |
| Monday, March 5, 2018 4:30PM - 4:42PM | C52.00009: Tough, High Impact Resistant 3D Printed Objects from Core-Shell Filaments Fang Peng , Miko Cakmak , Bryan Vogt |
| Monday, March 5, 2018 4:42PM - 4:54PM | C52.00010: 3D Printing and Evaluation of Novel Nano-graphene Containing ABS Thermoplastics Robert Bubeck , Michael Most , Tracy Zhang |
| Monday, March 5, 2018 4:54PM - 5:06PM | C52.00011: Composite Ink Extrusion Behaviors in Direct Ink Writing with Acoustic Focusing Leanne Friedrich , Matthew Begley |
| Monday, March 5, 2018 5:06PM - 5:18PM | C52.00012: Soft Matter Manufacturing: 3D Printing with Cells, Gels, Elastomers and Colloids Tapomoy Bhattacharjee , Christopher O'Bryan , Sarah Ellison , Cameron Morley , Samantha Marshall , Thomas Angelini |
| Monday, March 5, 2018 5:18PM - 5:30PM | C52.00013: Micro 3D Printing of a Temperature-Responsive Hydrogel and Its Applications Daehoon Han , Zhaocheng Lu , Shawn Chester , Howon Lee |

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C53: Mechanics of Networks III

Sponsoring Units: GSOF T GSNP DPOLY

Chair: Corentin Coulais, Univ of Leiden

Room: 513

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| Monday, March 5, 2018 2:30PM - 2:42PM | C53.00001: A full network model of complementary non-Gaussian energy explain the mechanics of biological tissue Pablo Saez , Chiara Venturini , Jose Felix Rodriguez |
| Monday, March 5, 2018 2:42PM - 2:54PM | C53.00002: Complex Network Analysis of Bone for Understanding Multiscale Mechanisms of Strength Chantal Nguyen , Avik Mondal , Xiao Ma , Ahmed Elbanna , Jean Carlson |
| Monday, March 5, 2018 2:54PM - 3:06PM | C53.00003: Crack propagation in Articular Cartilage modeled as a biopolymer double network Leo Sutter , Andrew Sindermann , Thomas Jackson , Lena Bartell , Lawrence Bonassar , Itai Cohen , Moumita Das |
| Monday, March 5, 2018 3:06PM - 3:18PM | C53.00004: Non linear mechanics of dense dendritic actin networks Pierre Bauër , Julien Heuvingh , Joe Tavecchi , Olivia DU ROURE |
| Monday, March 5, 2018 3:18PM - 3:30PM | C53.00005: Geometry and Elasticity Induced Bi-stability in a Cellular Structure with Star-Shaped Unit Cells Soroush Kamrava , Ashkan Vaziri |
| Monday, March 5, 2018 3:30PM - 3:42PM | C53.00006: Finding the Mechanically Stable States of Prismatic Architected Materials Agustin Iniguez-Rabago , Johannes Overvelde , Yun Li |
| Monday, March 5, 2018 3:42PM - 3:54PM | C53.00007: 1D Capillary Bending of a Thin, Floating Polymer Film Timothy Twohig , Andrew Croll |
| Monday, March 5, 2018 3:54PM - 4:06PM | C53.00008: Thermal fluctuations in multiply-connected membranes Francesco Serafin , Mark Bowick |
| Monday, March 5, 2018 4:06PM - 4:18PM | C53.00009: Using multiphase microfluidics and pore-network modeling for fabrication of tissue regeneration scaffolds Hamed Haddadi , Dino Di Carlo |
| Monday, March 5, 2018 4:18PM - 4:30PM | C53.00010: In situ visualization and mechanical study of a transparent filled rubber Zach Gault , Zsolt Terdik , Joerg Werner , Frans Spaepen , David Weitz |
| Monday, March 5, 2018 4:30PM - 4:42PM | C53.00011: Universal Geometry Controls the Mechanics of 2D and 3D Models for Dense Biological Tissues Matthias Merkel , M Manning |
| Monday, March 5, 2018 4:42PM - 4:54PM | C53.00012: Topology and fracture of model polymer networks Tetsuo Yamaguchi |
| Monday, March 5, 2018 4:54PM - 5:06PM | C53.00013: On the Origin of Spatial Stress Correlations in Disordered Media Robbie Rens , Edan Lerner |
| Monday, March 5, 2018 5:06PM - 5:18PM | C53.00014: Anomalous normal stress controlled by marginal stability in fiber networks Jordan Shivers , Jingchen Feng , Abhinav Sharma , Fred MacKintosh |
| Monday, March 5, 2018 5:18PM - 5:30PM | C53.00015: Jamming of soft disks within lattices of pinned particles Prairie Wentworth-Nice , Amy Graves |

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C55: Focus Session: Polyelectrolyte Complexation II: Structure and Rheology

Sponsoring Units: DPOLY DBIO

Chair: Debra Audus, NIST - Natl Inst of Stds & Tech

Room: 515A

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| Monday, March 5, 2018 2:30PM - 2:42PM | C55.00001: Field-theoretic simulations of discrete Gaussian chain polyelectrolytes as a model for coacervation in intrinsically disordered peptides. James McCarty , Kris Delaney , Glenn Fredrickson , Joan-Emma Shea |
| Monday, March 5, 2018 2:42PM - 2:54PM | C55.00002: Transfer-Matrix Description of Complex Coacervation Tyler Lytle , Charles Sing |
| Monday, March 5, 2018 2:54PM - 3:06PM | C55.00003: Phase Behavior and Salt Partitioning in Polyelectrolyte Complexes Lu Li , Samanvaya Srivastava , marat andreev , Matthew Tirrell , Juan De Pablo |
| Monday, March 5, 2018 3:06PM - 3:42PM | C55.00004: Coacervation of Oppositely Charged Polyelectrolytes: Effects of Composition Asymmetry Invited Speaker: Zhen-Gang Wang , Pengfei Zhang , Nayef Alsaifi , Jianzhong Wu |
| Monday, March 5, 2018 3:42PM - 3:54PM | C55.00005: Structure, Chain Conformations and Dynamics of Polyelectrolyte Complexes Samanvaya Srivastava , Amanda Marciel , Matthew Tirrell |
| Monday, March 5, 2018 3:54PM - 4:06PM | C55.00006: Charge Density-Dependent Phase Behavior and Rheology of Polyelectrolyte Complex Coacervates Frances Morin , Jennifer Laaser |
| Monday, March 5, 2018 4:06PM - 4:18PM | C55.00007: Phase Behavior and Interfacial Tension of Polyelectrolyte Complex Coacervates Samim Ali , Anand Rahalkar , Vivek Prabhu |
| Monday, March 5, 2018 4:18PM - 4:30PM | C55.00008: Evaporation of Polymer Solutions Containing both Polycations and Polyanions: A Molecular Dynamics Study Chengyuan Wen , Yanfei Tang , Shengfeng Cheng |
| Monday, March 5, 2018 4:30PM - 4:42PM | C55.00009: Dynamics in Polyelectrolyte Complex Materials Yalin Liu , Whitney Blocher , Xiangxi Meng , Matthew Labbe , Elizabeth Voke , Caleb Boucher , H. Henning Winter , Maria Corradini , Jessica Schiffman , Sarah Perry |
| Monday, March 5, 2018 4:42PM - 4:54PM | C55.00010: Coarse-grained model for polyelectrolyte complexation Marat Andreev , Lu Li , Samanvaya Srivastava , Matthew Tirrell , Alexandros Chremos , Vivek Prabhu , Jack Douglas , Juan De Pablo |
| Monday, March 5, 2018 4:54PM - 5:06PM | C55.00011: Solution Assembly and Behavior of Modular RAFT Block Polyelectrolytes Jeffrey Ting , Hao Wu , Olivia Werba , Deborah Schneiderman , Abraham Herzog-Arbeitman , Joseph Mitchell , Samanvaya Srivastava , Matthew Tirrell |
| Monday, March 5, 2018 5:06PM - 5:18PM | C55.00012: Ion Association in Polyelectrolyte Solutions: Effects of Charge Correlations and Connectivity Sean Friedowitz , Jian Qin |
| Monday, March 5, 2018 5:18PM - 5:30PM | C55.00013: Coupling of Polyelectrolyte Chain Structure with Correlations and Phase Behavior Kevin Shen , Zhen-Gang Wang |

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C56: Focus Session: Organic Electronics and Photonics I: Charge Transport

Sponsoring Units: DPOLY DMP

Chair: Elizabeth Von Hauff, Vrije Universiteit Amsterdam

Room: 515B

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| Monday, March 5, 2018 2:30PM - 3:06PM | C56.00001: Time-dependent Behavior of Molecular Transport Invited Speaker: Mark Ratner |
| Monday, March 5, 2018 3:06PM - 3:18PM | C56.00002: Solid-State Polarization, Charge-Transfer Excitations and Transport Levels at Organic Interfaces from a Screened Range-Separated Hybrid Functional Leeor Kronik , Zilong Zheng , David Egger , Jean-Luc Bredas , Veaceslav Coropceanu |
| Monday, March 5, 2018 3:18PM - 3:30PM | C56.00003: Polaron Formation Mechanisms in Conjugated Polymers Joel Bombile , Michael Janik , Scott Milner |
| Monday, March 5, 2018 3:30PM - 3:42PM | C56.00004: Using Momentum Resolved Spectroscopies to Quantify Organic Semiconductor-Surface Plasmon Polariton Coupling in a Drastically Reorientable Small Molecule System Ryan DeCrescent , Steven Brown , David Nakazono , Sam Willenson , Niva Ran , Xiaofeng Liu , Guillermo Bazan , Thuc-Quyen Nguyen , Jon Schuller |
| Monday, March 5, 2018 3:42PM - 3:54PM | C56.00005: Multifunctional Electronic Materials for Thin Film Devices Sang Ha Yoo , Enrique Gomez |
| Monday, March 5, 2018 3:54PM - 4:06PM | C56.00006: Correlation between microstructural changes and electrical properties in organic semiconductors using <i>in operando</i> X-ray scattering Elayne Thomas , Michael Brady , Hidenori Nakayama , Eunhee Lim , Rachel Segalman , Michael Chabinye |
| Monday, March 5, 2018 4:06PM - 4:18PM | C56.00007: Ultrathin C8-BTBT Films for 2D Organic Transistors Polina Pechnikova , Sara Pazoki , Daniel Dougherty |
| Monday, March 5, 2018 4:18PM - 4:30PM | C56.00008: Improved Static Charge Stability from Fluorinated Polystyrenes in Multilayer Polystyrene Electrets Evan Plunkett , Qingyang Zhang , Daniel Reich , Howard Katz |
| Monday, March 5, 2018 4:30PM - 4:42PM | C56.00009: Correlating charge transport to structure in deconstructed diketopyrrolopyrrole molecules: A case study of a monomer Alec Pickett , Tushita Mukhopadyay , Andreas Lauritzen , Amrit Laudari , Mika Torkkeli , Jakob Kjelstrup-Hansen , Satish Patil , Matti Knaapila , Suchismita Guha |
| Monday, March 5, 2018 4:42PM - 4:54PM | C56.00010: Polarization Modulation in Ferroelectric Organic Field-Effect Transistors Amrit Laudari , Alessandro R. Mazza Mazza , Alexander Daykin , Soma Khanra , Kartik Ghosh , Francis Cummings , Theophilus Muller , Paul Miceli , Suchismita Guha |
| Monday, March 5, 2018 4:54PM - 5:06PM | C56.00011: Intrinsic Conduction Mechanism in Polymer Nanofibers Yung Park , K. H. Kim , H. Kang , Samuel Lara-Avila , Sergey Kubatkin |

Monday, March 5, 2018
5:06PM - 5:18PM

C56.00012: Interface-engineered electrical transport properties in benzenedithiol self-assembled monolayer molecular junctions using chemically p-doped graphene electrodes
Yeonsik Jang , Sung-Joo Kwon , Jaeho Shin , Hyunhak Jeong , Wang-Taek Hwang , Junwoo Kim , Jeongmin Koo , Gunuk Wang , Tae-Woo Lee , Takhee Lee

Monday, March 5, 2018
5:18PM - 5:30PM

C56.00013: Revealing Spin-Orbit Coupling Effects in π -Conjugated Polymers by Multifrequency Electrically Detected Magnetic Resonance
Gajadhar Joshi , Mandefro Teferi , Richards Miller , Shirin Jamali , Douglas Baird , Johan Tol , Hans Malissa , John Lupton , Christoph Boehme

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C57: Focus Session: Soft Interface Mechanics III

Sponsoring Units: GSOFD DBIO DPOLY

Chair: Katharine Jensen, Williams Coll

Room: 518

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| Monday, March 5, 2018 2:30PM - 3:06PM | C57.00001: Soft Adhesion & Friction: Compliance, Hysteresis, and Swelling Invited Speaker: Douglas Holmes , Ahmad Mojdehi , David Dillard |
| Monday, March 5, 2018 3:06PM - 3:18PM | C57.00002: Direct measurement of surface elasticity of strained soft solids Qin Xu , Robert Style , Katharine Jensen , Eric Dufresne |
| Monday, March 5, 2018 3:18PM - 3:30PM | C57.00003: Mechanically-excited surface waves on soft gels Joshua Bostwick , Xingchen Shao , John Saylor |
| Monday, March 5, 2018 3:30PM - 3:42PM | C57.00004: Crack formation during drying of a shrinkable porous medium Sujit Datta , H. Jeremy Cho , Nancy Lu |
| Monday, March 5, 2018 3:42PM - 3:54PM | C57.00005: Interfacial and bulk effects in packed microgel yielding Tapomoy Bhattacharjee , Thomas Angelini |
| Monday, March 5, 2018 3:54PM - 4:06PM | C57.00006: Impact Propagation and Absorption Mechanisms in Two Dimensional Colloidal Monolayers Jinwoong Cha , Ivo Buttinoni , Wei-Hsun Lin , Stéphane Job , Chiara Daraio , Lucio Isa |
| Monday, March 5, 2018 4:06PM - 4:18PM | C57.00007: Viscoelastic Imaging of Living Cells Using a Noncontact Long-Needle Atomic Force Microscope Dongshi Guan , Elisabeth Charlaix , Robert Z. Qi , Penger Tong |
| Monday, March 5, 2018 4:18PM - 4:30PM | C57.00008: Slip of Hexadecane on Organic Friction Modifier Monolayers James Ewen , Sridhar Kannam , Daniele Dini , Billy Todd |
| Monday, March 5, 2018 4:30PM - 4:42PM | C57.00009: Precursors to Molecular Slip on Smooth Hydrophobic Surfaces Justin Pye , Clay Wood , Justin Burton |
| Monday, March 5, 2018 4:42PM - 4:54PM | C57.00010: Melting and Structural Transitions of Interacting Particle Arrays on Soft Shells. Amit Rajnarayan Singh , Luigi Perotti , Robijn Bruinsma , Joseph Rudnick , Jeff Eldredge |
| Monday, March 5, 2018 4:54PM - 5:06PM | C57.00011: Experimental study of shear-bands of drying latex Zhiyu Jiang , Hao Huang , H Daniel Ou-Yang |
| Monday, March 5, 2018 5:06PM - 5:18PM | C57.00012: Rifts in Rafts Kha-I To , Sidney Nagel |
| Monday, March 5, 2018 5:18PM - 5:30PM | C57.00013: Nanoparticles Organization Controls Their Potency as Universal Glues for Polymer Interfaces. Nicola Molinari , Stefano Angioletti-Uberti |

Monday, March 5, 2018, 2:30 pm – 5:30 pm

Session C59: Invited Session: Gels and Networks

Sponsoring Units: DPOLY

Chair: Jan Genzer, North Carolina State Univ

Room: *Petree Hall D*

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| Monday, March 5, 2018 2:30PM - 3:06PM | C59.00001: Adaptable hydrogels with secondary reinforcement for regenerative medicine Invited Speaker: Sarah Heilshorn |
| Monday, March 5, 2018 3:06PM - 3:42PM | C59.00002: Nonlinear Elasticity and Diffusio-Mechanical Coupling of Elastomeric Polymer Networks Reveald by Multiaxial Stretching Invited Speaker: Kenji Urayama |
| Monday, March 5, 2018 3:42PM - 4:18PM | C59.00003: Externally regulated switching of topology in polymer metal-organic cage gels Invited Speaker: Jeremiah Johnson |
| Monday, March 5, 2018 4:18PM - 4:54PM | C59.00004: Dynamic precursors of failure in the creep of a colloidal gel Invited Speaker: Stefano Aime , Ramos Laurence , Luca Cipelletti |
| Monday, March 5, 2018 4:54PM - 5:30PM | C59.00005: Stress relaxation and anomalous diffusion in unentangled supramolecular networks Invited Speaker: Jorge Ramirez , Mahmoud Bagheri , Bradley Olsen |

Tuesday, March 6, 2018, 8:00 am – 11:00 am

Session E48: Focus Session: Mechanical Metamaterials I

Sponsoring Units: GSNP DBIO GSOF DPOLY

Chair: Johannes Overvelde, FOM Inst - Amsterdam

Room: 510

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| Tuesday, March 6, 2018 8:00AM - 8:36AM | E48.00001: Programmable metamaterials Invited Speaker: Chiara Daraio |
| Tuesday, March 6, 2018 8:36AM - 8:48AM | E48.00002: Pruning bright bonds to engineer smart networks Nidhi Pashine , Daniel Hexner , Jason Rocks , Daniel Reid , Irmgard Bischofberger , Carl Goodrich , Justin Wozniak , Heinrich Jaeger , Andrea Liu , Juan De Pablo , Sidney Nagel |
| Tuesday, March 6, 2018 8:48AM - 9:00AM | E48.00003: Realizable Elastic Wave Cloaking in Mechanical Metamaterials Sophia Sklan , Ronald Pak , Baowen Li |
| Tuesday, March 6, 2018 9:00AM - 9:12AM | E48.00004: The Role of Geometry in the Design of the Pattern- transforming Metamaterials Yuzhen Chen , Lihua Jin |
| Tuesday, March 6, 2018 9:12AM - 9:24AM | E48.00005: Engineering disordered phononic metamaterials Henrik Ronellenfitsch , Norbert Stoop , Aden Forrow , Jorn Dunkel |
| Tuesday, March 6, 2018 9:24AM - 9:36AM | E48.00006: Designing Gripper-like Architectures from Self-folded Bilayers Arif Abdullah , K Jimmy Hsia |
| Tuesday, March 6, 2018 9:36AM - 9:48AM | E48.00007: Controlling the Deformation of Metamaterials: Corner Modes via Topology Adrien Saremi , D. Zeb Rocklin |
| Tuesday, March 6, 2018 9:48AM - 10:00AM | E48.00008: Surface patterning and auxetic metamaterial response with magnetorheological elastomers Kostas Danas , Erato Psarra , Laurence Bodelot |
| Tuesday, March 6, 2018 10:00AM - 10:12AM | E48.00009: Functionality enhancement in disordered metamaterial systems: the case of bandgap widening Paolo Celli , Behrooz Yousefzadeh , Chiara Daraio , Stefano Gonella |
| Tuesday, March 6, 2018 10:12AM - 10:24AM | E48.00010: On the Duality of Complex Geometry and Material Heterogeneity in Elastodynamics: From Topographic Reliefs to Mechanical Metamaterials Ahmed Elbanna , Qianli Chen |
| Tuesday, March 6, 2018 10:24AM - 10:36AM | E48.00011: Modeling continuous light-driven mechanical waves in a photoactive, nematic polymer film Micahael Varga , Robin Selinger |
| Tuesday, March 6, 2018 10:36AM - 10:48AM | E48.00012: Experimental Observation of Nonreciprocal Waves in a Spatiotemporally Modulated Phononic Chain Yifan Wang , Behrooz Yousefzadeh , Chiara Daraio |
| Tuesday, March 6, 2018 10:48AM - 11:00AM | E48.00013: Broadband Non-reciprocity in Active-feedback Mechanical Metamaterials Corentin Coulais |

Tuesday, March 6, 2018, 8:00 am – 11:00 am

Session E52: Thermodynamics and Physics of Polymer Films

Sponsoring Units: DPOLY

Chair: Shudipto Dishari, Univ of Nebraska - Lincoln

Room: 512

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| Tuesday, March 6, 2018 8:00AM - 8:36 AM | Polymer Physics Prize Break |
| Tuesday, March 6, 2018 8:36AM - 8:48AM | E52.00002: Phase Transition Behavior of Block Copolymer Thin Films and Thickness Dependence YEONGSIK KIM , Sungmin Park , Hyungju Ahn , Du Yeol Ryu |
| Tuesday, March 6, 2018 8:48AM - 9:00AM | E52.00003: Perpendicular Orientation of PS-b-PMMA Microdomains Controlled by the Grafting Density of P(S-r-MMA) Brushes Wooseop Lee , Sungmin Park , Vaidyanathan Sethuraman , Nathan Rebello , Venkatraghavan Ganesan , Du Yeol Ryu |
| Tuesday, March 6, 2018 9:00AM - 9:12AM | E52.00004: Shape Control of Uniform Block Copolymer Particles by Tuning Evaporation Rate of Emulsion Solvent Bumjoon Kim , Jae Man Shin , YongJoo Kim , Hongseok Yun , Gi-Ra Yi |
| Tuesday, March 6, 2018 9:12AM - 9:24AM | E52.00005: Non-Spherical Block Copolymer Particles: Mechanisms of Microstructure Orientation and Particle Elongation Jae Man Shin , YongJoo Kim , Kang Hee Ku , Gi-Ra Yi , Bumjoon Kim |
| Tuesday, March 6, 2018 9:24AM - 9:36AM | E52.00006: Ionic Conduction through Block Copolymer Gyroidal Networks Moshe Dolejsi , Ban Dong , Paul Nealey |
| Tuesday, March 6, 2018 9:36AM - 9:48AM | E52.00007: Probing Coexisting Ordered Phases with X-ray Scattering Techniques in Block Copolymer Electrolytes Whitney Loo, Jacqueline Maslyn, Michael Galluzzo, Nitash Balsara |
| Tuesday, March 6, 2018 9:48AM - 10:00AM | E52.00008: Morphological Transitions in Ionomer Thin Films Peter Dudenas , Adam Weber , Ahmet Kusoglu |
| Tuesday, March 6, 2018 10:00AM - 10:12AM | E52.00009: Chain Confinement Entropy and Nanoconfined Polymerization Thermodynamics Qian Tian , Haoyu Zhao , Sindee Simon |
| Tuesday, March 6, 2018 10:12AM - 10:24AM | E52.00010: Suppression of Polymer Degradation in Polymer Infiltrated Nanoparticle Films Zahra Fakhraai , Haonan Wang , Jyo Lyn Hor , Daeyeon Lee |
| Tuesday, March 6, 2018 10:24AM - 10:36AM | E52.00011: Solvent quality influences surface structure of glassy polymer thin films after evaporation Antonia Statt , Michael Howard , Athanassios Panagiotopoulos |
| Tuesday, March 6, 2018 10:36AM - 10:48AM | E52.00012: About (Dis)Entanglement and Knots in Confined Polymer Films. Hendrik Meyer |

Tuesday, March 6, 2018, 8:00 am – 11:00 am

Session E55: Focus Session: Smart Responsive Polymers I

Sponsoring Units: DPOLY

Chair: Mark Stevens, Sandia Natl Labs

Room: 515A

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| Tuesday, March 6, 2018 8:00AM - 8:48AM | Polymer Physics Prize Break |
| Tuesday, March 6, 2018 8:48AM - 9:00AM | E55.00002: Vapour-Induced Demixing in Solution-Processed Ferroelectric Films for Organic Memory Applications Jasper Michels , Hamed Sharifi , Kamal Asadi |
| Tuesday, March 6, 2018 9:00AM - 9:12AM | E55.00003: Concurrent reaction and diffusion in photo-responsive hydrogels Chen Xuan , Lihua Jin |
| Tuesday, March 6, 2018 9:12AM - 9:48AM | E55.00005: Correlation between swelling/shrinking behaviour and nanorheology of microgel particles Invited Speaker: Regine von Klitzing |
| Tuesday, March 6, 2018 9:48AM - 10:00AM | E55.00004: Swelling, Structure, and Phase Behavior of Microgel Mixtures Carly Snell , Alan Denton |
| Tuesday, March 6, 2018 10:00AM – 10:12AM | E55.00006: Swelling and Structural Properties of Polymer Microgels: Simulations of a Coarse-Grained Model Braden Weight , Alan Denton |
| Tuesday, March 6, 2018 10:12AM – 10:24AM | E55.00007: Transport and Solvation of Penetrant Molecules in a Thermoresponsive Hydrogel Matej Kanduc , Won Kyu Kim , Rafael Roa , Joachim Dzubiella |
| Tuesday, March 6, 2018 10:24AM - 10:36AM | E55.00008: Osmotic Swelling Behavior of Polyelectrolyte Microcapsules Mohammed Alziyadi , Alan Denton |
| Tuesday, March 6, 2018 10:36AM - 10:48AM | E55.00009: Modulating the Solution Phase Behavior of a Block Polymer with Light Cecilia Hall , Timothy Lodge |
| Tuesday, March 6, 2018 10:48AM - 11:00AM | E55.00010: Solvent Response of Ionic Co-Polymers at Interface Chathurika Kosgallana , Anuradhi Wickramasinghe , Dvora Perahia |

Tuesday, March 6, 2018, 8:00 am – 11:00 am

Session E56: Focus Session: Symposium Honoring Ryong-Joon Roe

Sponsoring Units: DPOLY

Chair: Hyuk Yu, Univ of Wisconsin, Madison; Gregory Beaucage, University of Cincinnati

Room: 515B

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| Tuesday, March 6, 2018 8:00AM - 8:36AM | Polymer Physics Prize Break |
| Tuesday, March 6, 2018 8:36AM - 9:12AM | E56.00002: Odyssey of Ryong-joon Roe: Through Polymer Physics over 1/2 Century Invited Speaker: Hyuk Yu |
| Tuesday, March 6, 2018 9:12AM - 9:24AM | E56.00003: Phase Behavior of the Binary Mixtures of Pyrene and Polymers with and without Aromatic Side Groups. Sangwoo Lee , Gagan Kangovi |
| Tuesday, March 6, 2018 9:24AM - 9:36AM | E56.00004: Molecular Dynamics Simulation of Oligomer Liquid and Glass. Relation to Experiment. David Rigby |
| Tuesday, March 6, 2018 9:36AM - 9:48AM | E56.00005: Structural Emergence in Nanoparticle Dispersions Greg Beaucage , Vikram Kuppa , Karsten Vogtt , Hanqiu Jiang , Andrew Mulderig , Kabir Rishi , Vishak Narayanan, Alex McGlasson, Jan Ilavsky |
| Tuesday, March 6, 2018 9:48AM - 10:24AM | E56.00006: On Cyclization in Advanced Polymeric Materials Invited Speaker: Stephen Clarson |
| Tuesday, March 6, 2018 10:24AM - 10:36AM | E56.00007: Microstructural investigation of butt-fusion joint of high density polyethylene pipes using X-ray scattering Hyun Hoon Song , Minkwan Kang , Sunwoong Choi |
| Tuesday, March 6, 2018 10:36AM - 10:48AM | E56.00008: In situ SAXS investigations into growth of pyrolytic silica Durgesh Rai , Greg Beaucage , Karsten Vogtt , Hendrik Kammler , Jan Ilavsky |
| Tuesday, March 6, 2018 10:48AM - 11:00AM | E56.00009: Quantifying branching: comparing small angle scattering and molecular simulations Sathish Sukumaran , Yoshimune Nitta , Greg Beaucage , Junichi Takimoto |

Tuesday, March 6, 2018, 8:00 am – 11:00 am

Session E59: Invited Session: Polymer Physics Prize

Sponsoring Units: DPOLY

Chair: Monica Olvera De La Cruz, Northwestern Univ

Room: *Petree Hall D*

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| Tuesday, March 6, 2018 8:00AM - 8:36AM | E59.00001: The interplay between elasticity, defect structure, and motion in active nematic polymers Invited Speaker: Juan de Pablo |
| Tuesday, March 6, 2018 8:36AM - 9:12AM | E59.00002: Directed self-assembly in two and three dimensions Invited Speaker: Paul Nealey |
| Tuesday, March 6, 2018 9:12AM - 9:48AM | E59.00003: Using Physical Vapor Deposition to Produce Structured Glasses - from Isotropic to Liquid-Crystalline Order Invited Speaker: Mark Ediger |
| Tuesday, March 6, 2018 9:48AM - 10:24AM | E59.00004: Defect motion and annihilation in block copolymers Invited Speaker: Marcus Mueller |
| Tuesday, March 6, 2018 10:24AM - 11:00AM | E59.00005: Polymeric Bicontinuous Microemulsions Invited Speaker: Frank Bates |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F06: Semicrystalline Polymers and Polymer Blends

Sponsoring Units: DPOLY

Chair: Julie Albert, Tulane Univ

Room: 153A

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| Tuesday, March 6, 2018 11:15AM - 11:27AM | F06.00001: Electrostatic Forces-Induced Transformation of an Atactic Polymer from Amorphous to Semicrystalline Chinomso Nwosu , Edward Coughlin |
| Tuesday, March 6, 2018 11:27AM - 11:39AM | F06.00002: Chain Conformation, Packing, and Folding Structures of Poly(L-Lactic Acid) in Glassy State as Studied by ¹³ C Solid-State NMR and Selective Isotope Labeling Shichen Yuan , Toshikazu Miyoshi |
| Tuesday, March 6, 2018 11:39AM - 11:51AM | F06.00003: SAXS/WAXS Studies of Flow-Induced Crystallization of LDPE under Uniaxial Extensional Flow Mu Sung Kweon , Wesley Burghardt |
| Tuesday, March 6, 2018 11:51AM - 12:03PM | F06.00004: Effect of Ultra-High Molecular Weight Chain On Flow-Induced Crystallization of Polymers Bo Shen , Jeremy Wei , Julie Kornfield |
| Tuesday, March 6, 2018 12:03PM - 12:15PM | F06.00005: Molecular Dynamics Simulations of Crystallization of Entangled Polyethylene Melt: Effect of Cooling and Tension Yelena Sliozberg , In-Chul Yeh , Martin Kröger , Kevin Masser , Joseph Lenhart , Jan Andzelm |
| Tuesday, March 6, 2018 12:15PM - 12:27PM | F06.00006: Modelling Viscoelastic Response in Semicrystalline Polymer Fibers Aakash Sharma , Guruswamy Kumaraswamy , Shirish Thakre |
| Tuesday, March 6, 2018 12:27PM - 12:39PM | F06.00007: Angle-resolved In-Plane Thermal Anisotropy of Semi-Crystalline Polyethylene Films using Transient Grating Andrew Robbins , Austin Minnich |
| Tuesday, March 6, 2018 12:39PM - 12:51PM | F06.00008: Microscopic origin of plastic deformation in semicrystalline polymers Sara Jabbari-Farouji , Joerg Rottler , Olivier Lame , Michel Perez , Jean-Louis Barrat |
| Tuesday, March 6, 2018 12:51PM - 1:03PM | F06.00009: Production and analysis of highly monodisperse oligomeric Polyethylene Oxide Junjie Yin , Adam Raegen , Zhu Shippei , James Forrest |
| Tuesday, March 6, 2018 1:03PM - 1:15PM | F06.00010: Fluctuation correction for the critical transition of symmetric homopolymer blends Tom Beardsley , Mark Matsen |
| Tuesday, March 6, 2018 1:15PM - 1:27PM | F06.00011: Modeling hydrogen bonding in polymer blends using association models Debadutta Prusty , Victor Pryamitsyn , Monica Olvera De La Cruz |
| Tuesday, March 6, 2018 1:27PM - 1:39PM | F06.00012: Spectroscopic Investigations on Polystyrene-Polyvinylidene Fluoride Nanofibers Maximiliano Villarreal , Karen Lozano , Dorina Chipara , Mataz alcoutlabi , James Hinthorne , Mircea Chipara |

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| Tuesday, March 6, 2018 1:39PM - 1:51PM | F06.00013: A Simulation Method for the Phase Diagrams of Polymer Blends Hyuntae Jung , Arun Yethiraj |
| Tuesday, March 6, 2018 1:51PM - 2:03PM | F06.00014: Multiplicity of Morphologies in Poly (L-lactide) Bioresorbable Vascular Scaffolds Karthik Ramachandran , Artemis Ailianou , Mary Beth Kossuth , James P Oberhauser , Julie Kornfield |
| Tuesday, March 6, 2018 2:03PM - 2:15PM | F06.00015: Radial Dependence of Film Formation During the Spin-coating of an Immiscible Polymer Blend Eleanor Dougherty , Mark Geoghegan , Matthew Mears |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F43: Focus Session: Advancing Polymer Physics by Integrating Simulation and Theory I: Dynamics and Coarse-Graining

Sponsoring Units: DPOLY DCOMP

Chair: Arthi Jayaraman, Univ of Delaware

Room: 503

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| Tuesday, March 6, 2018 11:15AM - 11:27AM | F43.00001: A conformationally averaged iterative method for hydrodynamic interactions in Brownian dynamics simulations of polymer solutions Charles Young , Linling Miao , Charles Sing |
| Tuesday, March 6, 2018 11:27AM - 11:39AM | F43.00002: Developing and Validating Predictions of a Model for Reversible Scission and Deformation of Wormlike Micelles Abdulrazaq Adams , Michael Solomon , Ronald Larson |
| Tuesday, March 6, 2018 11:39AM - 11:51AM | F43.00003: Simulation of the Kinetics of Chain Exchange Between Triblock Copolymer Micelles using Dynamical Self-Consistent Mean-Field Theory Shane Holden , Robert Wickham |
| Tuesday, March 6, 2018 11:51AM - 12:03PM | F43.00004: Achieving Temperature Transferable Coarse-Graining of Glass-Forming Polymers via Energy Renormalization Wenjie Xia , Frederick Phelan Jr. , Sinan Keten , Jack Douglas |
| Tuesday, March 6, 2018 12:03PM - 12:15PM | F43.00005: Polymer Conformations & Dynamics in Nano-Confinement as a Function of Chain Length and Confining Radius James Pressly , Robert Riggleman , Karen Winey |
| Tuesday, March 6, 2018 12:15PM - 12:27PM | F43.00006: Polymer Dynamics under Diamond Network Confinement Tianren Zhang , Karen Winey , Robert Riggleman |
| Tuesday, March 6, 2018 12:27PM - 12:39PM | F43.00007: Identifying Polymer States by Machine Learning Qianshi Wei , Roger Melko , Jeff Chen |
| Tuesday, March 6, 2018 12:39PM - 12:51PM | F43.00008: Systematic Coarse-Graining of Polymer Field Theories by Phase Field Mapping Jimmy Liu , Kris Delaney , Glenn Fredrickson |
| Tuesday, March 6, 2018 12:51PM - 1:03PM | F43.00009: Developing Chemically Specific Coarse-Grained Conjugated Polymer Models Using the TAFFI Framework Brett Savoie |
| Tuesday, March 6, 2018 1:03PM - 1:39PM | F43.00010: Exploring Nanoparticle Structure and Thermodynamics Using Field-Theoretic Simulations Invited Speaker: Robert Riggleman , Jason Koski , Huikuan Chao , Benjamin Lindsay , Jing Cao |
| Tuesday, March 6, 2018 1:39PM - 1:51PM | F43.00011: Bonded Potentials of Coarse-Grained Polymer Models Qiang Wang |
| Tuesday, March 6, 2018 1:51PM - 2:03PM | F43.00012: Theory-Informed Coarse-Grained Simulations of Polymer Liquids Marina Guenza , Mohammadhasan Dinpajooh |
| Tuesday, March 6, 2018 2:03PM - 2:15PM | F43.00013: Towards a Computational Workflow for Polymer Melts Based on the Integral Equation Coarse-Graining Method Mohammadhasan Dinpajooh , Marina Guenza |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F48: Mechanical Metamaterials II

Sponsoring Units: GSNP GSOFT DBIO DPOLY

Chair: Sung Kang, Johns Hopkins Univ

Room: 510

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|---|---|
| Tuesday, March 6, 2018 11:15AM - 11:27AM | F48.00001: Localizing softness and stress along loops in three-dimensional topological metamaterials Anton Souslov , Guido Baardink , Jayson Paulose , Vincenzo Vitelli |
| Tuesday, March 6, 2018 11:27AM - 11:39AM | F48.00002: Amorphous topological insulators constructed from random point sets Noah Mitchell , Lisa Nash , Daniel Hexner , Ari Turner , William Irvine |
| Tuesday, March 6, 2018 11:39AM - 11:51AM | F48.00003: Quasistatic, Dynamic and Acoustic Characteristics of Microlattice Metamaterials Chang Quan Lai , Chiara Daraio |
| Tuesday, March 6, 2018 11:51AM - 12:03PM | F48.00004: Buckling of Tensegrity-Based Metamaterials for Dynamic Applications Kirsti Pajunen , Paul Johanns , Chiara Daraio |
| Tuesday, March 6, 2018 12:03PM - 12:15PM | F48.00005: Realization of a Topological Phase Transition in a Gyroscopic Lattice Noah Mitchell , Lisa Nash , William Irvine |
| Tuesday, March 6, 2018 12:15PM - 12:27PM | F48.00006: Phononic and Topological Characteristics of Kagome Lattices in The Limit of Continuum Elasticity Jihong Al-Ghalith , Di Zhou , Kai Sun , Xiaoming Mao , Stefano Gonella |
| Tuesday, March 6, 2018 12:27PM - 12:39PM | F48.00007: Phonon diode and waveguide using topological Kagome lattice Di Zhou , Stefano Gonella , Xiaoming Mao |
| Tuesday, March 6, 2018 12:39PM - 12:51PM | F48.00008: Geometric Frustration in Non-Periodic Mechanical Metamaterials Erdal Oğuz , Anne Meeussen , Martin Van Hecke , Yair Shokef |
| Tuesday, March 6, 2018 12:51PM - 1:03PM | F48.00009: Sequential Motion in Mechanical Metamaterials Martin Van Hecke |
| Tuesday, March 6, 2018 1:03PM - 1:15PM | F48.00010: High-frequency Homogenization of Periodic Elastic Structures Yurii Zubov , Bahram Djafari-Rouhani , Arkadii Krokhin |
| Tuesday, March 6, 2018 1:15PM - 1:27PM | F48.00011: Towards Pseudo-Rigid Body Models for Mechanical Metamaterials: Analysis and Design of Tubular Structures Freek Broeren , Volkert van der Wijk , Just Herder |
| Tuesday, March 6, 2018 1:27PM - 1:39PM | F48.00012: Experimental demonstration of elastic Wannier-Stark Ladders and Bloch oscillations in 1D granular crystals Xiaotian Shi , Rajesh Chaunsali , ying wu , Jinkyu Yang |
| Tuesday, March 6, 2018 1:39PM - 1:51PM | F48.00013: Asymmetric Wave Propagation in a Modulated Magnetic Lattice Behrooz Yousefzadeh , Yifan Wang , Chiara Daraio |
| Tuesday, March 6, 2018 1:51PM - 2:03PM | F48.00014: Porous mechanical metamaterials as aggregates of elastic charges Gabriele Librandi , Michael Moshe , Yoav Lahini , Katia Bertoldi |
| Tuesday, March 6, 2018 2:03PM - 2:15PM | F48.00015: Thermally responsive mechanical metamaterials Damiano Pasini |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F52: Focus Session: Architectural Design of Polymers I: Assembly, Adsorption and Dynamics

Sponsoring Units: DPOLY

Chair: Joshua Sangoro, Univ of Tennessee, Knoxville

Room: 512

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| Tuesday, March 6, 2018 11:15AM - 11:27AM | F52.00001: Morphology Study of Poly(3-dodecylthiophene)-based Block Copolymers Depending on Regioregularity Jin-Seong Kim , Junghun Han , Jonathan Coote , Youngkwon Kim, Gila Stein , Bumjoon Kim |
| Tuesday, March 6, 2018 11:27AM - 11:39AM | F52.00002: Tuning Segregation Strength with Sequence-Defined Polypeptoid Diblock Copolymers Anastasia Patterson , Adrienne Rosales , Rachel Segalman |
| Tuesday, March 6, 2018 11:39AM - 11:51AM | F52.00003: Physical origin and the architectural pathway to the “inverted” phases of the micro-segregated diblock copolymers Victor Pryamitsyn , Monica Olvera De La Cruz |
| Tuesday, March 6, 2018 11:51AM - 12:27PM | F52.00004: Architectural effect of polymer nanoparticles on block copolymer ordering Invited Speaker: Joona Bang , Hyun Suk Wang , June Huh |
| Tuesday, March 6, 2018 12:27PM - 12:39PM | F52.00005: Linear Viscoelasticity of Lamellae-Forming Brush Block Copolymers Benjamin Yavitt , Huafeng Fei , H. Winter , James Watkins |
| Tuesday, March 6, 2018 12:39PM - 12:51PM | F52.00006: Evidence for Backbone Flexibility of Bottlebrush Polymers Driven by Low Chi Assembly Daniel Sunday , Alice Chang , Christopher Liman , Eliot Gann , Dean DeLongchamp , Christopher Soles , Mark Matsen , Robert Grubbs |
| Tuesday, March 6, 2018 12:51PM - 1:03PM | F52.00007: Effects of Grafting Density on Block Polymer Self-Assembly: From Linear to Bottlebrush Alice Chang , Tzu-Pin Lin , Byeongdu Lee , Robert Grubbs |
| Tuesday, March 6, 2018 1:03PM - 1:15PM | F52.00008: Polymerization-Induced Morphology Transitions in Diblock Copolymer/Monomer Blends Robert Hickey |
| Tuesday, March 6, 2018 1:15PM - 1:27PM | F52.00009: Effects of Copolymer Architecture on the Structure and Thermodynamics of Self-Assembly in Block Copolymer Solutions: a Coarse-Grained Molecular Dynamics Study Michiel Wessels , Arthi Jayaraman |
| Tuesday, March 6, 2018 1:27PM - 1:39PM | F52.00010: Study of Solution Assembly Behaviors of Regioregularity Controlled P3HT-P2VP Block Copolymers Youngkwon Kim , Jin-Seong Kim , Hyeong Jun Kim , Hyeonjung Park , Junghun Han , Bumjoon Kim |
| Tuesday, March 6, 2018 1:39PM - 1:51PM | F52.00011: Structure-Induced Switching of Interpolymer Adhesion by Polymer Chains Adsorbed onto a Planar Solid Justin Cheung , Naisheng Jiang , Mani Sen , Maya Endoh , Tadanori Koga , Masafumi Fukuto , Guangcui Yuan , Sushil Satija, Jan-Michael Carrillo , Bobby Sumpter |
| Tuesday, March 6, 2018 1:51PM - 2:03PM | F52.00012: Controlling Reinforcement in Polymer Nanocomposites by Changing Rigidity of Adsorbed Chains Mohammed Hassan , Siyang Yang , Pinar Akcora |
| Tuesday, March 6, 2018 2:03PM - 2:15PM | F52.00013: Dynamics of 3-Dimensional Giant Molecules, Clusters of Molecular Nanoparticles Gengxin Liu , Xueyan Feng , Kening Lang , Ruimeng Zhang , Dong Guo , Shuguang Yang , Stephen Cheng |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F55: Padden Award Symposium

Sponsoring Units: DPOLY

Chair: Jan Genzer, North Carolina State Univ

Room: 515A

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|---|---|
| Tuesday, March 6, 2018 11:15AM - 11:27AM | F55.00001: Effect of Charge on Interfacial Activity and Micelle Formation of Ion-containing Block Copolymers at the Oil-Water Interface Ha-Kyung Kwon , Kenneth Shull , Monica Olvera De La Cruz |
| Tuesday, March 6, 2018 11:27AM - 11:39AM | F55.00002: Anisotropic Ion Diffusion and Electrochemically Driven Transport in Nanostructured Block Copolymer Electrolytes Ksenia Timachova , Irune Villaluenga , Steven Greenbaum , Nitash Balsara |
| Tuesday, March 6, 2018 11:39AM - 11:51AM | F55.00003: Frank-Kasper Phases in Block Polymers: Stable or Metastable? Akash Arora , Kyungtae Kim , Ronald Lewis , Meijiao Liu , Weihua Li , Anchang Shi , Frank Bates , Kevin Dorfman |
| Tuesday, March 6, 2018 11:51AM - 12:03PM | F55.00004: In situ SAXS/SANS Characterization of Supramolecular Hydrogels under Deformation Chao Wang , Clinton Wiener , Bryan Vogt , Robert Weiss |
| Tuesday, March 6, 2018 12:03PM - 12:15PM | F55.00005: Phase behavior and magnetic field response of liquid crystalline block copolymers with labile mesogens Youngwoo Choo , Manesh Gopinadhan , Masafumi Fukuto , Lalit Mahajan , Dennis Ndaya , Rajeswari Kasi , Chinedum Osuji |
| Tuesday, March 6, 2018 12:15PM - 12:27PM | F55.00006: Identifying the Factors Governing Flow-Enhanced Nucleation in n-Alkanes with Molecular Simulation David Nicholson , Gregory Rutledge |
| Tuesday, March 6, 2018 12:27PM - 12:39PM | F55.00007: Slow relaxations of grafted polymer due to confinement by neighboring chains Ryan Poling-Skutvik , Jacinta Conrad , Ramanan Krishnamoorti |
| Tuesday, March 6, 2018 12:39PM - 12:51PM | F55.00008: Impact of Aspect Ratio Control of Nanorod Surfactants on Shaping Block Copolymer Particles Kang Hee Ku , Youngkwon Kim , Jae Man Shin , Young Jun Lee , Bumjoon Kim |
| Tuesday, March 6, 2018 12:51PM - 1:03PM | F55.00009: Extensional Relaxation Times of Dilute and Semi-Dilute Polymer Solutions Jelena Dinic , Leidy Jimenez , Madeleine Biagioli , Vivek Sharma |
| Tuesday, March 6, 2018 1:03PM - 1:15PM | F55.00010: Molecular Insights into the Extensional Flow of Polymers Thomas O'Connor , Mark Robbins |
| Tuesday, March 6, 2018 1:15PM - 1:27PM | F55.00011: Proton Transport through a Crystalline Polymer: Lamellar Water Channels in Chain-Folded Precisely Sulfonated Polyethylene Edward Trigg , Taylor Gaines , Kenneth Wagener , Mark Stevens , Karen Winey |
| Tuesday, March 6, 2018 1:27PM - 1:39PM | F55.00012: Low-Temperature Ionic Conductivity Enhanced by Disrupted Ice Formation in Polyampholyte Hydrogels Xinda Li , Hemant Charaya , Guy Bernard , Vladimir Michaelis , Janet Elliott , Byeongdu Lee , Hyun-Joong Chung |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F56: Focus Session: Organic Electronics and Photonics II: Applications

Sponsoring Units: DPOLY DMP

Chair: Stephanie Lee, Stevens Institute of Technology

Room: 515B

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| Tuesday, March 6, 2018 11:15AM - 11:51AM | F56.00001: The impact of organic phototransistors on large area image sensors Invited Speaker: Ana Arias |
| Tuesday, March 6, 2018 11:51AM - 12:03PM | F56.00002: Effect of Radical Polymer Doping on the Carbon Nanotube Transistors Yongho Joo , Mukherjee Sanjoy , Bryan Boudouris |
| Tuesday, March 6, 2018 12:03PM - 12:15PM | F56.00003: Intrinsic conductivity mechanisms of radical polymer films with conjugated and non-conjugated backbones Albert Park , Yiren Zhang , Alicia Cintora , Stephen McMillan , Nicholas Harmon , Austin Moehle , Michael Flatté , Christopher Ober , Gregory Fuchs |
| Tuesday, March 6, 2018 12:15PM - 12:27PM | F56.00004: Mixed ionic/electronic conduction in a oligoethyleneglycol-terminated oligothiophene rod-coil oligomer Ban Dong , Ziwei Liu , Christopher Ober , Shrayesh Patel , Paul Nealey |
| Tuesday, March 6, 2018 12:27PM – 1:03PM | F56.00005: Thermoelectric Properties of Semiconducting Polymers Invited Speaker: Michael Chabinyc |
| Tuesday, March 6, 2018 1:03PM - 1:15PM | F56.00006: Thermal Conductivity in Crystalline Polythiophene Using ab-initio Anharmonic Lattice Dynamics Peishi Cheng , Nina Shulumba , Austin Minnich |
| Tuesday, March 6, 2018 1:15PM - 1:27PM | F56.00007: Electro-polymerization of PEDOT with a three-armed conjugated crosslinker leads to enhanced charge transport Junseop Lee , Shrayesh Patel |
| Tuesday, March 6, 2018 1:27PM - 1:39PM | F56.00008: Temperature and Bias Dependent Impedance studies on PF6- doped poly (3,4-ethylenedioxythiophene) devices Amit Roy , P Anjaneyulu , Reghu Menon |
| Tuesday, March 6, 2018 1:39PM - 1:51PM | F56.00009: Tunable motional narrowing of polaron charge carrier hyperfine field distributions in ethylene glycol doped poly(3,4-ethylenedioxythiophene)-poly(styrenesulfonate) Mandfro Teferi , Jonathan Ogle , Gajadhar Joshi , Shirin Jamali , Douglas Baird , Hans Malissa , Luisa Whittaker-Brooks , Christoph Boehme |
| Tuesday, March 6, 2018 1:51PM - 2:-3PM | F56.00010: Electronic structure of dipeptides in the gas-phase and as an adsorbed monolayer Soumyajit Sarkar , Cunlan Guo , Sivan Refaely-Abramson , David Egger , Tatyana Bendikov , Keiichirou Yonezawa , Yosuke Suda , Takuma Yamaguchi , Israel Pecht , Satoshi Kera , Nobuo Ueno , Mudi Sheves , Leeor Kronik , D Cahen |
| Tuesday, March 6, 2018 2:03PM - 2:15PM | F56.00011: Tunable effective resistance and capacitance of Ni ion-complex in Ni-DNA Chia-Ching Chang , Yu-Chang Chen , Wen-Bin Jian , Chiun-Jye Yuan , Massimiliano Di Ventra |

Tuesday, March 6, 2018, 11:15 am – 2:15 pm

Session F59: Invited Session: Recent Advances in Single Polymer Dynamics

Sponsoring Units: DPOLY

Chair: Charles Schroeder, University of Illinois at Urbana–Champaign

Room: *Petree Hall D*

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| Tuesday, March 6, 2018 11:15AM - 11:51AM | F59.00001: Surprises Upon Watching Single Macromolecules in Real Time Invited Speaker: Steve Granick |
| Tuesday, March 6, 2018 11:51AM - 12:27PM | F59.00002: Low-force single-molecule elasticity of complex polymers Invited Speaker: Omar Saleh |
| Tuesday, March 6, 2018 12:27PM - 1:03PM | F59.00003: Microscopic origin of the elastic instabilities during flow of polymer solutions Invited Speaker: Pouyan Boukany |
| Tuesday, March 6, 2018 1:03PM - 1:39PM | F59.00004: How molecules behave in a squeeze Invited Speaker: Sabrina Leslie |
| Tuesday, March 6, 2018 1:39PM - 2:15PM | F59.00005: Conformational Averaging as a Route To Understanding Out-of-Equilibrium Polymer Solutions in Flow Invited Speaker: Charles Young , Charles Sing |

Tuesday, March 6, 2018, 2:30 pm – 5:30 pm

Session H43: Advancing Polymer Physics by Integrating Simulation and Theory II

Sponsoring Units: DPOLY DCOMP

Chair: Jonathan Whitmer, Univ of Notre Dame

Room: 503

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| Tuesday, March 6, 2018 2:30PM - 3:06PM | Dillon Medal Break |
| Tuesday, March 6, 2018 3:06PM - 3:18PM | H43.00002: “On the fly” QM/MM hybrid simulations of critical failure at the interface in CNT/polymer nanocomposites Jacek Golebiowski , Peter Haynes , Arash Mostofi |
| Tuesday, March 6, 2018 3:18PM - 3:30PM | H43.00003: Prediction of ionic conductivity and transport mechanism in polymer electrolytes using molecular dynamics jonathan mailoa , Nicola Molinari , Georgy Samsonidze , Boris Kozinsky |
| Tuesday, March 6, 2018 3:30PM - 3:42PM | H43.00004: Computational study of mechanical properties of poly-phenylene terephthalamide Jie Yu , Giacomo Fiorin , Haowei Peng , Michael Klein , John Perdew |
| Tuesday, March 6, 2018 3:42PM - 3:54PM | H43.00005: Electronically excited states in π/π stacking compounds Azusa Muraoka , Nao Fukabori , Tomomi Yasoshima |
| Tuesday, March 6, 2018 3:54PM - 4:06PM | H43.00006: Coarse-grained potentials to perform large scale molecular dynamics simulations of graphene sheets self-assembling at the water-oil interface Vikram Reddy Ardhama , Frédéric Leroy |
| Tuesday, March 6, 2018 4:06PM - 4:18PM | H43.00007: Hierarchical excluded volume screening in solutions of bottlebrush polymers Jaroslaw Paturej , Torsten Kreer |
| Tuesday, March 6, 2018 4:18PM - 4:30PM | H43.00008: Routine million-particle simulations of epoxy curing with dissipative particle dynamics Stephen Thomas , Eric Jankowski |
| Tuesday, March 6, 2018 4:30PM - 4:42PM | H43.00009: Structure and Mechanics of Semi-Crystalline Polymers: Coarse-Grained Simulation and Theory Tyler Martin , Ronald Jones , Chad Snyder |
| Tuesday, March 6, 2018 4:42PM - 4:54PM | H43.00010: Comparing Dynamics via Atomistic Simulations with Mechanics via Experiment: Utility of the Time-Temperature Superposition Principle Ketan Khare , Frederick Phelan Jr. |
| Tuesday, March 6, 2018 4:54PM - 5:06PM | H43.00011: Shock-induced Para-crystallinity in PPTA Subodh Tiwari , Sungwook Hong , Paulo Branicio , Rajiv Kalia , Aiichiro Nakano , Priya Vashishta |
| Tuesday, March 6, 2018 5:06PM - 5:18PM | H43.00012: Stiffness and Structure of Coarse-Grained Polymer Models K. Salerno , Noam Bernstein |

Tuesday, March 6, 2018, 2:30 pm – 5:30 pm

Session H52: Polyelectrolyte Complexation III: Biology and Applications

Sponsoring Units: DPOLY DBIO

Chair: Ting Ge, Univ of NC - Chapel Hill

Room: 512

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| Tuesday, March 6, 2018 2:30PM - 3:06PM | Dillon Medal Break |
| Tuesday, March 6, 2018 3:06PM - 3:18PM | H52.00002: Crystallinity of dsRNA-Antimicrobial Peptide Complexes Modulates TLR3-Mediated Inflammation Ernest Lee , Toshiya Takahashi , Tine Curk , Jure Dobnikar , Richard Gallo , Gerard Wong |
| Tuesday, March 6, 2018 3:18PM - 3:30PM | H52.00003: Polyelectrolyte - Multivalent Ion Interactions In Jammed Granular Microgels Christopher O'Bryan, Christopher Kabb, Brent Sumerlin, Thomas Angelini |
| Tuesday, March 6, 2018 3:30PM - 3:42PM | H52.00004: Design Rules for Immunomodulation by Host-Defense Peptides Ernest Lee , Changsheng Zhang , Jeremy Di Domizio , Fan Jin , Will Connell , Mandy Hung , Nicolas Malkoff , Veronica Veksler , Michel Gilliet , Pengyu Ren , Gerard Wong |
| Tuesday, March 6, 2018 3:42PM - 3:54PM | H52.00005: Unconventional Coacervate Formation between Neutral Polymer and Inorganic Polyanions in Salted Aqueous Solution Benxin Jing , Christopher Wood , Yingxi Elaine Zhu |
| Tuesday, March 6, 2018 3:54PM - 4:06PM | H52.00006: Effect of Polymer Net Charge on Polyampholyte-Polyanion Coacervate Complexation Manuela Ferreira , Benxin Jing , Yingxi Elaine Zhu |
| Tuesday, March 6, 2018 4:06PM - 4:18PM | H52.00007: PEG-based Polyampholytes as Osmotic Stabilizers during Cryopreservation of Living Cells Aaron Burkey , Neda Ghausifam , Christopher Riley , Taylor Hatridge , Nathaniel Lynd |
| Tuesday, March 6, 2018 4:18PM - 4:30PM | H52.00008: Conformational Structure of Polyelectrolytes in Polyzwitterionic Coacervate Complexes Kehua Lin , Benxin Jing , Yingxi Elaine Zhu |
| Tuesday, March 6, 2018 4:30PM - 4:42PM | H52.00009: Effect of Charge Density and Topology on Polyelectrolyte Complex Coacervation Emmanouela Filippidi , Anastasia Patterson , Scott Danielsen , Claus Eisenbach , Glenn Fredrickson , Rachel Segalman , Megan Valentine |
| Tuesday, March 6, 2018 4:42PM - 4:54PM | H52.00010: Direct assembly of antimicrobials within layer-by-layer films mediated by polyphosphazene polyelectrolytes Victoria Albright , Alexander Marin , Alexander Andrianov , Svetlana Sukhishvili |
| Tuesday, March 6, 2018 4:54PM - 5:06PM | H52.00011: Effect of a Competitive Solvent on Growth and Chain Intermixing in Hydrogen-Bonded Multilayers Victor Selin , John Ankner , Svetlana Sukhishvili |

Tuesday, March 6, 2018
5:06PM - 5:18PM

H52.00012: Charging Behavior of Associating Weak
Polyelectrolytes
Vikramjit Rathee , Aristotle Zervoudakis , Hythem Sidky , Ben
Sikora , Jonathan Whitmer

Tuesday, March 6, 2018
5:18PM - 5:30PM

H52.00013: Complex Formation, Emergent States and Electronic
Energy Transfer between Oppositely Charged Conjugated
Polyelectrolytes
William Hollingsworth , Carmen Segura , Arthur Bragg ,
Alexander Ayzner

Tuesday, March 6, 2018, 2:30 pm – 5:30 pm

Session H55: Focus Session: Polymer Physics in Very Strongly Confined Environments I: Knots and Nanopores

Sponsoring Units: DPOLY GSNP

Chair: Subhalakshmi Kumar, University of Illinois at Urbana–Champaign

Room: 515A

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|---|---|
| Tuesday, March 6, 2018 2:30PM – 3:06PM | Dillon Medal Break |
| Tuesday, March 6, 2018 3:06PM - 3:18PM | H55.00002: Anomalous Dynamics of a Polymer Chain Confined in a Static Porous Environment Zachary Dell , Murugappan Muthukumar |
| Tuesday, March 6, 2018 3:18PM - 3:30PM | H55.00003: Polymer folding in confined and crowded environments Mark Taylor , Christopher Vinci |
| Tuesday, March 6, 2018 3:30PM - 3:42PM | H55.00004: Sequence-dependent persistence length of long DNA Hui-Min Chuang , Jeffrey Reifenberger , Cao Han , Kevin Dorfman |
| Tuesday, March 6, 2018 3:42PM - 4:18PM | H55.00005: DNA knots in confinement Invited Speaker: Patrick Doyle |
| Tuesday, March 6, 2018 4:18PM - 4:30PM | H55.00006: Prevalence of loose and tight knots in DNA investigated by a nanopore sensor Rajesh Sharma , Ishita Agrawal , Liang Dai , Patrick Doyle , Slaven Garaj |
| Tuesday, March 6, 2018 4:30PM - 4:42PM | H55.00007: Translation and untying of DNA knots in extensional fields Alexander Klotz , Beatrice Soh , Vivek Narsimhan , Patrick Doyle |
| Tuesday, March 6, 2018 4:42PM - 4:54PM | H55.00008: Fabricating sub 5 nm nanopores via tip-controlled electric breakdown using an atomic force microscope Yuning Zhang , Yoichi Miyahara , Peter Grutter , Walter Reisner |
| Tuesday, March 6, 2018 4:54PM - 5:06PM | H55.00009: Different solid-state nanopore translocation dynamics and times of dsDNA and ssDNA Sebastian Sensale , Ceming Wang , Zhangli Peng , Hsueh-Chia Chang |
| Tuesday, March 6, 2018 5:06PM - 5:18PM | H55.00010: Effects of nanopore charge decorations on the translocation dynamics of DNA Ining Jou , Murugappan Muthukumar |
| Tuesday, March 6, 2018 5:18PM - 5:30PM | H55.00011: Unfolding of RNA via Translocation Through a Nanopore Sadhana Chalise , Murugappan Muthukumar |

Tuesday, March 6, 2018, 2:30 pm – 5:30 pm

Session H56: Focus Session: Advanced Morphological Characterization of Polymeric Materials II: Emerging Microscopy and Spectroscopy Techniques

Sponsoring Units: DPOLY

Chair: Brian Collins, Washington State Univ

Room: 515B

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| Tuesday, March 6, 2018 2:30PM - 3:06PM | Dillon Medal Break |
| Tuesday, March 6, 2018 3:06PM - 3:42PM | H56.00002: In-Situ Imaging of Polymer and Organic Molecular Materials by Transmission Electron Microscopy Invited Speaker: David Martin |
| Tuesday, March 6, 2018 3:42PM - 3:54PM | H56.00003: Minimizing beam damage with antioxidants to enable high resolution imaging of conjugated polymers in the electron microscope Brooke Kuei , Enrique Gomez |
| Tuesday, March 6, 2018 3:54PM - 4:06PM | H56.00004: Electron Tomography Reveals Details of the Internal Microstructure of Desalination Membranes Tyler Culp , Yue-xiao Shen , Mou Paul , Abhishek Roy , Michael Behr , Steve Rosenberg , Manish Kumar , Enrique Gomez |
| Tuesday, March 6, 2018 4:06PM - 4:18PM | H56.00005: An imaging platform for single-molecule super-resolution microscopy in organic polymer materials Muzhou Wang , Zhe Qiang , Kevin Shebek , Masahiro Irie |
| Tuesday, March 6, 2018 4:18PM - 4:30PM | H56.00006: Environmental and Variable-Temperature Studies of Polymers with High-Speed AFM Sergei Magonov , Shijie Wu |
| Tuesday, March 6, 2018 4:30PM - 4:42PM | H56.00007: Inelastic Neutron Scattering of Biaxially-Oriented Polyethylene Terephthalate (BoPET) Films Zachary Stroupe , Nicholas Strange , John Lares |
| Tuesday, March 6, 2018 4:42PM - 4:54PM | H56.00008: nano-FTIR: Near-Field Spectroscopy of Polymers with sub-20nanometer Spatial Resolution Max Eisele , Adrian Cernescu |
| Tuesday, March 6, 2018 4:54PM - 5:06PM | H56.00009: Probing H- and J- aggregate spectral signatures via Stokes formalism for polarized light: applications to P3HT Steven Ulrich , Renato Sampaio , Huan Nguyen , Newton Barbosa , Paulo Araujo |
| Tuesday, March 6, 2018 5:06PM - 5:18PM | H56.00010: From Vesicles to Cylinders in MeBIP-containing Poly(acrylate)s Frederick Beyer , Alice Savage , Scott Walck , Robert Lambeth |
| Tuesday, March 6, 2018 5:18PM - 5:30PM | H56.00011: The interplay of thermodynamics and kinetics: Imparting hierarchical control over film formation of self-stratified blends Samantha Rinehart , Mark Dadmun |

Tuesday, March 6, 2018, 2:30 pm – 5:30 pm

Session H59: Focus Session: Dillon Medal Symposium

Sponsoring Units: DPOLY

Chair: Nitash Balsara, Univ of California - Berkeley

Room: *Petree Hall D*

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| Tuesday, March 6, 2018 2:30PM - 3:06PM | H59.00001: Skipping Polymer Physics Invited Speaker: Bradley Olsen , Shengchang Tang , Danielle Mai, Jorge Ramirez , Tom Dursch , Yun Jung Yang |
| Tuesday, March 6, 2018 3:06PM - 3:18PM | H59.00002: Impact of Helical Chain Shape on Polypeptoid Block Copolymer Self-Assembly Rachel Segalman , Emily Davidson , Anastasia Patterson , Adrienne Rosales , Beihang Yu , Ronald Zuckermann |
| Tuesday, March 6, 2018 3:18PM - 3:30PM | H59.00003: Fatty Acid-Based Triblock Copolymers with a Transient Network Megan Robertson |
| Tuesday, March 6, 2018 3:30PM - 3:42PM | H59.00004: Mechanisms Underlying Ion Transport in Polymerized Ionic Liquid-Ionic Liquid Blends Venkatraghavan Ganesan , Santhosh Mogurampally |
| Tuesday, March 6, 2018 3:42PM - 3:54PM | H59.00005: Block Polymer Chiral Networks Edwin Thomas , Mujin Zhuo , Gregory Grason , Ishan Prasad |
| Tuesday, March 6, 2018 3:54PM - 4:06PM | H59.00006: Quantifying Lithium Salt and Polymer Density Distributions in Ion-Conducting Block Polymers Thomas Epps , Thomas Gartner , Melody Morris , Cameron Shelton |
| Tuesday, March 6, 2018 4:06PM - 4:18PM | H59.00007: Curvilinear Dynamics of Topologically Constrained Polymers Zhen-Gang Wang , Ahmad Omar |
| Tuesday, March 6, 2018 4:18PM - 4:30PM | H59.00008: Mega-supramolecules Julie Kornfield , Simon Jones , jeremy wei |
| Tuesday, March 6, 2018 4:30PM - 4:42PM | H59.00009: Consequences of Grafting Density on Bottlebrush Rheology Frank Bates , Ingrid Haugan , Michael Maher , Alice Chang , Tzu-Pin Lin , Robert Grubbs , Marc Hillmyer |
| Tuesday, March 6, 2018 4:42PM - 4:54PM | H59.00010: Double-Semidilute Liquid and Gel Coacervates formed by Oppositely Charged Polyelectrolytes Michael Rubinstein , Sergey Panyukov , Qi Liao |
| Tuesday, March 6, 2018 4:54PM - 5:06PM | H59.00011: Undoped, Non-conjugated Radical Polymer Glasses with High Electrical Conductivity Values Bryan Boudouris |
| Tuesday, March 6, 2018 5:06PM - 5:18PM | H59.00012: Tuning the Persistence Length of Semiflexible Methylcellulose Chains by Grafting Timothy Lodge , Sveta Morozova |
| Tuesday, March 6, 2018 5:18PM - 5:30PM | H59.00013: Bio-inspired metal-coordination crosslinking: easy access to broad dynamics when engineering polymer gel mechanics Niels Holten-Andersen |

Tuesday, March 6, 2018, 5:45 pm – 6:45 pm

Session J55: DPOLY Business Meeting

Sponsoring Units: DPOLY

Chair: Sanat Kumar, Columbia University

Room: 515A

Tuesday, March 6, 2018

5:45PM - 6:45PM

J55.00001: DPOLY Business Meeting

Session J65: NSF Polymers Q&A and Decadal Workshop Summary

Sponsoring Units: DPOLY

Chair: Andrew Lovinger, NSF

Room: 515A

Tuesday, March 6, 2018

6:45PM - 7:45PM

J65.00001: NSF Polymers Q&A and Decadal Workshop Summary

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K03: Confined Polymer Glasses III: Influence of Interfaces on Material Properties

Sponsoring Units: DPOLY GSNP

Chair: Daniele Cangialosi, Centro De Fisica De Materiales

Room: 150C

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| Wednesday, March 7, 2018 8:00AM - 8:12AM | K03.00001: Effective Viscosity of Polymer Films on a Strongly Slipping Surface Xuanji Yu , Fei Chen , Chi-Hang Lam , Ophelia Tsui |
| Wednesday, March 7, 2018 8:12AM - 8:24AM | K03.00002: Tuning the Effective Viscosity of Polymer Films by Chemical Modification Xuanji Yu , Ophelia Tsui |
| Wednesday, March 7, 2018 8:24AM - 8:36AM | K03.00003: Quantitative Nanorheometry of Ultrathin Polymer Films David Delgado , Kenneth Shull |
| Wednesday, March 7, 2018 8:36AM - 8:48AM | K03.00004: Mechanical Properties of Thin Nafion Films via Surface Wrinkling and Cantilever Bending Christopher Stafford , Zachary Tronstad , Gery Stafford , Bradley Frieberg |
| Wednesday, March 7, 2018 8:48AM - 9:00AM | K03.00005: Mechanical Properties of Ultra-thin Polycarbonate Films Woo Jin Choi , Alfred Crosby |
| Wednesday, March 7, 2018 9:00AM - 9:12AM | K03.00006: Unexpected Effect of Small Nanoparticles: A Paradigm Shift for Polymer Nanocomposites Robert Carroll , Shiwang Cheng , Shijie Xie , Jan-Michael Carrillo , Halie Martin , Peng-Fei Cao , Mark Dadmun , Bobby Sumpter , Vladimir Novikov , Kenneth Schweizer , Alexei Sokolov |
| Wednesday, March 7, 2018 9:12AM - 9:24AM | K03.00007: The Role of Position-Dependent Decoupling of Translational and Reorientational Dynamics in Thin Film Metrological ‘Discrepancies’ Daniel Mauricio Diaz Vela , David Simmons |
| Wednesday, March 7, 2018 9:24AM - 9:36AM | K03.00008: Nano-Glasses Formed by Ensembles of Confined Conjugated Polymers: Molecular Dynamic Simulation Study Supun Mohottalalage , Sidath Wijesinghe , Dvora Perahia , Gary Grest |
| Wednesday, March 7, 2018 9:36AM - 9:48AM | K03.00009: Fast Scanning Calorimetry Studies of Superheated Polycrystalline Films: Insights into the Glass Transition in the Limit of High Heating Rates Vlad Sadtchenko , Ulyana Cubeta |
| Wednesday, March 7, 2018 9:48AM - 10:00AM | K03.00010: Fast Scanning Calorimetry Studies of the Interface-facilitated Devitrification Mechanism of Model Molecular Glasses Ulyana Cubeta , Vlad Sadtchenko , Deepanjan Bhattacharya |
| Wednesday, March 7, 2018 10:00AM - 10:12AM | K03.00011: The glass transition of supported and unsupported polystyrene nanorods using Flash differential scanning calorimetry Madhusudhan Reddy Pallaka , Sindee Simon |
| Wednesday, March 7, 2018 10:12AM - 10:24AM | K03.00012: How Do Ultra-thin Glassy Polymer Films Fail? Reed Bay , Mark Ilton , Alfred Crosby |
| Wednesday, March 7, 2018 10:24AM - 10:36AM | K03.00013: Molecular Dynamics of Polystyrene Films: Comparison Between Atomistic Simulations and beta-NMR Measurements Derek Fujimoto , Iain McKenzie , Robert Kiefl , W MacFarlane , Joerg Rottler |

Wednesday, March 7, 2018
10:36AM - 10:48AM

K03.00014: Aging in diblock copolymers under soft and hard
confinement

Yunlong Guo , Mingchao Ma

Wednesday, March 7, 2018
10:48AM - 11:00AM

K03.00015: Why We Need to Look Beyond the Glass Transition
Temperature to Characterize the Dynamics of Thin Supported
Polymer Films

Wengang Zhang , Jack Douglas , Francis Starr

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K43: Focus Session: Architectural Design of Polymers II: Sequences, Branching and Networks

Sponsoring Units: DPOLY

Chair: Gila Stein, Univ of Tennessee, Knoxville

Room: 503

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| Wednesday, March 7, 2018 8:00AM - 8:12AM | K43.00001: Adsorption of random copolymers onto heterogeneous nanostructures Trung Nguyen , Ting Xu , Monica Olvera De La Cruz |
| Wednesday, March 7, 2018 8:12AM - 8:24AM | K43.00002: Understanding Linear and Cyclic Polymer Chain Conformations and Thermodynamics in Solution Thomas Gartner , Arthi Jayaraman |
| Wednesday, March 7, 2018 8:24AM - 8:36AM | K43.00003: Coherent States Field Theory for Supramolecular Polymer Physics Kris Delaney , Glenn Fredrickson |
| Wednesday, March 7, 2018 8:36AM - 9:12AM | K43.00004: Does co-monomer sequence in random copolymers matter? Invited Speaker: Jan Genzer |
| Wednesday, March 7, 2018 9:12AM - 9:24AM | K43.00005: Dynamics of bottlebrush polymers in flowing solutions Sarit Dutta , Charles Sing |
| Wednesday, March 7, 2018 9:24AM - 9:36AM | K43.00006: Functional Surfaces Using Bottlebrush Copolymer Additives Adeline Mah , Travis Laws , Hao Mei , Rafael Verduzco , Gila Stein |
| Wednesday, March 7, 2018 9:36AM - 9:48AM | K43.00007: Effect of Grafting Density on the Crystallization of Bottlebrush Polymers with Poly(ethylene oxide) Side Chains Adam Burns , Christopher Soles |
| Wednesday, March 7, 2018 9:48AM - 10:00AM | K43.00008: Solution Properties of Fluorinated Bottlebrush Polymers Revealed by Neutron and X-Ray Scatterings Kunlun Hong , Yingdong Luo , Shuo Qian |
| Wednesday, March 7, 2018 10:00AM - 10:12AM | K43.00009: Architecture of Telechelic Star Polymer Networks Ioana-Cristina Garlea , Christos Likos |
| Wednesday, March 7, 2018 10:12AM - 10:24AM | K43.00010: Impact of Molecular Architecture on Dynamics of Miktoarm Star Polymers Joshua Sangoro , Thomas Kinsey , Emmanuel Mapesa , Weiyu Wang , Jimmy Mays |
| Wednesday, March 7, 2018 10:24AM - 10:36AM | K43.00011: Stress-induced Orientation of Bicontinuous Nanostructures within Randomly End-linked Copolymer Networks Di Zeng , Ryan Hayward |
| Wednesday, March 7, 2018 10:36AM - 10:48AM | K43.00012: Computational Studies of Poly[<i>n</i>]catenanes Phillip Rauscher , Stuart Rowan , Juan De Pablo |
| Wednesday, March 7, 2018 10:48AM - 11:00AM | K43.00013: Designing Multivalent Polymers to be Broad Spectrum Inhibitors, A Computational Study Emiko Zumbro , Katharina Ribbeck , Alfredo Alexander-Katz |

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K49: Focus Session: Physics of Genome Organization: From DNA to Chromatin I

Sponsoring Units: DBIO DPOLY GSNP

Chair: Alexandre Morozov, Rutgers Univ

Room: 511A

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| Wednesday, March 7, 2018 8:00AM - 8:36AM | K49.00001: Nucleosome unwrapping may be easier than you think Invited Speaker: Ralf Bundschuh |
| Wednesday, March 7, 2018 8:36AM - 8:48AM | K49.00002: Nuclear Architecture Controls the Timescales of Genomic Interactions Yaojun Zhang , Nimish Khanna , Olga Dudko , Cornelis Murre |
| Wednesday, March 7, 2018 8:48AM - 9:00AM | K49.00003: Defect-Facilitated Buckling in Supercoiled DNA Sumitabha Brahmachari , Andrew Dittmore , Yasuharu Takagi , Keir Neuman , John Marko |
| Wednesday, March 7, 2018 9:00AM - 9:12AM | K49.00004: Modeling Functional Regulation of Gene Expression from Chromatin Profiles Zhenjia Wang , Chongzhi Zang |
| Wednesday, March 7, 2018 9:12AM - 9:24AM | K49.00005: Properties of Gene Expression and Chromatin Structure with Mechanically Regulated Transcription Stuart Sevier , Herbert Levine |
| Wednesday, March 7, 2018 9:24AM - 9:36AM | K49.00006: Uncovering the Relation between Inter-Nucleosome Energetics and Supramolecular Chromatin Structure Joshua Moller , Joshua Lequieu , Juan De Pablo |
| Wednesday, March 7, 2018 9:36AM - 9:48AM | K49.00007: Active hydrodynamics of interphase chromatin: coarse-grained modeling and simulations David Saintillan , Achal Mahajan , Michael Shelley , Alexandra Zidovska |
| Wednesday, March 7, 2018 9:48AM - 10:00AM | K49.00008: Dynamics of Stretched Single DNA and Native Chromatin in Nanoslits JiaWei Yeh , Kylan Szeto , Chia-Fu Chou |
| Wednesday, March 7, 2018 10:00AM - 10:12AM | K49.00009: Collective oscillations of DNA methylation during exit from pluripotency Srteffen Rulands , Heather Lee , Stephen Clark , Hisham Mohammed , Benjamin Simons , Wolf Reik |
| Wednesday, March 7, 2018 10:12AM - 10:24AM | K49.00010: A Unified Computational Framework for Modeling Genome-wide Nucleosome Landscape Hu Jin , Alex Finnegan , Jun Song |
| Wednesday, March 7, 2018 10:24AM - 10:36AM | K49.00011: Dynamic Force-Extension of DNA with Nucleoid Associated Proteins Katelyn Dahlke , Charles Sing |
| Wednesday, March 7, 2018 10:36AM - 10:48AM | K49.00012: Structure and Dynamics of Histone-DNA Phase Separated Liquid Droplets Anisha Shakya , John King |
| Wednesday, March 7, 2018 10:48AM - 11:00AM | K49.00013: Unexpected Discontinuous Supercoiling of Torsionally Buckled DNA: Evidence for a Solenoid? Andrew Dittmore , Keir Neuman |

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K52: Focus Session: Extreme Deformation of Polymers and Soft Matter I: Cavitation and Fracture

Sponsoring Units: DPOLY GSOFIT

Chair: Shelby Hutchens, University of Illinois at Urbana-Champaign

Room: 512

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| Wednesday, March 7, 2018 8:00AM - 8:36AM | K52.00001: High Strain Rate, High Pressure Behavior of Polyurea Invited Speaker: Timothy Ransom |
| Wednesday, March 7, 2018 8:36AM - 8:48AM | K52.00002: Ultrasoft Fracture Energies via Cavitation Rheology Steven Yang , Davin Bahk , Shelby Hutchens |
| Wednesday, March 7, 2018 8:48AM - 9:00AM | K52.00003: Cavitation in soft materials Shengqiang Cai |
| Wednesday, March 7, 2018 9:00AM - 9:12AM | K52.00004: High Strain-rate Soft Material Characterization via Inertial Cavitation Jonathan Estrada , Carlos Barajas , David Henann , Eric Johnsen , Christian Franck |
| Wednesday, March 7, 2018 9:12AM - 9:24AM | K52.00005: Laser-induced Cavitation for Understanding High- strain-rate Mechanical Behavior of Soft Materials Amir Kazemi Moridani , Kelly McLeod , Carey Dougan , Shelly Peyton , Gregory Tew , Jae-Hwang Lee |
| Wednesday, March 7, 2018 9:24AM - 9:36AM | K52.00006: Fracture and healing of elastomers: Experiments, Theory, and numerical implementation Aditya Kumar , K. Ravi-Chandar , Gilles Francfort , Oscar Lopez- Pamies |
| Wednesday, March 7, 2018 9:36AM - 9:48AM | K52.00007: Molecular Dynamics Simulation of Cavitation in Network Polymer Gels Ziyu Ye , Robert Riggelman |
| Wednesday, March 7, 2018 9:48AM - 10:00AM | K52.00008: Failure Behavior of Alginate Hydrogels Santanu Kundu , SeyedMeysam Hashemnejad , Rangana Wijayapala , Rosa Maria Badani Prado , Satish Mishra |
| Wednesday, March 7, 2018 10:00AM - 10:12AM | K52.00009: Cavitation Rheology of Biological Materials Jennifer McManus , Alice Blumlein , Lucy Moran |
| Wednesday, March 7, 2018 10:12AM - 10:24AM | K52.00010: Residual Stress Effects on Needle-Induced Cavitation Christopher Barney , Alfred Crosby |
| Wednesday, March 7, 2018 10:24AM - 10:36AM | K52.00011: A Device for High-Strain-Rate Cavitation Matthew Milner , Shelby Hutchens |
| Wednesday, March 7, 2018 10:36AM - 10:48AM | K52.00012: Deformation and Puncture of Synthetic Tissue Surrogates under Impact Loading Aaron Forster , Michael Riley |
| Wednesday, March 7, 2018 10:48AM - 11:00AM | K52.00013: Large strain rheology plays a key role in the peeling of a soft adhesive Julien Chopin , Richard Villey , David Yarusso , Etienne Barthel , Costantino Creton , Matteo Ciccotti |

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K55: Focus Session: Advancing Polymer Physics by Integrating Simulation Theory III: Self-Assembly and Charged Polymers

Sponsoring Units: DPOLY DCOMP

Chair: Charles Sing, University of Illinois at Urbana-Champaign

Room: 515A

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| Wednesday, March 7, 2018 8:00AM - 8:36AM | K55.00001: Polyelectrolyte-protein interactions: connecting theory, simulations, and experiments Invited Speaker: Joachim Dzubiella , Xiao Xu , Qidi Ran , Rainer Haag , Matthias Ballauff |
| Wednesday, March 7, 2018 8:36AM - 8:48AM | K55.00002: Effect of Ion Content on Adhesion of Ionomers from Molecular Dynamics Simulations Janani Sampath , Patrick Murtha , Lisa Hall |
| Wednesday, March 7, 2018 8:48AM - 9:00AM | K55.00003: Correlation and Association Effects of Ions in Block Copolymers from Fluids Density Functional Theory Jonathan Brown , Lisa Hall |
| Wednesday, March 7, 2018 9:00AM - 9:12AM | K55.00004: Kinetics of conformational changes in polyelectrolyte systems Arindam Kundagrami , Swati Sen , Soumik Mitra |
| Wednesday, March 7, 2018 9:12AM - 9:24AM | K55.00005: Integrating PRISM theory and molecular dynamics simulations for studying assembly in solutions of block copolymers with varying sequences and composition Ivan Lyubimov , Daniel Beltran-Villegas , Arthi Jayaraman |
| Wednesday, March 7, 2018 9:24AM - 9:36AM | K55.00006: Comparison of Field-Theoretic Approaches in Predicting Polymer Nanocomposite Phase Behavior Amalie Frischknecht , Jason Koski , Robert Ferrier, Jr. , Nadia Krook , Huikuan Chao , Russell Composto , Robert Riggelman |
| Wednesday, March 7, 2018 9:36AM - 9:48AM | K55.00007: Extended Hybrid Particle-Field Approach for Simulating Polymeric Systems Dong Meng , Jing Zong |
| Wednesday, March 7, 2018 9:48AM - 10:00AM | K55.00008: Simulations of Self-Assembly in Globular Protein-Polymer Conjugates Helen Yao , Bradley Olsen |
| Wednesday, March 7, 2018 10:00AM - 10:12AM | K55.00009: Determination of Globally Stable Block Copolymer Phases Using Particle Swarm Optimization Carol Tsai , Kris Delaney , Glenn Fredrickson |
| Wednesday, March 7, 2018 10:12AM - 10:24AM | K55.00010: Systematic and Simulation-Free Coarse Graining of Diblock Copolymer Melts YAN WANG , Qiang WANG |
| Wednesday, March 7, 2018 10:24AM - 10:36AM | K55.00011: Permeability Maximization of Polymer Networks Won Kyu Kim , Matej Kanduč , Rafael Roa , Joachim Dzubiella |
| Wednesday, March 7, 2018 10:36AM - 10:48AM | K55.00012: Modeling core-shell particle morphology of engineered polyolefin-acrylic particles for impact modification Jian Yang , Valeriy Ginzburg , Liang Chen , Andy Li , Carlos Cruz , Matthew Carter , Robert Moglia |
| Wednesday, March 7, 2018 10:48AM - 11:00AM | K55.00013: Phase transition path and formation of stable and metastable structures in self-assembled rod-coil block copolymers Ping Tang , Tongjie Sun , Faqiang Liu , Feng Qiu , Yuliang Yang |

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K56: Focus Session: Organic Electronics and Photonics III: Organic Photovoltaics

Sponsoring Units: DPOLY DMP

Chair: Xiaodan Gu, University of Southern Mississippi

Room: 515B

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| Wednesday, March 7, 2018 8:00AM - 8:12AM | K56.00001: Mixed Domains Enhance Charge Generation and Extraction in Small-Molecule Bulk Heterojunction Solar Cells Brian Collins , Obaid Alqahtani , Maxime Babics , Julien Gorenflot , Victoria Savikhin , Thomas Ferron , Ahmed Balawi , Andreas Paulke , Zhipeng Kan , Michael Pope , Andrew Clulow , Jannic Wolf , Paul Burn , Ian Gentle , Dieter Neher , Michael Toney , Frederic Laquai , Pierre Beaujuge |
| Wednesday, March 7, 2018 8:12AM - 8:24AM | K56.00002: PTB7-Th- <i>b</i> -PNDI fully conjugated donor-acceptor block copolymers for thermal stability of photovoltaic devices Youngmin Lee , Qing Wang , Enrique Gomez |
| Wednesday, March 7, 2018 8:24AM - 8:36AM | K56.00003: Donor/acceptor interfacial structure from ¹³ C { ² H} REDOR NMR Ryan Nieuwendaal |
| Wednesday, March 7, 2018 8:36AM - 9:12AM | K56.00004: Nanoscale Energetic Mapping of Interfaces in Organic Bulk Heterojunction Solar Cells Invited Speaker: Aram Amassian |
| Wednesday, March 7, 2018 9:12AM - 9:24AM | K56.00005: Study of Fracture and Tensile Properties of All-Polymer and Fullerene-Polymer Solar Cells Based on Same Polymer Donor Joonhyeong Choi , Wansun Kim , Jae-Han Kim , Taesu Kim , Mingoo Kim , Bumjoon Kim , Taek-Soo Kim |
| Wednesday, March 7, 2018 9:24AM - 9:36AM | K56.00006: A General Strategy for Stretchable Organic Photovoltaics through Interpenetrating Thiol-Ene Networks Mok Jorge , Zhiqi Hu , Rafael Verduzco |
| Wednesday, March 7, 2018 9:36AM - 9:48AM | K56.00007: Solution Shearing to Control the Morphology of Continuously Processed P3HT/PCBM Films Jing He , Xiaoqing Kong , Dilhan Kalyon , Stephanie Lee |
| Wednesday, March 7, 2018 9:48AM - 10:00AM | K56.00008: Predicting charge transport properties in organic photovoltaic devices with coarse grained models Michael Henry , Matthew Jones , Eric Jankowski |
| Wednesday, March 7, 2018 10:00AM - 10:12AM | K56.00009: Computational Characterization of Structure and Electronic Properties of Periflanthene:Fullerene Blends Evan Miller , Matthew Jones , Eric Jankowski |
| Wednesday, March 7, 2018 10:12AM - 10:24AM | K56.00010: Elucidating Structure-Property Relationships for Charge Carrier Mobility and Mobility Relaxation in Organic Semiconductor Blends using Kinetic Monte Carlo Simulations Informed by TEM Tomography Michael Heiber , Andrew Herzing , Lee Richter , Dean DeLongchamp |
| Wednesday, March 7, 2018 10:24AM - 10:36AM | K56.00011: Relating Molecular Morphology to Mesoscale Device Performance Characteristics Matthew Jones , Eric Jankowski |

Wednesday, March 7, 2018
10:36AM - 10:48AM

K56.00012: Energy Transfer Dynamics in Complexes of Oppositely
Charged Conjugated Polyelectrolytes
Will Hollingsworth IV , Carmen Segura , Arthur Bragg , Alexander
Ayzner

Wednesday, March 7, 2018
10:48AM - 11:00AM

K56.00013: Electron Donor-Acceptor Nano-Domains in Bulk
Heterojunctions of Organic Solar Cell Active Layers - Cross Sectional
Scanning Tunneling Microscopy and Spectroscopy
Rabindra Dulal , Aaron Wang , Te-Yu Chien

Wednesday, March 7, 2018, 8:00 am – 11:00 am

Session K59: Invited Session: Designing Biomacromolecules for Materials Assembly

Sponsoring Units: DPOLY DBIO

Chair: Darrin Pochan, Univ of Delaware

Room: *Petree Hall D*

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| Wednesday, March 7, 2018 8:00AM - 8:36AM | K59.00001: Computational design of peptidic materials Invited Speaker: Jeffery Saven |
| Wednesday, March 7, 2018 8:36AM - 9:12AM | K59.00002: Designed Protein Cages: Theory and New Applications to Cryo-Electron Microscopy Scaffolding Invited Speaker: yuxi liu , Todd Yeates |
| Wednesday, March 7, 2018 9:12AM - 9:48AM | K59.00003: Thermoresponsive Colloidal Molecules with Tunable Directional Interactions Invited Speaker: Linda Månsson , Feifei Peng , Stefan Holm , Somnath Ghosh , Jerome Crassous , Jonas Tegenfeldt , Peter Schurtenberger |
| Wednesday, March 7, 2018 9:48AM - 10:24AM | K59.00004: Materials Science & Nanotechnology with Protein Nanofibrils Invited Speaker: Raffaele Mezzenga |
| Wednesday, March 7, 2018 10:24AM - 11:00AM | K59.00005: Conformational switching in chiral self assembly Invited Speaker: Zvonimir Dogic , Joia Miller , Purna Sharma |

Wednesday, March 7, 2018, 11:15 am – 2:15 pm

Session L20: Solar/Energy Conversion: Theory and Devices

Sponsoring Units: GERA FIAP DPOLY

Chair: Ernesto Marinero, Purdue Univ

Room: 308B

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| Wednesday, March 7, 2018 11:15AM - 11:27AM | L20.00001: Optical Properties of Zn ₂ Mo ₃ O ₈ : Combination of Theoretical and Experimental Study Tathagata Biswas , Pramod Ravindra , Eashwer Athresh , Rajeev Ranjan , Sushobhan Avasthi , Manish Jain |
| Wednesday, March 7, 2018 11:27AM - 11:39AM | L20.00002: First-principles study of Ti host doping effect to stabilize Si guest doping in Fe ₂ O ₃ hematite. Ji Hui Seo , Hosik Lee , Keunsu Choi , Ki-Yong Yoon , Ji-Hyun Jang , Jun Hee Lee |
| Wednesday, March 7, 2018 11:39AM - 11:51AM | L20.00003: Seeing the Invisible Plasma with Transient Phonons in Cuprous Oxide: Deducing Phonon Dynamics using the Phonon-to-Exciton Induced Absorption Triggered by Electron-Hole Plasma Relaxation in Cuprous Oxide Laszlo Frazer , Richard Schaller , Kelvin Chang , Alexandr Chernatynskiy , Kenneth Poeppelmeier |
| Wednesday, March 7, 2018 11:51AM - 12:03PM | L20.00004: Modeling exciton diffusion in carbon nanotube-based solar cells Amirhossein Davoody , Alexander Gabourie , Irena Knezevic |
| Wednesday, March 7, 2018 12:03PM - 12:15PM | L20.00005: A thermodynamic cycle for the solar cell Robert Alicki , David Gelbwaser-Klimovsky , Alejandro Jenkins |
| Wednesday, March 7, 2018 12:15PM - 12:27PM | L20.00006: A first principle investigation of the formation, stability and electronic properties of acanthite Cu ₂ S with comparison to other Cu ₂ S known phases toward a promising application in the field of photovoltaic. Sajib Barman , Muhammad Huda |
| Wednesday, March 7, 2018 12:27PM - 12:39PM | L20.00007: Greenhouse Effect to Enhance Photovoltaic Conversion Efficiency above the Detailed Balance Limit Andrei Sergeev , Kimberly Sablon , John Little |
| Wednesday, March 7, 2018 12:39PM - 12:51PM | L20.00008: Highly efficient, high speed vertical photodiodes based on few-layer MoS ₂ Jihan Chen , Zhen Li , Rohan Dhall , Steve Cronin |
| Wednesday, March 7, 2018 12:51PM - 1:03PM | L20.00009: Al-Intercalated Chevrel Phase Mo ₆ S ₈ as a Janus Material for Energy Generation and Storage Michael Agiorgousis , Yi-Yang Sun , Damien West , Shengbai Zhang |
| Wednesday, March 7, 2018 1:03PM - 1:15PM | L20.00010: Local optoelectronic characterization of solvent annealed lead-free bismuth-based perovskite films Soumitra Satapathi , Jill Wenderott , Anubhav Raghav , Max Shtein , Peter Green |
| Wednesday, March 7, 2018 1:15PM - 1:27PM | L20.00011: Morphological Characterization of PffBT4T-2OD-Based Ternary Organic Solar Cells I. AYHAN , Brooke Kuei , Enrique Gomez |
| Wednesday, March 7, 2018 1:27PM - 1:39PM | L20.00012: Adding to the Perovskite Universe: Inverse-Hybrid Perovskites Julian Gebhardt , Andrew Rappe |

Wednesday, March 7, 2018, 11:15 am – 2:15 pm

Session L60: Poster Session II

Room: *West Hall A*

L60.00001: POLYMER PHYSICS

L60.00002: Effect of Hydroxyl Mobility on the Cure Kinetics of Diglycidyl Ether of Bisphenol A (DGEBA) Epoxy in the Presence of a Tertiary Amine

David Devries , Margaret L. House , Eleanor House , Stephan Comeau , Catherine House , John McCoy , Jamie Kropka

L60.00003: Mean free volume and self-diffusion coefficient of short polymer chains: Computer simulations and statistical mechanical theory

Afshin Eskandari Nasrabad , Rozita Laghaei

L60.00004: Effect of Architecture on the Phase Behavior of PS-*b*-PLA Block Copolymer

Ki Hyun Kim , Anzar Khan , June Huh , Joona Bang

L60.00005: Microporosity in ladder polymers from coarse-grained molecular simulations

Huada Lian , Jian Qin

L60.00006: Influence of hydroxyl concentration on the cure kinetics of diglycidyl ether of bisphenol A (DGEBA) epoxy in the presence of a tertiary amine

John McCoy , Margaret L. House , Eleanor House , Stephan Comeau , Catherine House , Jamie Kropka

L60.00007: Interaction between highly compressed brushes of hard-sphere chains

Feng Qiu , Ping Tang , Anchang Shi

L60.00008: Quadratic Electro-optic Measurements in Metal Nanoparticles within Glass: Effect of Particle-size and comparison with Iodine-doped Nonconjugated Conductive Polymers

Justin Van Cleave , Mrinal Thakur

L60.00009: Prospects and Design Rules for Singlet Fission-Enhanced Visibly Transparent Organic Solar Cells

Michael Abramovitch , Michael Chabinyc

L60.00010: Design of Ethanol/Water-Processable Conjugated Polymers and Fullerene Derivatives for Eco-Friendly Processed Organic Transistors and Solar Cells

Joonhyeong Choi , Thanh Luan Nguyen , Changyeon Lee , Hyoeun Kim , youngwoong Kim , Wonho Lee , Joon Hak Oh , Bumjoon Kim , Han Young Woo

L60.00011: Effects of Enhanced Spin Delocalization in Blatter's Radical

Stephen Gilbert , Bryan Boudouris

L60.00012: Diffusion-ordered NMR spectroscopy of conjugated polymers: a complementary method for determining polymer size

Kaichen Gu , Jonathan Onorato , Steven Xiao , Christine Luscombe , Lynn Loo

L60.00013: Comparative Study of Thermal Stability and Performance of All-Polymer, Fullerene-Polymer, and Ternary Blend Solar Cells Based on the Same Polymer Donor

Taesu Kim , Joonhyeong Choi , Hyeong Jun Kim , Wonho Lee , Bumjoon Kim

L60.00014: Vapor Doped Spiro-OMeTAD as a Model System for Disordered Charge Transport

Kelly Peterson , Ashlea Patterson , Michael Chabinyc

L60.00015: Controlling the Mode of Operation in Polymeric Thermoelectrics Through Polymeric Ionic Liquid-gated Transistors

Elayne Thomas , Dakota Rawlings , Michael Chabinyc , Rachel Segalman

L60.00016: Unexpected Effect of Small Nanoparticles: New Horizon for Polymer Nanocomposites

Shiwang Cheng , Shijie Xie , Jan-Michael Carrillo , Robert Carroll , Halie Martin , Peng-Fei Cao , Mark Dadmun , Bobby Sumpter , Vladimir Novikov , Kenneth Schweizer , Alexei Sokolov

L60.00017: Stepwise Crystallization Kinetics of poly (ethylene terephthalate) Ultrathin Film studied by Fast Scanning Calorimetry

Shaochuan Luo , Evgeny Zhuravlev , Christoph Schick , Gi Xue , Dongshan Zhou

L60.00018: The Role of Surface Diffusion in Stable Glass Formation

Subarna Samanta , Georgia Huang , Yue Zhang , Patrick Walsh , Zahra Fakhraai

L60.00019: Laves Phases in Block Copolymer-Homopolymer Blends

Mingtian Zhao , Chao Duan , Wei-hua Li

L60.00020: From Melts of Graft Polymers to Supersoft and Hyperelastic Materials

Heyi Liang , Sergei Sheiko , Andrey Dobrynin

L60.00021: Effect of Background Ions on the Morphological and Electrochemical Properties of Polyampholyte Hydrogels

Hemant Charaya , Xinda Li , Hyun-Joong Chung

L60.00022: Effect of dielectric inhomogeneity in aggregation of multiple charged Nanoparticles and Polyelectrolyte

Rituparna Samanta , Venkatraghavan Ganesan

L60.00023: Structural Evolution and Phase Behaviors of Electrostatic Macromolecular Assemblies

Hao Wu , Jeffrey Ting , Samanvaya Srivastava , Matthew Tirrell

L60.00024: Thermal and Mechanical Responed PLGA Based Electrospun Fibers as Implants

Shanshan Xu , Charles Han

L60.00025: Response of Ionic co Polymers to Tuning Solution Dielectrics

Dvora Perahia , Manjula Senanayake , Sidath Wijesinghe , Supun Mohottalalage , Chathurika Kosgallana , Lilin He

L60.00026: Nanoparticle dynamics near the volume-phase transition temperature of *N*-isopropylacrylamide gels

Sarah Seeger , Emmabeth Parrish , Russell Composto

L60.00027: Exploring Photo-Alignment of Liquid Crystals by Guest-Host Interactions: Toward Bulk-Mediated Photo-Alignment of Liquid Crystal Elastomers

Matthew Smith , Alyssa VanZanten , Brian Simonich , Marcus Brinks , Britta Johnson , Michelle Plaver

L60.00028: Tuning dynamics of moisture responsive wrinkling surfaces

Songshan Zeng , Rui Li , Dianyuan Zhang , Luyi Sun

L60.00029: Thin Films of Block Copolymer-Based Supramolecules with Feature Size Over 50 nm

Katherine Evans , Ting Xu

L60.00030: Photothermal heating as a strategy to align anisotropic metal nanoparticles within polymeric films

Daniela Fontecha , Honglu Huang , Gabriel Firestone , Laura Clarke , Jason Bochinski

L60.00031: Multiscale characterization of polymer dynamics in carbon nanotube grafted fiber-reinforced polymer composites

Ajay Krishnamurthy , Ran Tao , Erkan Senses , Sagar Doshi , Erik Thostenson , antonio faraone , Aaron Forster

L60.00032: A Small Angle Scattering Study of Water-resistant All-Cellulose Nanocomposites

Doug Henderson , Xin Zhang , Yimin Mao , Howard Wang , Robert Briber

L60.00033: Hollow Polymer Microcapsule Embedded Transparent Film for Thermal Management

Chae Bin Kim , Munju Goh

L60.00034: Flexible h-BN Foam Sheets for Multifunctional Electronic Packaging Materials with Ultrahigh Thermostability

Deul Kim , Artavazd Kirakosyan , Seokjin Yun , jihoon choi

L60.00035: Polymer Nanocomposite Inks for Smart Textiles in Wearable Bioelectronics

Shide Qiu , Xinda Li , Thanh-Giang La , Hyun-Joong Chung

L60.00036: Filler mesh size from dynamic viscoelastic measurements and x-ray scattering

Kabir Rishi , Greg Beaucage , Vikram Kuppa , Andrew Mulderig , Jan Ilavsky

L60.00037: Nanoparticle motion and segmental mobility in polymer nanocomposites subjected to large shear

Erkan Senses , Madhusudan Tyagi , Bharath Natarajan , Suresh Narayanan , Antonio Faraone

L60.00038: Biomimetic Nanocoatings with Exceptional Mechanical, Barrier, and Flame Retardant Properties from Large Scale One-Step Co-assembly

Fuchuan Ding , Jingjing Liu , Mu-Ping Nieh , Luyi Sun

L60.00039: Multi-scale Simulations of Ion Transport in Polymeric Electrolytes

Zhen Cao , Alykhan Bhanji , jonathan mailoa , Boris Kozinsky , Alfredo Alexander-Katz

L60.00040: Local Dynamics and Transport Mechanisms in Polymerized Ionic Liquid Block-Copolymers

Jordan Keith , Venkatraghavan Ganesan

L60.00041: Electrical Impedance of Single Ion-Conducting Polymer Networks

Hyeong Jun Kim , Mayuri Porwal , Ryan Hayward

L60.00042: Electron-Transfer Reaction in Ether- and Carbonate-based Solid Polymer Electrolytes at Electrochemical Interfaces

Jeongmin Kim , Brett Savoie , Thomas Miller

L60.00043: Effects of Cationic Pendant Groups on Ionic Conductivity for Anion Exchange Membranes: Structure–Conductivity Relationships

Sojeong Kim , SooHyung Choi , Won Bo Lee

L60.00044: Tunable Solid Electrolytes Formed from a Double Helix Polyanion and a Dense Sea of Mobile Ions

Louis Madsen , Ying Wang , Curt Zanelotti , Deyang Yu , Yadong He , Zhou Yu , Ryan Fox , Robert Kerr , Maria Forsyth , Rui Qiao , Theo Dingemans

L60.00045: Morphology and ion transport in glassy polymerized ionic liquids

Maximilian Heres , James Cosby , Veronika Strehmel , Mark Dadmun , Joshua Sangoro

L60.00046: Understanding ion transport in polymeric electrolytes via X-ray photon correlation spectroscopy

Hans-Georg Steinrueck , Christopher Takacs , David Mackanic , Ben Holladay , Suresh Narayanan , Federico Zontone , Beatrice Ruta , Yuriy Chushkin , Zhenan Bao , Sunil Sinha , Michael Toney

L60.00047: Effect of High Polarity on Ionic Transport in High Dielectric Constant Polyether-Based Electrolytes

Bill Wheatle , Nathaniel Lynd , Venkatraghavan Ganesan

L60.00048: Printed Active Liquids

Joe Forth , Anju Toor , Xubo Liu , Jaffar Hasnain , Ganhua Xie , Derek Lovley , Zvonimir Dogic , Phillip Geissler , Brett Helms , Thomas Russell

L60.00049: Soft Robotic Manipulation and Locomotion with 3D Printed Electroactive Hydrogel

Daehoon Han , Cindy Farino , Chen Yang , Howon Lee

L60.00050: Thermal and Mechanical Properties of 3D Printed Polymers (Polylactic Acid, Acrylonitrile Butadiene Styrene and Polyurethane)

Eleanor House , Lara Draelos , Margaret L. House , Catherine House , Stephan Comeau , John McCoy , Andrew Baker , Dusan Sperjak

L60.00051: 3D Printed Mechanical Sensors using Block Copolymer Nanocomposites

Junpyo Kwon , Rob Ritchie , Ting Xu

L60.00052: Real Time FTIR study on Hydrogen Bonded Complex of Epoxides and Oxetanes in Photo-initiated Cationic Polymerization

Sungmin Park , Chang Ryu

L60.00053: Elucidating Reaction Pathways in the Synthesis of Block Copolymer-Derived Crystalline Inorganic Materials via *In Situ* SAXS/WAXS and XAS

Peter Beaucage , Sol Gruner , Ulrich Wiesner

L60.00054: Hierarchical morphology of ABC mikto-arm terpolymer

Hyeyoung Kim , Matthias Arras , Jyoti Mahalik , Monojoy Goswami , Weiyu Wang , Sergey Chernyy , Kunlun Hong , Bobby Sumpter , Gregory Smith , Thomas Russell

L60.00055: Selective Evaluation of Molecular Aggregation Structure in Soft Materials using Wide-Range of X-ray Energy

Maiko Nishibori , Kazutaka Kamitani , Yuko Konishi , Ayumi Hamada , Tomoyasu Hirai , Atsushi Takahara

L60.00056: Analysis of SANS Patterns from 1D Symmetrically Confined Polymers
James Pressly , Rana Ashkar , Ronald Jones , Karen Winey

L60.00057: Characterization of Charge Transport and Microstructure of Non-Fullerene Molecular Networks in Bulk Heterojunction Thin Films
Michael Roders , Matthew Kolaczowski , Yi Liu , Alexander Ayzner

L60.00058: Probing the local dynamics in three-dimensional colloid-polymer assemblies using single particle tracking
Karthika S , Arindam Chowdhury , Guruswamy Kumaraswamy

L60.00059: An Automated, High-Throughput System for GISAXS and GIWAXS Measurements of Thin Films
Eric Schaible , Jessica Jimenez , Matthew Church , Eunhee Lim , Polite Stewart , Alexander Hexemer

L60.00060: Imaging polymer:fullerene bulk heterojunctions with X-ray ptychography
Michael Toney , Victoria Savikhin , David Shapiro

L60.00061: Evaluation of the Interaction Parameter for Poly(solketal methacrylate)-block-polystyrene Copolymers
Duk Man Yu , Jose Mapas , Javid Rzayev , Thomas Russell

L60.00062: Directed self-assembly of Janus Bottlebrush Polymers from A-Branch-B Diblock Macromonomers
Karim Gadelrab , Li-Chen Cheng , Caroline Ross , Alfredo Alexander-Katz

L60.00063: Vertically Oriented Nanostructures of Poly(3-dodecylthiophene)-Containing Rod-Coil Block Copolymers
Kyuseong Lee , Chungryong Choi , Hong Chul Moon , Jin Kon Kim

L60.00064: Block Copolymer Templated Anisotropic Plasmonic Nanostructure
Calbi Gunder , Uttam Manna , Mahua Biswas

L60.00065: Block copolymer nanoparticles
Marco Pinna , Andrei Zvelindovsky

L60.00066: Hybrid Particle-Field Simulations for Studying Polymers Containing Strong Interaction Sites
Amir Afshar , Jing Zong , Dong Meng

L60.00067: Mesoscopic Simulations for Transport of Water and Salt Through Desalination Membranes
Dipak Aryal , Venkatraghavan Ganesan

L60.00068: typyPRISM: A Computational Tool for Liquid-State Theory Calculations of Macromolecular Materials
Tyler Martin , Thomas Gartner , Ronald Jones , Chad Snyder , Arthi Jayaraman

L60.00069: Temperature Dependent Scaling Behavior of Poly(ethylene oxide) in an Ionic Liquid [BMIM][BF₄] Predicted Using First Principles-Based Force Fields
Chang Yun Son , Jesse McDaniel , Qiang Cui , Arun Yethiraj

L60.00070: Segmental Dynamics Revealed from All-atom Simulations of Concatenated Polyethylene Rings
Guoxi Xu , Jian Qin

L60.00071: Effect of Metal Ions on Polyelectrolyte Nanofiber Mechanics
Angie Diaz

L60.00072: Polyaniline and CN-functionalized polyaniline as organic cathodes for lithium and sodium ion batteries: a combined molecular dynamics and Density Functional Tight Binding Study in solid state
Yingqian Chen , Johann Lueder , Man Fai Ng , Michael Sullivan , Sergei Manzhos

L60.00073: Chain Dynamics in Li-neutralized Precise Acid-Containing Polyethylenes
Benjamin Paren , Luri Middleton , Amalie Frischknecht , Karen Winey

L60.00074: The Influence of Thiophene Moieties on the Molecular Orientation and Interface Properties of Low Band Gap Polymers
Milutin Ivanović , David Batchelor , Thomas Chassé , Heiko Peisert

L60.00075: Force Spinning of PEO-Based Nanofibers
Dorina Chipara , Susana Campos , Karen Lozano , Andres Marroquin , Mircea Chipara

- L60.00076: Non-equilibrium Conformation of a DNA Segment Outside a Capsid and its Effect on the DNA Packaging Rate
Seulki Kwon , Bong June Sung
- L60.00077: Sorting ring polymers by knot type using modulated nanochannels
Mattia Marena , Enzo Orlandini , Cristian Micheletti
- L60.00078: The effects of DNA Entanglement in Viral Capsids on the Conformational Relaxation and the DNA Ejection Rate
Chungbin Park , Bong June Sung
- L60.00079: Polymer Folding in Cylindrical Confinement
Troy Prunty , Mark Taylor
- L60.00080: Folding of a Square-Well Chain in a Hard-Sphere Brush
Jaden Solvensky , Mark Taylor
- L60.00081: Driven Translocation of a Star Polymer from a Confined Cylindrical Cavity with a Finite Volume
Mesay Tilahun , Yergou Tatek
- L60.00082: Noncovalent Interactions with a Synthetic Random Heteropolymer Allow for Protein Stabilization in Nonnatural Environments
Christopher DelRe , Brian Panganiban , Baofu Qiao , Tim Li , Charley Huang , Patrick Dennis , Monica Olvera De La Cruz , Ting Xu
- L60.00083: Polymer-Mediated Synthesis and Incorporation of Membrane Protein in Phospholipid Vesicles
Tao Jiang , Ting Xu
- L60.00084: Non-topochemical Solid State Polymerization of Benzene Monomer into Diamond Nanothread Single Crystals
Xiang Li , Tao Wang , Pu Duan , Maria Baldini , Haw-Tyng Huang , Bo Chen , Daniel Koeplinger , Vincent Crespi , Klaus Schmidt-Rohr , R Hoffmann , Malcolm Guthrie , John Badding
- L60.00085: Real-Time High-Resolution AFM of Crystallization Process of Isotactic Poly(methyl methacrylate) Monolayer under High Humidity
Yuki Ono , Jiro Kumaki
- L60.00086: Reorganization and Recrystallization in α_c -Mobile and Crystal-Fixed Semicrystalline Polymers Studied by Fast Scanning Calorimetry (Flash-DSC) and SAXS
Martha Schulz , Anne Seidlitz , Jens Balko , Thomas Thurn-Albrecht
- L60.00087: Flow-induced Crystallization of Nylon 6/6
Jiho Seo , Alicyn Rhoades , Richard Schaake , Ralph Colby
- L60.00088: Self-Poisoning in Crystallization of Helices
Goran Ungar , Thomas Sexton , Xiangbing Zeng , Gillian Gehring
- L60.00089: Mesoscopic Heterogeneity in Curing Process of An Epoxy Reaction System
Mika Aoki , Atsuomi Shundo , Keiji Tanaka
- L60.00090: Determining Forces in Macroscopic Fiber Networks Using Conductive Fabric
Jason Clapp , Ryan McGorty
- L60.00091: Structure and Mechanics of Random Networks of Fiber Bundles Stabilized by Adhesion
Catalin Picu , Ahmed Sengab , Vineet Negi
- L60.00092: Liquid Letters
Xubo Liu , Shaowei Shi , Yanan Li , Joe Forth , Dong Wang , Thomas Russell
- L60.00093: How to Measure Work of Adhesion and Surface Tension of Soft Material
Yuan Tian , Maria Ina , Zhen Cao , Sergei Sheiko , Andrey Dobrynin
- L60.00094: Quantification of Crumpling in Graphene Oxide via Ultra-Small-Angle X-Ray Scattering
Peter Beaucage , Durgesh Rai , Greg Beaucage
- L60.00095: Investigating pressure denaturation using the high pressure small angle x-ray scattering
Durgesh Rai , Catherine Royer , Sol Gruner
- L60.00096: Crystallization Kinetics in Thin Film Blends of Linear and Cyclic Poly(ϵ -caprolactone)
Giovanni Kelly , Fariyah Haque , Amelia Bergeson , Scott Grayson , Julie Albert

L60.00097: Photothermal Actuation of Liquid Crystal Elastomer Nanocomposites
Alexa Kuenstler , Ryan Hayward

L60.00098: Useful Defects on the Surfaces of Chiral Liquid Crystalline Polymers
Anthony Panariti , Thomas Stoke , Petr Shibaev , Daniel Carrozzi , Lee Vigilia

L60.00099: Sub 10-nm Self-Assembly of Mesogen-containing Diblock Macromonomers and their Graft-through Polymers
Yekaterina Rokhlenko , Ken Kawamoto , Jeremiah Johnson , Chinedum Osuji

L60.00100: Going to Nanoscale by Surface Patterning
Thomas Stoke , Lee Vigilia , Daniel Carrozzi , Petr Shibaev , Anthony Panariti

L60.00101: Glassy Oligomer Sensitivity to Volatile Organic Compounds
Lee Vigilia , Daniel Carrozzi , Gustavo Schwartz , Fariborz Firooznia , Petr Shibaev

L60.00102: The calorimetric signature of aging in an epoxy glass following mechanical rejuvenation
Stephan Comeau , Margaret L. House , Eleanor House , Jasmine Hoo , John McCoy , Jamie Kropka

L60.00103: Free Surface Flows and Extensional Rheology of Polymer Solutions
Jelena Dinic , Leidy Jimenez , Madeleine Biagioli , Alexandro Estrada , Vivek Sharma

L60.00104: Mesoscopic Model with Vectorial Structure Parameter for Star Polymers
Barry Fitzgerald , Wim Briels

L60.00105: Effects of Dipolar Interactions on Microphase Separation in Diblock Copolymer Melts
Wei Li , Brad Lokitz , Bobby Sumpter , Rajeev Kumar

L60.00106: A Model for Dry-Wet Spinning of Cellulose Fibers
Howard Wang , Xin Zhang , Robert Briber

L60.00107: Dissolution and Precipitation of Oligomeric Cellulose in Lithium Hydroxide Solutions
Xin Zhang , Yimin Mao , Feng Jiang , Doug Henderson , Yoshiharu Nishiyama , Robert Briber , Howard Wang

L60.00108: Modeling directed motion of polymer gels
Santidan Biswas , Victor Yashin , Anna Balazs

L60.00109: Solidification of poly(2-methoxyethyl acrylate) via block copolymerization with poly(methyl methacrylate)
Naruki Kurokawa , Fuyuki Endo , Kenta Bito , Tomoki Maeda , Atsushi Hotta

L60.00110: Mean-Field Critical Behavior of End-Linked Polymer Networks with Loops
Tzyy-Shyang Lin , Rui Wang , Jeremiah Johnson , Bradley Olsen

L60.00111: Fracture of polymeric gels
Yunwei Mao , Lallit Anand

L60.00112: Self-doped Block Polymer Electrolytes for Lithium-ion Batteries
Melody Morris , Thomas Epps

L60.00113: Tuning structure and properties of lamellar sulfonated pentablock terpolymer films
David Truong , Rephayah Black , Gila Stein

L60.00114: Molecular weight dependence of chain conformation of polyelectrolytes
Guofeng Xu , Jingfa Yang , Jiang Zhao

L60.00115: Synthesis and Self-Assembly of PS-b-PDMS Bottle Brush Block Copolymers
Huafeng Fei , Benjamin Yavitt , Gayathri Kopanati , James Watkins

L60.00116: Phase Transition of Binary Block Copolymer Blends and Pressure Dependence
Seongjun Jo , Yonghoon Lee , Seungbae Jeon , Du Yeol Ryu

L60.00117: Composition Fluctuation at Order-to-Disorder Transition: χN effects of Symmetric Diblock Copolymers
TAESUK JUN , Yonghoon Lee , Chang Ryu , Du Yeol Ryu

L60.00118: Comparison of phase behavior of 18-arm star-shaped polystyrene-block-poly(methyl methacrylate) copolymers depending on degrees of second block initiations
Yeseong Seo , Won Bo Lee , Jin Kon Kim

L60.00119: Universal Behaviors for Chirality Effect on Self-Assembly of Block Copolymers
Hsiao-Fang Wang , Wen-Chun Hsu , Kai-Chieh Yang , Rong-Ming Ho

L60.00120: Measurement and Predictability of baroplasticity in polystyrene-b-poly(ethyl hexyl acrylate) copolymers

TIANZUO WANG , Jumi Lee , Kwanwoo shin , Ho-Jong Kang , Junhan Cho

L60.00121: Double Diamond of Self-Assembled Chiral Diblock Copolymers

Kai-Chieh Yang , Cheng-Yen Chang , Po-Ting Chiu , Rong-Ming Ho

L60.00122: Role of Polymer Chain Helicity in Block Copolymer Self-Assembly

Beihang Yu , Adrienne Rosales , Emily Davidson , Ronald Zuckermann , Rachel Segalman

L60.00123: Characterizing the Microscale Mobility and Viscoelasticity of Entangled Blends of DNA of Varying Lengths and Topologies

William Bentley , Kathryn Regan , Rae Anderson

L60.00124: Spinodal nanostructures in polymer blends and the Cahn-Hilliard lengthscale prediction

Joao Cabral , Julia Higgins

L60.00125: Raman Investigations on PS-PERB-PS – Graphene Nanocomposites

Mircea Chipara , Dorina Chipara , Elamin Ibrahim

L60.00126: Swelling of Composite Graphene/Polymer Foams

Andrey Dobrynin , Zilu Wang , Steven Woltornist , Adamson Douglas

L60.00127: MOF-Random Copolymer Mixed Matrix Membrane Monolayer

Shuai Liu , Ting Xu

L60.00128: From Graphene Stabilized Emulsions to Foams

Zilu Wang , Andrey Dobrynin , Adamson Douglas

L60.00129: Electrospun Carbon Nanofibers; structural and electrical properties

Nikhil Reddy Mucha , Frederic Aryeetey , Surabhi Shaji , Spero Gbewonyo , Lifeng Zhang , Shyam Aravamudhan , Dhananjay Kumar

L60.00130: Neutron reflectivity, water dynamics and performance of polyamide nanofilms for water desalination

Fabrizia Foglia , Andrew Livingston , Joao Cabral

L60.00131: Mobility of Star Polymers under Confinement

AYSE CAGLAYAN , Guangcui Yuan , Sushil Satija , David Uhrig , Kunlun Hong , Bulent Akgun

L60.00132: Degrafting polyelectrolyte brushes by elastic force

Yeongun Ko , Jan Genzer

L60.00133: Effect of Flory-Huggins Interaction Parameter of Block Copolymers on the Shape of Block Copolymer Particles

Young Jun Lee , Kang Hee Ku , Jae Man Shin , Bumjoon Kim

L60.00134: Hybrid Monte Carlo / Self-Consistent Field Theory for Modeling Zwitterionic Polymers

Jason Madinya , Charles Sing

L60.00135: Design and Fabrication of Wettability Gradients with Tunable Profiles Through Degrafting Organosilane Layers from Silica Surfaces by Tetrabutylammonium Fluoride

Jason Miles , Spencer Schlenker , Yeongun Ko , Rohan Patil , Balaji Rao , Jan Genzer

L60.00136: Interpretation of the roughness at interfaces of photoresists from a perspective molecular aspect

Juhae Park , Sung-Gyu Lee , Myungwoong Kim , Hye-Keun Oh , Danilo De Simone , Su-Mi Hur

L60.00137: VO₂ Nanodots Array Using Block Copolymer-Based Nanoporous Templates

SeongHo Park , Dong-Eun Lee , Ho-Jong Kang , Dong Hyun Lee

L60.00138: Temperature-Dependent Shape and Morphology Transformation of Colloidal Particles by Controlled Assembly of Thermoresponsive Polymers

Jae Man Shin , Junhyuk Lee , Kang Hee Ku , Mingoo Kim , Junghun Han , Chan Ho Park , Gi-Ra Yi , Se Gyu Jang , Bumjoon Kim

L60.00139: Exploring the use of in situ copolymerizations to design chemically patterned, rough, biomimetic interfaces

Caroline Szczepanski , John Torkelson

L60.00140: Mechanism of High Extensibility in Entangled Associative Protein Hydrogels

Chelsea Edwards , Danielle Mai , Shengchang Tang , Bradley Olsen

Wednesday, March 7, 2018, 2:30 pm – 5:30 pm

Session P43: Focus Session: Extreme Deformation of Polymers and Soft Matter II: High Speeds, Rupture, and Large Deformation

Sponsoring Units: DPOLY GSOFIT

Chair: Alfred Crosby, Univ of Mass - Amherst

Room: 503

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| Wednesday, March 7, 2018 2:30PM - 3:06PM | P43.00001: Extreme Plastic Deformation of Glassy Polymer Thin Films at Ballistic Strain Rates Invited Speaker: Edwin Thomas , Jinho Hyon , Olawale Lawal , Omri Fried , Ramathanan Thevamaran , Sadegh Yadzi , Mujin Zhuo , David Veysset , Steven Kooi , Yang Jiao , Ming-Siao Hsiao , Jason Streit , Richard Vaia |
| Wednesday, March 7, 2018 3:06PM - 3:18PM | P43.00002: The Role of Fast Polymer Dynamics as Quantified by Inelastic Neutron Scattering on the Impact Strength in Solid Polymers Kanae Ito , Adam Burns , Kevin Masser , Christopher Soles |
| Wednesday, March 7, 2018 3:18PM - 3:30PM | P43.00003: Impulsive Elastic Energy Release from a Resilin-like Elastomer Mark Ilton , Suzanne Cox , Thijs Egelmeers , Gregory P. Sutton , S. N. Patek , Alfred Crosby |
| Wednesday, March 7, 2018 3:30PM - 3:42PM | P43.00004: Dynamics of High-Speed Adhesive Detachment Katharine Jensen |
| Wednesday, March 7, 2018 3:42PM - 3:54PM | P43.00005: Damage and Rupture in Random Fiber Networks Sai Deogekar , Catalin Picu |
| Wednesday, March 7, 2018 3:54PM - 4:06PM | P43.00006: Rupture of Polymers by Chain Scission Yunwei Mao , Brandon Talamini , Lallit Anand |
| Wednesday, March 7, 2018 4:06PM - 4:18PM | P43.00007: Direct visualization of the molecular damage precursors to crack nucleation Jasper Van der Gucht , Hanne van der Kooij , Simone Dussi , Joris Sprakel |
| Wednesday, March 7, 2018 4:18PM - 4:30PM | P43.00008: Embedding topography in Flexible Substrates enables control of crack propagation. Christopher Maiorana , Mitchell Erbe , Travis Blank , Guy German |
| Wednesday, March 7, 2018 4:30PM - 4:42PM | P43.00009: Strain hardening of glassy polymers : theory and simulation Didier Long , Luca Conca , Paul Sotta , Alain Dequidt |
| Wednesday, March 7, 2018 4:42PM - 4:54PM | P43.00010: Topological Structure and Mechanics of Glassy Polymer Networks Robert Elder , Timothy Sirk |
| Wednesday, March 7, 2018 4:54PM - 5:06PM | P43.00011: Buckling Mechanics Metrology for Brittle Polymeric Thin Films Mitchell Rencheck , Ricardo Rodriguez , Chelsea Davis |
| Wednesday, March 7, 2018 5:06PM - 5:18PM | P43.00012: Mechano-Responsive Lateral Buckling of Miniaturized Beams Standing on Flexible Polymer Substrate Jung gun Bae , Won Bo Lee |
| Wednesday, March 7, 2018 5:18PM - 5:30PM | P43.00013: Buckling of an elastic fiber confined to a thin elastic membrane Adam Fortais , Kari Dalnoki-Veress |

Wednesday, March 7, 2018, 2:30 pm – 5:30 pm

Session P46: Polymer Nanocomposites I

Sponsoring Units: DPOLY

Chair: Pinar Akcora, Stevens Inst of Tech

Room: 506

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| Wednesday, March 7, 2018 2:30PM - 2:42PM | P46.00001: Locating Graphene Oxide Derivatives at Low Loadings in Fiber Reinforced Polymer Composites using Raman Spectroscopy Qi An , Amber McCreary , Aaron Forster , Angela Hight Walker |
| Wednesday, March 7, 2018 2:42PM - 2:54PM | P46.00002: Supramolecular Processing of Carbon Nanotubes and Polymers using a Non-volatile Organic Eutectic Liquid Chae Bin Kim , Ki-Beom Jeong , Beom Joo Yang , Seung-Ki Lee , Chiyoung Park |
| Wednesday, March 7, 2018 2:54PM - 3:06PM | P46.00003: Jointed Capsule Model of Carbon Nanotubes and Its Applications in Polymer Nanocomposites Shengfeng Cheng , Ralph Romero |
| Wednesday, March 7, 2018 3:06PM - 3:18PM | P46.00004: Effect of nodal density in three-dimensional cellular structure of CNT- polymer on mechanical and viscoelastic properties RITUPARNA GHOSH , Abha Misra |
| Wednesday, March 7, 2018 3:18PM - 3:30PM | P46.00005: Conductivity and Shielding Ability of Multicomponent Nanocomposites Pouyan Karimi , Morteza Saeidi-Javash , Martin Ostojca-Starzewski , Jianming Jin |
| Wednesday, March 7, 2018 3:30PM - 3:42PM | P46.00006: Measuring heat transport within polymer nanocomposites via fluorescence thermometry Gabriel Firestone , Jeffrey Meth , Laura Clarke , Jason Bochinski |
| Wednesday, March 7, 2018 3:42PM - 3:54PM | P46.00007: Steady-state temperature gradients within polymer nanocomposites undergoing continuous-wave photothermal heating Laura Clarke , Gabriel Firestone , Somsubhra Maity , Jason Bochinski |
| Wednesday, March 7, 2018 3:54PM - 4:06PM | P46.00008: Effect of C60 on the Morphology of Strongly Segregated ABC Miktoarm Terpolymers Matthias Arras , Hyeyoung Kim , Monojoy Goswami , Jyoti Mahalik , Weiyu Wang , Sergey Chernyy , Kunlun Hong , Bobby Sumpter , Thomas Russell , Gregory Smith |
| Wednesday, March 7, 2018 4:06PM - 4:18PM | P46.00009: Improving Superhydrophobicity of PDMS by Embedding Fluorinated POSS Cages Buddhika Gayani , Nilwala Kottegoda , Manjula Weerasekara , Dilru Ratnaweera |
| Wednesday, March 7, 2018 4:18PM - 4:30PM | P46.00010: Observing heterogeneous polymer degradation due to photothermal heating via electron imaging and optical measurements Honglu Huang , Daniela Fontecha , Gabriel Firestone , Russell Gorga , Jason Bochinski , Laura Clarke |
| Wednesday, March 7, 2018 4:30PM - 4:42PM | P46.00011: Pressure-dependent structure and mechanics of grafted gold nanoparticle superlattices J. Matthew Lane , Ishan Srivastava , Brandon Peters , Hongyou Fan , Gary Grest , K. Michael Salerno |

Wednesday, March 7, 2018
4:42PM - 4:54PM

P46.00012: A pseudo-thermodynamic description of dispersion for nanocomposites.

Yan Jin , Greg Beaucage , Karsten Vogtt , Hanqiu Jiang , Vikram Kuppa , Kabir Rishi , Vishak Narayanan , Alex McGlasson , Jan Ilavsky

Wednesday, March 7, 2018
4:54PM - 5:06PM

P46.00013: Enhanced Mechanical Property of Polymer Nanocomposites Using Dopamine-Modified Polymers at Nanoparticle Surfaces

Na Kyung Kwon , Hyunhong Kim , Imkyung Han , Tae Joo Shin , Jongnam Park , So Youn Kim

Wednesday, March 7, 2018
5:06PM - 5:18PM

P46.00014: Adsorption and denaturation for polymeric nanoparticle self-assembly at the interface

Jie Feng , Tian Chang , Robert Prud'homme

Wednesday, March 7, 2018, 2:30 pm – 5:30 pm

Session P52: Focus Session: Structure and Rheology of Hydrogels

Sponsoring Units: DPOLY

Chair: Samanvaya Srivastava, University of California Los Angeles; Vivek Sharma, University of Illinois at Chicago
Room: 512

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| Wednesday, March 7, 2018 2:30PM - 2:42PM | P52.00001: Nanoparticle Diffusion During Network Formation of Tetra-poly(ethylene glycol) Hydrogels Russell Composto , Emmabeth Parrish |
| Wednesday, March 7, 2018 2:42PM - 2:54PM | P52.00002: Selective Biomolecular Transport due to Structure, Affinity, and Diffusion in Nucleoporin-Like Hydrogels Danielle Mai , Yun Jung Yang , Bradley Olsen |
| Wednesday, March 7, 2018 2:54PM - 3:06PM | P52.00003: Impact of Molecular Weight on Fibrillar Methylcellulose Hydrogels Peter Schmidt , Paige Owens , Frank Bates , Timothy Lodge |
| Wednesday, March 7, 2018 3:06PM - 3:42PM | P52.00004: Relating Monomer Sequence, Self-Assembly and Mechanical Response in Dual Associative Protein Hydrogels Invited Speaker: Bradley Olsen , Michelle Sing , Matthew Glassman , Wesley Burghardt |
| Wednesday, March 7, 2018 3:42PM - 3:54PM | P52.00005: Internal mass segregation in PNIPAM hydrogels Jonas Cuadrado , Changwoo Do , Alberto Fernandez-Nieves |
| Wednesday, March 7, 2018 3:54PM - 4:06PM | P52.00006: Supramolecular Hydrogels Inhibit Water Crystallization at Cryogenic Temperature Bryan Vogt , Chao Wang , Clinton Wiener , Robert Weiss |
| Wednesday, March 7, 2018 4:06PM - 4:18PM | P52.00007: Tough Liquid Crystal Hydrogels Shuang Zhou , Zhigang Suo |
| Wednesday, March 7, 2018 4:18PM - 4:54PM | P52.00008: Strong, tough, or fragile: Brownian motion and the osmotic pressure of colloidal gels Invited Speaker: Roseanna Zia |
| Wednesday, March 7, 2018 4:54PM - 5:06PM | P52.00009: Determination of Polymer Gel Viscoelasticity using Probe Rheology Simulations Rafikul Islam , Rajesh Khare |
| Wednesday, March 7, 2018 5:06PM - 5:18PM | P52.00010: Viscoelastic Properties Controlled by pH of Telechelic Metal-Coordinating Hydrogels Seth Cazzell , Niels Holten-Andersen |
| Wednesday, March 7, 2018 5:18PM - 5:30PM | P52.00011: Mesoscale Modeling of Swelling Kinetics of Hydrogels Shensheng Chen , Xin Yong |

Wednesday, March 7, 2018, 2:30 pm – 5:30 pm

Session P55: Focus Session: Block Copolymer Thin Films Integrated with New Materials Platforms I: Surfaces, Interfaces and Lithography

Sponsoring Units: DPOLY

Chair: Reika Katsumata, UC Santa Barbara

Room: 515A

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| Wednesday, March 7, 2018 2:30PM - 2:42PM | P55.00001: Nanoscale surface topologies of non-neutral polymer adsorbed layers for the tailored control of BCP microdomain orientations Yuma Morimitsu , Justin Cheung , Daniel Salatto , Mani Sen , Naisheng Jiang , Maya Endoh , Keiji Tanaka , Tadanori Koga |
| Wednesday, March 7, 2018 2:42PM - 2:54PM | P55.00002: Locally favored two-dimensional structures of block copolymer melts on non-neutral surfaces Tadanori Koga , Mani Sen , Naisheng Jiang , Maya Endoh , Alexander Ribbe , Daisuke Kawaguchi , Keiji Tanaka , Atikur Rahman , Detlef-M Smilgies |
| Wednesday, March 7, 2018 2:54PM - 3:06PM | P55.00003: Effect of Self-assembled Wetting Layer in Block Copolymer Thin Film Dong Hyup Kim , So Youn Kim |
| Wednesday, March 7, 2018 3:06PM - 3:42PM | P55.00004: Dynamic Polymer Brush by Segregation of Amphiphilic Copolymers Invited Speaker: Hideaki Yokoyama |
| Wednesday, March 7, 2018 3:42PM - 3:54PM | P55.00005: Controlling Block Copolymer-Substrate Interactions by Homopolymer Brushes/Mats Shengxiang Ji |
| Wednesday, March 7, 2018 3:54PM - 4:06PM | P55.00006: Improved Ordering Quality in Shear Aligned Block Copolymer Thin Films via Solvent Vapor Exposure Ye Chan Kim , Seok Joon Kwon , Su Mi Hur , So Youn Kim |
| Wednesday, March 7, 2018 4:06PM - 4:18PM | P55.00007: Orientation control of cylinder forming block-copolymer on a modulated substrate – a theoretical study Karim Gadelrab , Alfredo Alexander-Katz |
| Wednesday, March 7, 2018 4:18PM - 4:30PM | P55.00008: Self-Alignment of Cylinder-Structured Silicon-Containing Block Copolymer Films Rong-Ming Ho , Kai-Yuan Lu , Hsiao-Fang Wang , Prokopios Georgopoulos , Apostolos Avgeropoulos , An-Chang Shi |
| Wednesday, March 7, 2018 4:30PM - 4:42PM | P55.00009: Generating long-range order in gyroid terpolymer films by controlled solvent annealing Karolina Korzeb , James Dolan , Narjes Abdollahi , Ulrich Wiesner , Ullrich Steiner , Ilja Gunkel |
| Wednesday, March 7, 2018 4:42PM - 4:54PM | P55.00010: Mechanisms of Directed Self-assembly in Cylindrical Hole Confinements Cody Bezik , Grant Garner , Juan De Pablo |
| Wednesday, March 7, 2018 4:54PM - 5:06PM | P55.00011: Templated Self-assembly of PS-branch-PDMS Janus Bottle Brush Copolymer Li-Chen Cheng , Ken Kawamoto , Karim Gadelrab , Kevin Yager , Alfredo Alexander-Katz , Jeremiah Johnson , Caroline Ross |

Wednesday, March 7, 2018
5:06PM - 5:18PM

P55.00012: Fabrication of Sub 3 nm Feature Size Based on Block Copolymer Self Assembly for Next-Generation Nanolithography
Kyuseong Lee , Jongheon Kwak , Avnish Mishra , Jin Kon Kim

Wednesday, March 7, 2018
5:18PM - 5:30PM

P55.00013: Simultaneous Fabrication of Line and Dot Dual Nanopatterns using Miktoarm Block Copolymer Thin Film with Photocleavable Linker
Chungryong Choi , Seonghyeon Ahn , Jaeyong Lee , Kyuseong Lee , Jin Kon Kim

Wednesday, March 7, 2018, 2:30 pm – 5:30 pm

Session P56: Focus Session: Organic Electronics and Photonics IV: Structure & Morphology

Sponsoring Units: DPOLY DMP

Chair: Dean DeLongchamp, NIST - Natl Inst of Stds & Tech

Room: 515B

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| Wednesday, March 7, 2018 2:30PM - 3:06PM | P56.00001: Sequence-specific placement of defects in pi-conjugated semiconducting polymers Invited Speaker: Christine Luscombe , Wes Tatum |
| Wednesday, March 7, 2018 3:06PM - 3:18PM | P56.00002: Quantification of tie-chain content in semicrystalline conjugated polymers and its impact on charge transport Kaichen Gu , Chad Snyder , Jonathan Onorato , Christine Luscombe , Lynn Loo |
| Wednesday, March 7, 2018 3:18PM - 3:30PM | P56.00003: Towards Connecting Fundamental Properties of Conjugated Polymers with Performance in Electronic Devices Renxuan Xie , Ralph Colby , Enrique Gomez |
| Wednesday, March 7, 2018 3:30PM - 3:42PM | P56.00004: Morphological, chemical, and electronic changes of the conjugated polymer PTB7 with high temperature annealing Michael Toney , Victoria Savikhin , Lethy Jagadamma , Lafe Purvis , Iain Robertson , Stefan Oosterhout , Christopher J. Douglas , Ifor D. Samuel |
| Wednesday, March 7, 2018 3:42PM - 3:54PM | P56.00005: Out-of-Plane Orientation Control of Solution-Processed Small-Molecule Organic Semiconductor Crystals Kai Zong , Xiaoshen Bai , Jack Ly , Jeremy Mehta , Megan Hand , Kaitlyn Molnar , Sangchul Lee , Bart Kahr , Jeffrey Mativetsky , Alejandro Briseno , Stephanie Lee |
| Wednesday, March 7, 2018 3:54PM - 4:06PM | P56.00006: Using Resonant Soft X-ray Reflectivity (RSoXR) to Probe Vertical Segregation in Organic Semiconducting Thin Films Jacob Thelen , Daniel Sunday , Sebastian Engmann , Lee Richter , Dean DeLongchamp |
| Wednesday, March 7, 2018 4:06PM - 4:18PM | P56.00007: Structure-mechanical property of Stretchable Organic Ultra-thin Film for Electronic Applications Song Zhang , Dakota Ehlenberg , Xiaodan Gu |
| Wednesday, March 7, 2018 4:18PM - 4:30PM | P56.00008: Imaging the Nucleation and Growth of Thin-films of Poly(3,4- ethylenedioxythiophene) (PEDOT) using In-situ Liquid Transmission Electron Microscopy Vivek Subramanian , Jinglin Liu , Bin Wei , David Martin |
| Wednesday, March 7, 2018 4:30PM - 4:42PM | P56.00009: Towards Novel Organic Electronics: Integrating Simulation and Neutron Scattering Thomas Harrelson , Varuni Dantanarayana , Alejandro Bonilla , Allesandro Troisi , Roland Faller , Adam Moule |
| Wednesday, March 7, 2018 4:42PM - 4:54PM | P56.00010: Multiscale Simulation of Conjugated Polymer Aggregation and Optoelectronic Properties Peter Rossky , Thomas Allen |
| Wednesday, March 7, 2018 4:54PM - 5:06PM | P56.00011: Origin of Translational and Dipolar Order in Vapor-Deposited Alq3 glasses Kushal Bagchi , Nicholas Jackson , Ankit Gujral , Juan De Pablo , Mark Ediger |
| Wednesday, March 7, 2018 5:06PM - 5:18PM | P56.00012: Variation of Thermal and Optoelectronic Properties Through Compositional Control of Thiophene-Containing Statistical Copolymers Michael Minkler , Bryan Beckingham |

Thursday, March 8, 2018, 8:00 am – 11:00 am

Session R28: Focus Session: Polymer Physics in Very Strongly Confined Environments II: Nanoslits and Nanochannels

Sponsoring Units: DPOLY GSNP

Chair: Yeng-Long Chen, Inst of Physics Academia Sinica

Room: 405

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| Thursday, March 8, 2018 8:00AM - 8:12AM | R28.00001: Effect of chain stiffness for semiflexible macromolecules in array of cylindrical nanoposts Peter Cifra , Zuzana Benkova , Lucia Rispanova |
| Thursday, March 8, 2018 8:12AM - 8:24AM | R28.00002: Compression of Nanoslit Confined Polymer Solutions Lili Zeng , Yue Qi , Ahmed Khorshid , Reghan Hill , Walter Reisner |
| Thursday, March 8, 2018 8:24AM - 8:36AM | R28.00003: Free Energy of a Folded Semiflexible Polymer Confined to a Nanochannel James Polson |
| Thursday, March 8, 2018 8:36AM - 9:12AM | R28.00004: Where is the Odijk back-folding regime when a self-excluding wormlike polymer is confined by a cylindrical tube? Invited Speaker: Jeff Chen |
| Thursday, March 8, 2018 9:12AM - 9:24AM | R28.00005: Telegraph model of DNA confinement in a nanochannel Kevin Dorfman , Erik Werner , Guo Kang Cheong , Damini Gupta , Bernhard Mehlig |
| Thursday, March 8, 2018 9:24AM - 9:36AM | R28.00006: Dynamical transition from diffusion to frustrated localization of polyelectrolyte in charged gels Di Jia , Murugappan Muthukumar |
| Thursday, March 8, 2018 9:36AM - 9:48AM | R28.00007: The Self-assembly of Disk-coil Block Copolymers within 2D Cylinder Confinement with Asymmetric Pair Interactions. Ji Ho Ryu , Won Bo Lee , YongJoo Kim |
| Thursday, March 8, 2018 9:48AM - 10:00AM | R28.00008: Diffusion of polymers through periodic networks of lipid-based nanochannels Reza Ghanbari , Salvatore Assenza , Abhijit Saha , Raffaele Mezzenga |
| Thursday, March 8, 2018 10:00AM - 10:12AM | R28.00009: Polymer Confinement via Crowding: Influence of Solvent Quality on Conformations Wyatt Davis , Alan Denton |
| Thursday, March 8, 2018 10:12AM - 10:24AM | R28.00010: Curvature effect on the surface-patterning of end-tethered polymers under nanoconfinement Kai Huang , Igal Szleifer |
| Thursday, March 8, 2018 10:24AM - 10:36AM | R28.00011: Probing Organization of Multiple Chains in Nanofluidic Cavities Zezhou Liu , Xavier Capaldi , Yuning Zhang , Carlos Vargas , Rodrigo Reyes-Lamothe , Walter Reisner |
| Thursday, March 8, 2018 10:36AM - 10:48AM | R28.00012: Membrane-induced Confinement of DNA in Pneumatically-actuated Nanofluidic Device Xavier Capaldi , Zezhou Liu , Carlos Ruiz-Vargas , Yuning Zhang , Walter Reisner |
| Thursday, March 8, 2018 10:48AM - 11:00AM | R28.00013: Nematic to smectic transition and dynamics for semiflexible polymers in very strong slit-like confinement Supriyo Roy , Dmytro Luzhbin , Yeng-Long Chen |

Thursday, March 8, 2018, 8:00 am – 11:00 am

Session R43: Focus Session: Mechanisms of Ionic Conduction and Diffusion in Polymeric Ion Conductors I

Sponsoring Units: DPOLY

Chair: Moon Jeong Park, Pohang University of Science & Technology

Room: 503

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| Thursday, March 8, 2018 8:00AM - 8:36AM | R43.00001: Ionic Liquids Inspiring the Design of Charged Polymers: The Allure of Phosphorus Invited Speaker: Timothy Long , Mingtao Chen , Allison Pekkanen , Emily Wilts , Christopher Williams , Philip Scott , Nicholas Chartrain , Viswanath Meenakshisundaram |
| Thursday, March 8, 2018 8:36AM - 8:48AM | R43.00002: Molecular Dynamics and Charge Transport in Highly Conductive Polymeric Ionic Liquids Falk Frenzel , Ryan Guterman , A. Markus Anton , Jiayin Yuan , Friedrich Kremer |
| Thursday, March 8, 2018 8:48AM - 9:00AM | R43.00003: Impact of Cation and Counterion Chemical Structure on Ion Transport and Morphology in Cyclopropenium-Based Polymerized Ionic Liquids Benjamin Paren , Philip Griffin , Jessica Freyer , Karen Winey , Luis Campos |
| Thursday, March 8, 2018 9:00AM - 9:12AM | R43.00004: The Role of Multivalent Ions on the Mechanics and Ionic Conductivity of Metal-Ligand Coordinating Polymers Nicole Michenfelder-Schauser , Gabriel Sanoja , Joshua Bartels , Christopher Evans , Matthew Helgeson , Ram Seshadri , Rachel Segalman |
| Thursday, March 8, 2018 9:12AM - 9:24AM | R43.00005: The Influence of Polymer Molecular Weight on Transport Properties in Polymerized Ionic Liquids Jordan Keith , Santhosh Mogurampally , Faisal Aldukhi , Bill Wheatle , Venkatraghavan Ganesan |
| Thursday, March 8, 2018 9:24AM - 9:36AM | R43.00006: Quantitative Structure Analysis of Polymerized Ionic Liquids with Atomistic Simulations Hongjun Liu , Stephen Paddison |
| Thursday, March 8, 2018 9:36AM - 9:48AM | R43.00007: Dynamic-Mechanical and Dielectric Evidence of Long-Lived Mesoscale Organization in Ionic Liquids Joshua Sangoro , James Cosby , Yangyang Wang |
| Thursday, March 8, 2018 9:48AM - 10:00AM | R43.00008: Modulating ion transport properties of PEO-based polymer electrolytes through end-group chemistry Ha Young Jung , Moon Jeong Park |
| Thursday, March 8, 2018 10:00AM - 10:12AM | R43.00009: Enhanced Conductivity Pathways in Block Polymer Electrolytes with Homopolymer Additives Melody Morris , Velencia Witherspoon , Ryan Nieuwendaal , Thomas Epps |
| Thursday, March 8, 2018 10:12AM - 10:24AM | R43.00010: Structure-function Properties of Microphase Separated Ion Conducting Block Copolymer Thin Films Yu Kambe , Christopher Arges , Yamil Colon , Weiwei Chu , Juan De Pablo , Paul Nealey |
| Thursday, March 8, 2018 10:24AM - 10:36AM | R43.00011: Probing Ion Dynamics in Solid Polymer Blend Electrolytes via T1-T2 Correlation NMR and Inversion of the Laplace Transform Luis Smith , Sergio Granados-Focil |
| Thursday, March 8, 2018 10:36AM - 10:48AM | R43.00012: Principles of Static and Dynamic Flexoelectricity in Viscoelastic Solid Polymer Electrolyte Membranes |

Jinwei Cao , Camilo Piedrahita , Zhiyang Zhao , Bryan Vogt ,
Thein Kyu

Thursday, March 8, 2018
10:48AM - 11:00AM

R43.00013: Flexoelectric Effect in Solid-state Polymer Electrolyte
Membrane during Mechanical Deformation
Camilo Piedrahita , Jinwei Cao , Thein Kyu

Thursday, March 8, 2018, 8:00 am – 11:00 am

Session R49: Focus Session: Physics of Genome Organization: From DNA to Chromatin II

Sponsoring Units: DBIO DPOLY

Chair: Leonid Mirny, Massachusetts Institute of Technology-MIT

Room: 511A

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| Thursday, March 8, 2018 8:00AM - 8:36AM | R49.00001: Single-stranded nucleic acid elasticity arises from internal electrostatic tension Invited Speaker: David Reid Jacobson |
| Thursday, March 8, 2018 8:36AM - 8:48AM | R49.00002: Boundary-driven scaling of Turing patterns and bacterial chromosomes Fabai Wu , Bas van Schie , Louis Kuijpers , Xuan Zheng , Juan Keymer , Cees Dekker |
| Thursday, March 8, 2018 8:48AM - 9:00AM | R49.00003: Shannon Information Entropy in the Genetic Code Louis Nemzer |
| Thursday, March 8, 2018 9:00AM - 9:12AM | R49.00004: Using Self-Assembling DNA Complexes to Examine the Relationship between DNA Organization and Transcriptional Efficiency Dan Nguyen , Byoung-jin Jeon , Omar Saleh |
| Thursday, March 8, 2018 9:12AM - 9:24AM | R49.00005: Functional Consequences of Methylating the Unmethylated Yeast Genome Alex Finnegan , Hu Jin , Michael Gapinske , Wendy Woods , Pablo Perez-Pinera , Jun Song |
| Thursday, March 8, 2018 9:24AM - 9:36AM | R49.00006: RNA Base Pairing Determines the Conformations of RNA Inside Spherical Viruses Roya Zandi , Gonca Erdemci-Tandogan , Henri Orland |
| Thursday, March 8, 2018 9:36AM - 9:48AM | R49.00007: DNA sequencing based biophysical characterization of cell-free DNA in the blood circulation sheds light on its origin Philip Burnham , Darshana Dadhania , Michael Heyang , Fanny Chen , Manikkam Suthanthiran , John Lee , Iwijn De Vlaminck |
| Thursday, March 8, 2018 9:48AM - 10:00AM | R49.00008: Fundamental Sources of Codon Bias Willow Kion-Crosby , Alexandre Morozov |
| Thursday, March 8, 2018 10:00AM - 10:12AM | R49.00009: Programmable and Orthogonal Gene Circuit Elements David Specht , Carla Vidal , Guillaume Lambert |
| Thursday, March 8, 2018 10:12AM - 10:24AM | R49.00010: Dynamics of Active Rouse Chains Dino Osmanovic |
| Thursday, March 8, 2018 10:24AM - 10:36AM | R49.00011: Programmable and bistable CRISPR-based toggle switches in Escherichia coli Yasu Xu , Guillaume Lambert |
| Thursday, March 8, 2018 10:36AM - 10:48AM | R49.00012: Polymer Modeling of Dynamics and Disrupted Organization of Fragmented Chromatin Edward Banigan , Houda Belaghzal , Tyler Borrman , Job Dekker , Leonid Mirny |
| Thursday, March 8, 2018 10:48AM - 11:00AM | R49.00013: Evolution of Nested Folding States in Compression of a Strongly Confined Semiflexible Chain Aniket Bhattacharya , Walter Reisner , Simon Bernier |

Thursday, March 8, 2018, 8:00 am – 11:00 am

Session R52: Focus Session: Smart Responsive Polymers II

Sponsoring Units: DPOLY

Chair: Jasper Michels, Max Planck Institute

Room: 512

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| Thursday, March 8, 2018 8:00AM - 8:12AM | R52.00001: Pressure-Dependence of Poly(N-isopropyl acrylamide) Mesoglobule Formation in Aqueous Solution Bart-Jan Niebuur , Kora-Lee Claude , Simon Pinzek , Coleman Cariker , Konstantinos N Raftopoulos , Vitaliy Pipich , Marie-Sousai Appavou , Alfons Schulte , Christine Papadakis |
| Thursday, March 8, 2018 8:12AM - 8:24AM | R52.00002: Soft, smart multi-responsive materials: What can we learn from computer simulations? Chathuranga De Silva , Porakrit Leophairatana , Takahiro Ohkuma , Jeffrey Koberstein , Kurt Kremer , Debashish Mukherji |
| Thursday, March 8, 2018 8:24AM - 8:36AM | R52.00003: Thermodynamic Origin of Cononsolvency He Cheng , Taisen Zuo , Changli Ma |
| Thursday, March 8, 2018 8:36AM - 8:48AM | R52.00004: Molecular basis of non-universal pH-dependent conformational transitions of poly(alkylacrylic acid)s Chang Yun Son , Valeriy Ginzburg , Antony Van Dyk , Christopher Tucker , Thomas Kalantar , Zhen-Gang Wang |
| Thursday, March 8, 2018 8:48AM - 9:00AM | R52.00005: Response of ionic co-polymers assemblies to solvent stimuli: A molecular Dynamics Simulation Study Manjula Senanayake , Dipak Aryal , Gary Grest , Dvora Perahia |
| Thursday, March 8, 2018 9:00AM - 9:12AM | R52.00006: Competitive calcium ion binding to end-tethered weak polyelectrolytes Rikkert Nap , Sung Hyun Park , Igal Szleifer |
| Thursday, March 8, 2018 9:12AM - 9:24AM | R52.00007: Sensing Local Stresses with Mechano-Responsive Polymer Structures Andreas Fery , Jens Neubauer , Julian Thiele |
| Thursday, March 8, 2018 9:24AM - 9:36AM | R52.00008: Curvature by design in liquid crystal elastomer sheets Benjamin Kowalski , Nicholas Godman , Cyrus Mostajeran , Mark Warner , Timothy White |
| Thursday, March 8, 2018 9:36AM - 9:48AM | R52.00009: A Soft Coarse-Grained Model for Multicomponent Polymer Solutions Jianguo Zhang , Debashish Mukherji , Kurt Kremer , Kostas Daoulas |
| Thursday, March 8, 2018 9:48AM - 10:24AM | R52.00010: The Puzzle of Smart Polymers in Miscible Solvent Mixtures Invited Speaker: Kurt Kremer |
| Thursday, March 8, 2018 10:24AM - 10:36AM | R52.00011: Hierarchical Assembly of Inhomogeneous Supramolecular Polymers from Hybrid Particle-Field Simulations Jing Zong , Dong Meng |
| Thursday, March 8, 2018 10:36AM - 10:48AM | R52.00012: Untightening constrained segments of charged polymers at interfaces Bintao Zhao , Jingfa Yang , Jiang Zhao |
| Thursday, March 8, 2018 10:48AM - 11:00AM | R52.00013: Predicting Mechanical Behavior of Multiply-Dynamic Crosslinked Polymer Composites Mehdi Zanjani , Zhijiang Ye , Dominik Konkolewicz |

Thursday, March 8, 2018, 8:00 am – 11:00 am

Session R55: Focus Session: Soft Materials Containing Synthetic Polymers, Peptides, Proteins, Biomachinery and Beyond I: Peptides and Assemblies

Sponsoring Units: DPOLY DBIO

Chair: Ting Xu, Univ of California - Berkeley

Room: 515A

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| Thursday, March 8, 2018 8:00AM - 8:12AM | R55.00001: Molecular knots: discovering privileged topologies with self-assembling models Mattia Marena , Enzo Orlandini , Cristian Micheletti |
| Thursday, March 8, 2018 8:12AM - 8:24AM | R55.00002: Biomolecules for Non-biological Things: Materials Construction through Peptide Design and Solution Assembly Darrin Pochan |
| Thursday, March 8, 2018 8:24AM - 8:36AM | R55.00003: Assembly pathway control of programmable peptide nanomaterials and inorganic templating Yu Tian , Frank Polzer , Huixi Zhang , Kristi Kiick , Jeffery Saven , Darrin Pochan |
| Thursday, March 8, 2018 8:36AM - 8:48AM | R55.00004: The Role of Hydrophobicity in the Self-assembly of PDI-peptides Ryan Weber , Martin McCullagh |
| Thursday, March 8, 2018 8:48AM - 9:00AM | R55.00005: Site-Mutation of Nucleoporin Consensus Repeats for Understanding Selective Transport of Biomolecules Yun Jung Yang , Shuaili Li , Danielle Mai , Bradley Olsen |
| Thursday, March 8, 2018 9:00AM - 9:12AM | R55.00006: Mesoscale properties of phase-separated polymers under confinement and their size scaling Marjan Shayegan , Radin Tahvildari , Kimberly Metera , Stephen Michnick , Sabrina Leslie |
| Thursday, March 8, 2018 9:12AM - 9:48AM | R55.00007: Wetting on patchy, protein-like surfaces Invited Speaker: Francesco Stellacci |
| Thursday, March 8, 2018 9:48AM - 10:00AM | R55.00008: Changes in Lipid Bilayer Dynamics caused by the HIV-1 Fusion Peptide William Heller , Piotr Zolnierczuk |
| Thursday, March 8, 2018 10:00AM - 10:12AM | R55.00009: Surface Immobilization Of Antimicrobial Peptide (AMP) For Use In Antibacterial Coating Sasmita Majhi , Ankita Arora , Abhijit Mishra |
| Thursday, March 8, 2018 10:12AM - 10:24AM | R55.00010: Catalysis in Stimuli-Responsive Nanoreactors: Towards Colloidal Enzymes and Feedback Control Rafael Roa , Won Kyu Kim , Matej Kanduč , Joachim Dzubiella |
| Thursday, March 8, 2018 10:24AM - 10:36AM | R55.00011: Development of Catalytic Materials Based on the Stabilization of Organophosphorus Hydrolase in Organic Solvents Christopher DelRe , Brian Panganiban , Baofu Qiao , Charley Huang , Tim Li , Patrick Dennis , Monica Olvera De La Cruz , Ting Xu |
| Thursday, March 8, 2018 10:36AM - 10:48AM | R55.00012: Local Heterogeneous Domains Drive Stability of Proteins in Non-Aqueous Solution Baofu Qiao , Brian Panganiban , Ting Xu , Monica Olvera De La Cruz |
| Thursday, March 8, 2018 10:48AM - 11:00AM | R55.00013: Nature-Inspired Polymer Design with Protein-Like Functionality Tao Jiang , Baofu Qiao , Monica Olvera De La Cruz , Ting Xu |

Thursday, March 8, 2018, 8:00 am – 11:00 am

Session R56: Focus Session: Polymer Nanocomposites II: Functional Applications

Sponsoring Units: DPOLY

Chair: Praveen Agarwal, The Dow Chemical Company

Room: 515B

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| Thursday, March 8, 2018 8:00AM - 8:12AM | R56.00001: Effects of Morphology on the Mechanical Properties of Heterogeneous Polymer-grafted Nanoparticle Networks Tao Zhang , Badel Mbanga , Victor Yashin , Anna Balazs |
| Thursday, March 8, 2018 8:12AM - 8:24AM | R56.00002: Role of the polydispersity of nanoparticle size, grafted chain length and grafting density on the self-assembly of polymer nanocomposites Nirmalya Bachhar , Sanat Kumar |
| Thursday, March 8, 2018 8:24AM - 8:36AM | R56.00003: Nanocomposites Containing Aromatic Polymers with Bulky Pendant Groups and C60 for Gas Separation Applications Venkat Padmanabhan , Rimpa Chatterjee , Soumendu Bisoi , Susanta Banerjee |
| Thursday, March 8, 2018 8:36AM - 8:48AM | R56.00004: Nanoparticle Reshaping in Polymer Nanocomposites: Quantifying the Effect of Polymer Mechanics on Gold Nanorod Surface Diffusion Dynamics William Kennedy , Vikas Varshney , Sarah Izor , Hilmar Koerner |
| Thursday, March 8, 2018 8:48AM - 9:00AM | R56.00005: Structural and Molecular Transport Properties of Self-Assembled polymer grafted Nanoparticles Connor Bilchak , Hope Weinstein , Sanat Kumar , Brian Benicewicz , Yucheng Huang |
| Thursday, March 8, 2018 9:00AM - 9:12AM | R56.00006: Plasmonic Nanoparticles Meet Polymers: Revelation of the Polymer Brush Formation Mechanism Guoliang Liu |
| Thursday, March 8, 2018 9:12AM - 9:48AM | R56.00007: Processing and Performance of Large-Area Polymer-Grafted Nanoparticle Assemblies Invited Speaker: Richard Vaia , Andrew Tibbits , Jason Streit , Kyoungweon Park , Ali Jawaid , andrew Gillman , Phil Buskhol , Lawrence Drummy |
| Thursday, March 8, 2018 9:48AM - 10:00AM | R56.00008: Light-Enabled Reversible Self-Assembly and Tunable Optical Properties of Photoresponsive Polymers-Ligated Nanoparticles Zhiquan Lin |
| Thursday, March 8, 2018 10:00AM - 10:12AM | R56.00009: Melt Dynamics of Grafted Nanoparticles Ramanan Krishnamoorti |
| Thursday, March 8, 2018 10:12AM - 10:24AM | R56.00010: Role of Chemical Heterogeneity in Bound Layers on the Mechanical Properties of Polymer Nanocomposites Siyang Yang , Pinar Akcora |
| Thursday, March 8, 2018 10:24AM - 10:36AM | R56.00011: Manipulating 3-D Nanoparticle Assembly to Tune Optical Properties of Lamellar Nanocomposite Thin Films Jingyu Huang , Xiangfan Chen , Peter Bai , Cheng Sun , Ting Xu |
| Thursday, March 8, 2018 10:36AM - 10:48AM | R56.00012: Bioinspired Mineralization in Hydrogels for Sustainable Applications Abigail Regitsky , Bavand Keshavarz , Sungjin Kim , Seth Cazzell , Gareth McKinley , Niels Holten-Andersen |
| Thursday, March 8, 2018 10:48AM - 11:00AM | R56.00013: Tunable Interactions of Polymer-Plasmonic Nanoparticle Composites with Visible and Near-Infrared Light Assad Ullah Khan , Yichen Guo , Guoliang Liu |

Thursday, March 8, 2018, 11:15 am – 2:15 pm

Session S43: Focus Session: Mechanisms of Ionic Conduction and Diffusion in Polymeric Ion Conductors II

Sponsoring Units: DPOLY

Chair: Louis Madsen, Virginia Polytechnic Institute and State University

Room: 503

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| Thursday, March 8, 2018 11:15AM - 11:27AM | S43.00001: Ab initio Molecular Dynamics Study of Proton Transfer Mechanisms through Nano-Confined Structures for Anion Exchange Membranes Tamar Zelovich , Zhuoran Long , Mark Tuckerman |
| Thursday, March 8, 2018 11:27AM - 11:39AM | S43.00002: Aggregate dynamics in ionomer melts Mark Stevens , Jon Bollinger , Amalie Frischknecht |
| Thursday, March 8, 2018 11:39AM - 11:51AM | S43.00003: Correlation between Ionic Mobility and Microstructure in Block Copolymers. A Coarse-Grained Modeling Study. Mohammed AlShammasi , Mayank Misra , Fernando Escobedo |
| Thursday, March 8, 2018 11:51AM - 12:03PM | S43.00004: Nano- and Mesoscale Conduction, Diffusion and Electrokinetics in Perfluorosulfonic-Acid Membranes Andrew Crothers , Clayton Radke , Adam Weber |
| Thursday, March 8, 2018 12:03PM - 12:15PM | S43.00005: Morphology Effects on Diffusion of Selective Penetrants in Block Copolymers from Constrained Random Walk Model and Molecular Dynamics Simulations Kuan-Hsuan Shen , Jonathan Brown , Lisa Hall |
| Thursday, March 8, 2018 12:15PM - 12:27PM | S43.00006: Coarse-Grained Molecular Dynamics of Ionic Transport in Polymer Electrolyte Yanming Wang , Arthur France-Lanord , Tian Xie , Jeffrey Grossman |
| Thursday, March 8, 2018 12:27PM - 1:03PM | S43.00007: Effect of Ion-Polymer Solvation Strength on Ion Diffusion in Model Diblock Copolymers Invited Speaker: Lisa Hall |
| Thursday, March 8, 2018 1:03PM - 1:15PM | S43.00008: Mechanisms of charge diffusion in polyethylene oxide based electrolytes: insights from molecular dynamics simulations Arthur France-Lanord , Yanming Wang , Tian Xie , Jeffrey Grossman |
| Thursday, March 8, 2018 1:15PM - 1:27PM | S43.00009: Ion Transport Mechanisms in Lamellar Phases of PS-PEO Block Copolymer Electrolytes Doped with LiPF ₆ Salts. Vaidyanathan Sethuraman , Santhosh Mogurampally , Venkatraghavan Ganesan |
| Thursday, March 8, 2018 1:27PM - 1:39PM | S43.00010: Physical Insights into Ion Conduction in Polymeric Systems Eric Stacy , Catalin Gainaru , Vera Bocharova , Tomonori Saito , Zaneta Wojnarowska , Adam Holt , Steven Greenbaum , Mallory Gobet , Alexei Sokolov |
| Thursday, March 8, 2018 1:39PM - 1:51PM | S43.00011: Effect of Composition and Morphology on Ion Transport in Ternary Polymer-Polymer-Salt Blend Electrolytes Bill Wheatle , Nathaniel Lynd , Venkatraghavan Ganesan |
| Thursday, March 8, 2018 1:51PM - 2:03PM | S43.00012: Ionic conductivity in cationic polythiophenes Achilleas Pipertzis , Markus Muehlinghaus , Markus Mezger , Ullrich Scherf , George Floudas |
| Thursday, March 8, 2018 2:03PM - 2:15PM | S43.00013: Light-induced Proton Conductivity in a Photo-acid Doped Polymer Shima Haghghat , Sarah Ostresh , Jahan Dawlaty |

Thursday, March 8, 2018, 11:15 am – 2:15 pm

Session S52: Polymeric Elastomers and Gels

Sponsoring Units: DPOLY

Chair: Sangwoo Lee, Rensselaer Polytech Inst

Room: 512

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| Thursday, March 8, 2018 11:15AM - 11:27AM | S52.00001: Physical gelation and spinodal decomposition of poly(N-isopropylacrylamide) aqueous solutions measured by rheometry Chi Wang , Ya-Chen Chuang |
| Thursday, March 8, 2018 11:27AM - 11:39AM | S52.00002: Topological Structure of Networks Formed from Symmetric Four-arm Precursors Tzyy-Shyang Lin , Rui Wang , Jeremiah Johnson , Bradley Olsen |
| Thursday, March 8, 2018 11:39AM - 11:51AM | S52.00003: Failure of a Polystyrene-Polyisoprene-Polystyrene Gel in Mineral Oil Satish Mishra , Rosa Maria Badani Prado , Thomas Lacy , Santanu Kundu |
| Thursday, March 8, 2018 11:51AM - 12:03PM | S52.00004: Patterning with loops to dynamically reconfigure polymer gels Santidan Biswas , Victor Yashin , Anna Balazs |
| Thursday, March 8, 2018 12:03AM - 12:15PM | S52.00005: Tough self-healing elastomers by molecular enforced integration of covalent and reversible bonds Liheng Cai , Jinrong Wu , David Weitz |
| Thursday, March 8, 2018 12:15AM - 12:27PM | S52.00006: Dynamic Mechanical Behavior of Second-Generation Dendronized Wedge-Type Polymer Zhiyuan Qian , Yung Pyo Koh , Alice Chang , Tzu-Pin Lin , Pablo E. Guzman , Robert Grubbs , Sindee Simon , Gregory McKenna |
| Thursday, March 8, 2018 12:27PM - 12:39PM | S52.00007: Self-Assembled Structural Colloids of Nematic Liquid Crystal Polymer and Elastomer Wei-Shao Wei , Yu Xia , Sophie Ettinger , Shu Yang , A. G. Yodh |
| Thursday, March 8, 2018 12:39PM - 12:51PM | S52.00008: Simulation for stiffening of reconstituted silk fibroin gels during deformation Peiran Jin , Peter Olmsted |
| Thursday, March 8, 2018 12:51PM - 1:03PM | S52.00009: Tailoring Poisson's Ratio via the Directed Self-Assembly of Liquid Crystal Elastomers Anesia Auguste , Eric Harper , Timothy White |
| Thursday, March 8, 2018 1:03PM - 1:15PM | S52.00010: Correlation of Monomer Source and Structure to the Morphology and Properties of Lignin Based Polyurethanes Umesh Shrestha , Jason Lang , Yun-yan Wang , Priya Sengupta , Arthur Ragauskas , Charles Wyman , Charles Cai , Mark Dadmun |
| Thursday, March 8, 2018 1:15PM - 1:27PM | S52.00011: The Role of Fiber Reinforced Gels in Maintaining Metastable Water in Plants Alexandre Ponomarenko , William Steinhardt , Fulton Rockwell , Shmuel Rubinstein , Noel Holbrook |
| Thursday, March 8, 2018 1:27PM - 1:39PM | S52.00012: Fracturing Biopolymer Gels with Bubbles Bradley Frieberg , Ray-Shimry Garatsa , John Bachert , Benjamin Crawshaw , Michael Liu , Ronald Jones , Edwin Chan |
| Thursday, March 8, 2018 1:39PM - 1:51PM | S52.00013: Mullins effect in filled elastomers characterized by stretching measurements in various geometries Thanh-Tam Mai , Yoshihiro Morishita , Kenji Urayama |
| Thursday, March 8, 2018 1:51PM - 2:03PM | S52.00014: Quenched Polyampholyte Hydrogels for Low-Temperature Energy Storage and Energy-Saving Smart Window Applications |

Thursday, March 8, 2018
2:03PM - 2:15PM

Hyun-Joong Chung , Xinda Li , Thanh-Giang La

S52.00015: Springy or Crumbly: Depends on crosslinking protocol
when we make porous colloid/polymer hybrids

Karthika S , Shivprasad Patil , Rajamohanan P.R , Guruswamy
Kumaraswamy

Thursday, March 8, 2018, 11:15 am – 2:15 pm

Session S55: Focus Session: Block Copolymer Thin Films Integrated with new Material Platforms II: Annealing, Architecture, and Multi-Layers

Sponsoring Units: DPOLY

Chair: Gregory Doerk, Brookhaven Natl Lab

Room: 515A

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| Thursday, March 8, 2018 11:15AM - 11:27AM | S55.00001: Robust Gyroid Morphology in Triblock Terpolymer Films During Solvent Vapor Annealing Ilja Gunkel , James Dolan , Karolina Korzeb , Morgan Stefik , Ulrich Wiesner , Bodo Wilts , Ullrich Steiner |
| Thursday, March 8, 2018 11:27AM - 11:39AM | S55.00002: Solvent-Mediated Self-Assembly in Thin Films of Block Copolymer-Based Supramolecules Katherine Evans , Ting Xu |
| Thursday, March 8, 2018 11:39AM - 11:51AM | S55.00003: Self-Assembly beyond 2D – Interactions in Multi-Layered Arrays of Block Copolymer Films Arkadiusz Leniart , Andrzej Sitkiewicz , Kevin Yager , Pawel Majewski |
| Thursday, March 8, 2018 11:51AM - 12:27PM | S55.00004: Directed Self-Assembly (DSA) of Block Copolymer Films with Direct Immersion Annealing Invited Speaker: Alamgir Karim , Melanie Longanecker , Andrey Dobrynin , Sushil Satija |
| Thursday, March 8, 2018 12:27PM - 12:39PM | S55.00005: In-Situ Grazing-Incidence Small-Angle X-ray Scattering of Electrospray Deposited Block Copolymer Thin Films Kristof Toth , Youngwoo Choo , Manesh Gopinadhan , Ruipeng Li , Kevin Yager , Masafumi Fukuto , Chinedum Osuji |
| Thursday, March 8, 2018 12:39PM - 12:51PM | S55.00006: Vapor phase assisted polymer deposition for generating hierarchical block copolymer nanostructures Zhe Qiang , Muzhou Wang |
| Thursday, March 8, 2018 12:51PM - 1:03PM | S55.00007: Epitaxy of Incommensurate Block Copolymer Dot Arrays: Preferential Alignment and Moire Superstructures Erik Lubert , Cong Jin , Brian Olsen , Jillian Buriak |
| Thursday, March 8, 2018 1:03PM - 1:15PM | S55.00008: Thru-thickness Vertically Ordered Lamellar Block Copolymer Films with Dynamic Thermal Annealing Monali Basutkar , Saamil Samant , Joseph Strzalka , Kevin Yager , Gurpreet Singh , Alamgir Karim |
| Thursday, March 8, 2018 1:15PM - 1:27PM | S55.00009: Unconventional Phase Behaviors of Linear-Dendritic Copolymer due to Extremely High Frustration Yicheng Qiang , Wei-hua Li |
| Thursday, March 8, 2018 1:27PM - 1:39PM | S55.00010: Design Block Copolymers for Unconventional Ordered Phases Wei-hua Li , Chao Duan , Bin Zhao |
| Thursday, March 8, 2018 1:39PM - 1:51PM | S55.00011: Dodecagonal Quasicrystal Phase in Block Copolymers: Stable or Metastable? Chao Duan , Mingtian Zhao , Yicheng Qiang , Lei Chen , Wei-hua Li |
| Thursday, March 8, 2018 1:51PM - 2:03PM | S55.00012: Impact of Topological Constraint on the Self-Assembly Behavior of AB-Type Block Copolymers Jiang Bo , Yicheng Qiang , Lei Chen , Wei-hua Li |
| Thursday, March 8, 2018 2:03PM - 2:15PM | S55.00013: Directing assembly of semiconductor colloidal quantum dots with short-chain amphiphilic block copolymers Stacy Copp , Christina Hanson , Jennifer Hollingsworth , Gabriel Montano |

Thursday, March 8, 2018, 11:15 am – 2:15 pm

Session S56: Focus Session: Polymer Nanocomposites III: Fundamentals

Sponsoring Units: DPOLY

Chair: Guoliang Liu, Virginia Tech

Room: 515B

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| Thursday, March 8, 2018 11:15AM - 11:27AM | S56.00001: Concentration Dependence of Polymer Adsorption on Clay Surfaces by Small Angle Neutron Scattering Alan Nakatani , Carol Mohler , Michael Poindexter , Stephanie Hughes |
| Thursday, March 8, 2018 11:27AM - 11:39AM | S56.00002: Structure, Entanglements, and Mechanical Properties of Adsorbed Polymer-Grafted Nanoparticles from Molecular Dynamics Simulations Jeffrey Ethier , Lisa Hall |
| Thursday, March 8, 2018 11:39AM - 11:51AM | S56.00003: Modeling the Morphology and Phase Behavior of One-Component Polymer-Grafted Nanoparticle Systems Valeriy Ginzburg |
| Thursday, March 8, 2018 11:51AM - 12:03PM | S56.00004: Coarse-Grained Simulations of Gas Penetrants within Polymer Nanocomposites James Barnett , Sanat Kumar |
| Thursday, March 8, 2018 12:03PM - 12:15PM | S56.00005: Controlling the Stability of Imprinted Nanostructures Using Grafted Nanoparticles Sonal Bhadauriya , Xiaoteng Wang , Praveen Pitliya , Dharmaraj Raghavan , Christopher Stafford , Jack Douglas , Alamgir Karim |
| Thursday, March 8, 2018 12:15PM - 12:27PM | S56.00006: Polymer dynamics and nanoparticle diffusion in nanocomposites Nigel Clarke , Argyrios Karatrantos , Karen Winey , Russell Composto |
| Thursday, March 8, 2018 12:27PM - 12:39PM | S56.00007: Interplay of the structure and properties of hierarchical functional nanocomposites Eileen Buenning , Christopher Durning , Dimitris Vlassopoulos , Sanat Kumar |
| Thursday, March 8, 2018 12:39PM - 12:51PM | S56.00008: Pattern and Phase Miscibility Directed-Assembly of Polymer-Grafted Nanoparticles within Polymer Matrix Xiaoteng Wang , Michael Bockstaller , Alamgir Karim |
| Thursday, March 8, 2018 12:51PM - 1:03PM | S56.00009: Nanoparticle Diffusion in Polymer Nanocomposites Koteswararao Medidhi , Venkat Padmanabhan |
| Thursday, March 8, 2018 1:03PM - 1:39PM | S56.00010: Polymer grafted nanoparticles for designed interfaces and controlled assembly in polymer nanocomposites Invited Speaker: Brian Benicewicz |
| Thursday, March 8, 2018 1:39PM - 1:51PM | S56.00011: Decoupling nanoparticle motion from elastic modulus in polymer nanocomposites in confined regime Erkan Senses , Suresh Narayanan , Yimin Mao , Antonio Faraone |
| Thursday, March 8, 2018 1:51PM - 2:03PM | S56.00012: Molecular Dynamics Simulations of Small and Sticky Nanoparticles in Polymer Nanocomposites Jan-Michael Carrillo , Umi Yamamoto , Vera Bocharova , Bobby Sumpter , Kenneth Schweizer , Alexei Sokolov |
| Thursday, March 8, 2018 2:03PM - 2:15PM | S56.00013: Molecular Dynamics Simulation on Static and Rheological Properties of Polymer-Nanoparticle composite Systems with Chemically Identical Brush and Matrix chains Wei Peng , Pawel Koblinski , Rahmi Ozisik |

Thursday, March 8, 2018, 11:15 am – 2:15 pm

Session S57: Focus Session: Self-assembly in Liquid Crystals and other Complex Solvents I

Sponsoring Units: GSOFD DBIO DPOLY

Chair: Cecilia Leal, University of Illinois at Urbana-Champaign

Room: 518

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| Thursday, March 8, 2018 11:15AM - 11:51AM | S57.00001: Topological defects in liquid crystals as templates for molecular self-assembly Invited Speaker: Nicholas Abbott |
| Thursday, March 8, 2018 11:51AM - 12:03AM | S57.00002: Hydrogels dehydrate embedded liposomes Sarith Bandara , Tom Molley , Kristopher Kilian , Cecilia Leal |
| Thursday, March 8, 2018 12:03AM - 12:15AM | S57.00003: Quantifying Block Copolymer Bindings to Lipid Bilayers with Different Composition and Curvature Wenjia Zhang , Frank Bates , Timothy Lodge |
| Thursday, March 8, 2018 12:15AM - 12:27PM | S57.00004: Supramolecular Self-Assembly of Filamentary Structures from Bent-Core Liquid Crystals RAYSHAN VISVANATHAN , Maria Kolber , Alexandra Duncan , Michael Tuchband , Keri Graber , Eva Korblova , Joseph MacLennan , Matthew Glaser , Noel Clark |
| Thursday, March 8, 2018 12:27PM - 12:39PM | S57.00005: Colloids in Nematics: Attractive and Repulsive Loci Near Corrugated Boundaries Yimin Luo , Francesca Serra , Daniel Beller , Kathleen Stebe |
| Thursday, March 8, 2018 12:39PM - 12:51PM | S57.00006: Self-Assembly of Colloidal Particles with Optical Binding Dominique Davenport , Dustin Kleckner |
| Thursday, March 8, 2018 12:51PM - 1:03PM | S57.00007: Sub-microsecond switching times using dynamically tunable plasmonic pixels Sebastian Etcheverry , Leonardo Araujo , Isabel Carvalho , Walter Margulis , Jake Fontana |
| Thursday, March 8, 2018 1:03PM - 1:15PM | S57.00008: Relaxation dynamics of bola-shaped smectic island in a thin, spherical bubble of smectic C liquid crystal in microgravity Cheol Park , Eric Minor , Joseph MacLennan , Matthew Glaser , Noel Clark , Pavel Dolganov , Nikita Shuravin , Vladimir Dolganov |
| Thursday, March 8, 2018 1:15PM - 1:27PM | S57.00009: Structure-Property Relationships in the Twist-Bend Liquid Crystal Phase of Odd Members of the CBnCB Homologous Series Michael Tuchband , Min Shuai , Daniel Paterson , Lee Foley , Jessica Riano , Alyssa Scarbrough , Victoria Normal , Cheng Wang , David Walba , John Storey , Chenhui Zhu , Corrie Imrie , Noel Clark |
| Thursday, March 8, 2018 1:27PM - 1:39PM | S57.00010: Magnetically-Controlled Dynamics of Skyrmions in Chiral Ferromagnetic Liquid Crystals Jung-Shen Tai , Andrew Hess , Ivan Smalyukh |
| Thursday, March 8, 2018 1:39PM - 1:51PM | S57.00011: Active turbulence in a gas of self-assembled spinners Gašper Kokot , Alexey Snezhko |
| Thursday, March 8, 2018 1:51PM - 2:03PM | S57.00012: Controlled Real-Time Transition Between Bipolar and Radial Configuration of Liquid Crystal Droplets Jake Shechter , Jennifer Ross |
| Thursday, March 8, 2018 2:03PM - 2:15PM | S57.00013: <i>In situ</i> characterization of sorption and diffusion in ionic liquids Alexandra Bayles , Connor Valentine , Matthew Helgeson , Todd Squires |

Thursday, March 8, 2018, 11:15 am – 2:15 pm

Session S59: Invited Session: Super Resolution Microscopy and Lithography of Polymers

Sponsoring Units: DPOLY DBIO

Chair: Chaitanya Ullal, Rensselaer Polytech Inst; Muzhou Wang, Northwestern University

Room: *Petree Hall D*

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| Thursday, March 8, 2018 11:15AM - 11:51AM | S59.00001: Nanoscale structure and deformation in soft materials revealed by single-molecule localization and orientation Invited Speaker: James Liddle , Muzhou Wang , James Marr , Jeffrey Gilman |
| Thursday, March 8, 2018 11:51AM - 12:27PM | S59.00002: Superresolved fluorescence microscopy of soft matter: from the development of novel photoswitches to the visualization of compartmentalized microgels Invited Speaker: Dominik Woell , Alex Oppermann , Oleksii Nevskiy , Silvia Centeno Benigno , Ashvini Purohit , Eric Siemes , Laura Hoppe Alvarez |
| Thursday, March 8, 2018 12:27AM - 1:03PM | S59.00003: Studying Nanoscale Dynamics with Super-Resolved Microscopy Invited Speaker: Anisha Shakya , Seong Jun Park , John King |
| Thursday, March 8, 2018 1:03PM - 1:39PM | S59.00004: Multicolor superresolved lithography Invited Speaker: John Fourkas |
| Thursday, March 8, 2018 1:39PM - 2:15PM | S59.00005: Counting biomolecules using single-molecule imaging technique Invited Speaker: Kyu Young Han |

Thursday, March 8, 2018, 2:30 pm – 5:30 pm

Session V43: Polymer Glasses

Sponsoring Units: DPOLY

Chair: Connie Roth, Emory Univ

Room: 503

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| Thursday, March 8, 2018 2:30PM - 2:42PM | V43.00001: How brittle-ductile transition (BDT) in uniaxial compression depends on the network structure affected by predeformation Jianning Liu , Xiaoxiao Li , Weiyu Wang , Zhichen Zhao , Jimmy Mays , Shiqing Wang |
| Thursday, March 8, 2018 2:42PM - 2:54PM | V43.00002: Relationship between the mobility in glass forming liquids and excess thermodynamic quantities James Caruthers , Grigori Medvedev |
| Thursday, March 8, 2018 2:54PM - 3:06PM | V43.00003: Does the “excess wing” in the relaxation spectrum of glass formers have a fine structure? Grigori Medvedev , Yelin Ni , James Caruthers |
| Thursday, March 8, 2018 3:06PM - 3:18PM | V43.00004: A molecular dynamics study of the effect of pre-deformation on compression of glassy polymers Yexin Zheng , Xiaoxiao Li , Shiqing Wang , Mesfin Tsige |
| Thursday, March 8, 2018 3:18PM - 3:30PM | V43.00005: Counter-Intuitive Stress Relaxation Behavior of Glass Forming Materials and the Ability of Rheologically Simple “Material Clock” Nonlinear Viscoelastic Modeling to Represent it Jamie Kropka , Kevin Long |
| Thursday, March 8, 2018 3:30PM - 3:42PM | V43.00006: Effect of chain stiffness on polymer glasses’ shear deformation micromechanisms Hong Nguyen , Robert Hoy |
| Thursday, March 8, 2018 3:42PM - 3:54PM | V43.00007: Predicting glass transition temperatures from short-time simulations of PMMA and PS Zijun Lu , Philip Taylor , Solomon Duki , Mesfin Tsige |
| Thursday, March 8, 2018 3:54PM - 4:06PM | V43.00008: The role of connectivity in polymer glasses Anna Lappala , Luke Sefton , Paul Fenimore , Eugene Terentjev |
| Thursday, March 8, 2018 4:06PM - 4:18PM | V43.00009: Quantification of evaporatively purified polystyrene oligomers Adam Raegen , James Forrest |
| Thursday, March 8, 2018 4:18PM - 4:30PM | V43.00010: Heat Capacity and Tg of Polycyanurates as a Function of Crosslink Density and Implications for the Kauzmann Paradox Evelyn Lopez , Yung Pyo Koh , Sindee Simon |
| Thursday, March 8, 2018 4:30PM - 4:42PM | V43.00011: Explaining the T,V-Dependent Dynamics of Glass Forming Liquids: The Cooperative Free Volume Model Tested Against New Simulation Results Ronald White , Jane Lipson |
| Thursday, March 8, 2018 4:42PM - 4:54PM | V43.00012: Dynamic Behavior of Ultrastable Amorphous Teflon Films in the Deep Glassy Regime Heedong Yoon , Gregory McKenna |
| Thursday, March 8, 2018 4:54PM - 5:06PM | V43.00013: The highly ordered state of glassy polymers from quenching Youngjong Kang Kang , Jae Hyun Sim |
| Thursday, March 8, 2018 5:06PM - 5:18PM | V43.00014: Wrinkles and Cracks -- Quantifying the Mechanical Properties of Polymer Thin Films Shawn Chen , Caleb Fishell , Jae-Hwang Lee , Christopher Soles , Edwin Chan , Kenneth Shull |

Thursday, March 8, 2018
5:18PM - 5:30PM

V43.00015: Imaging strain field near the tip of a propoagting crack
in drying colloidal films
Han Gao , Ye Xu

Thursday, March 8, 2018, 2:30 pm – 5:30 pm

Session V52: Polymer Melts and Solutions

Sponsoring Units: DPOLY

Chair: Bryan Beckingham, Auburn Univ

Room: 512

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| Thursday, March 8, 2018 2:30PM - 2:42PM | V52.00001: Maintaining Small Molecule Supersaturation in a Diblock Micelle Corona Reservoir Ziang Li , Theodore Lenk , Letitia Yao , Frank Bates , Timothy Lodge |
| Thursday, March 8, 2018 2:42PM - 2:54PM | V52.00002: Single Polymer Relaxation Dynamics in Entangled Solutions Yuecheng Zhou , Charles Schroeder |
| Thursday, March 8, 2018 2:54PM - 3:06PM | V52.00003: Coil dimensions of poly(ethylene oxide) in an ionic liquid Aakriti Kharel , Timothy Lodge |
| Thursday, March 8, 2018 3:06PM - 3:18PM | V52.00004: Computational Calorimetry of PNIPAM Cononsolvency in Water/Methanol Mixtures Cahit Dalgicdir , Francisco Rodriguez Roperro , Nico Van der Vegt |
| Thursday, March 8, 2018 3:18PM - 3:30PM | V52.00005: Chain Exchange Kinetics of Spherical Block Copolymer Micelles: Effect of Core Size Dan Zhao , Yuanchi Ma , Timothy Lodge |
| Thursday, March 8, 2018 3:30PM - 3:42PM | V52.00006: Understanding electric field effects in phase-separating soft matter Jonathan Martin , Glenn Fredrickson , Kris Delaney |
| Thursday, March 8, 2018 3:42PM - 3:54PM | V52.00007: Linear-Nonlinear Dichotomy of Rheological Responses in Particle-Filled Polymer Solutions Wentao Xiong , Xiaorong Wang |
| Thursday, March 8, 2018 3:54PM - 4:06PM | V52.00008: Molecular simulations study of assembly in solutions of block copolymers and nanoparticles Daniel Beltran-Villegas , Arthi Jayaraman |
| Thursday, March 8, 2018 4:06PM - 4:18PM | V52.00009: Microfluidic Solvent Extraction for the Precise Formation of Polymer Particles and Capsules William Sharratt , Joao Cabral |
| Thursday, March 8, 2018 4:18PM - 4:30PM | V52.00010: Pinch-off Dynamics, Extensional Rheology and Printability of Polyelectrolyte Solutions Leidy Jimenez , Jelena Dinic , Vivek Sharma |
| Thursday, March 8, 2018 4:30PM - 4:42PM | V52.00011: Melt Rheology of Cellulose Ethers Designed for Hot Melt Extrusion Tirtha Chatterjee , Kevin O'Donnell , Mark Rickard , Brian Nickless , Yongfu Li , Robert Sammler |
| Thursday, March 8, 2018 4:42PM - 4:54PM | V52.00012: Uniaxial Elongational Behavior of Unentangled Polymer Melts Hiroshi Watanabe , Yumi Matsumiya |
| Thursday, March 8, 2018 4:54PM - 5:06PM | V52.00013: Extensional strain-hardening induced by π - π interactions in barely entangled polymer chains: the curious case of Poly(4-vinylbiphenyl) CARLOS LOPEZ-BARRON , Huaxing Zhou |
| Thursday, March 8, 2018 5:06PM - 5:18PM | V52.00014: Challenging the Chain Retraction Hypothesis of the Tube Model: Small-Angle Neutron Scattering Experiments Yangyang Wang , Zhe Wang , Christopher Lam , Wei-Ren Chen , Weiyu Wang , Christopher Stanley , Kunlun Hong , Yun Liu , Lionel Porcar |

Thursday, March 8, 2018
5:18PM - 5:30PM

V52.00015: Challenging the Chain Retraction Hypothesis of the
Tube Model: Large-Scale Molecular Dynamics Simulations
Wensheng Xu , Jan-Michael Carrillo , Bobby Sumpter , Yangyang
Wang

Thursday, March 8, 2018, 2:30 pm – 5:30 pm

Session V55: Focus Session: Soft Materials Containing Synthetic Polymers, Peptides, Proteins, Biomachinery and Beyond II: Nucleic Acids and Solutions

Sponsoring Units: DPOLY DBIO

Chair: Zhe Qiang, Northwestern Univ

Room: 515A

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| Thursday, March 8, 2018 2:30PM - 3:06PM | V55.00001: Lessons from In-Silico Experiments Invited Speaker: Alfredo Alexander-Katz |
| Thursday, March 8, 2018 3:06PM - 3:18PM | V55.00002: Quantifying Cargo Partitioning and Exchange in Block Copolymer Micelles Louis Madsen , Xiuli Li , Tyler Cooksey , Bryce Kidd , Megan Robertson |
| Thursday, March 8, 2018 3:18PM - 3:30PM | V55.00003: Chitosan as a Yield Stress Fluid: Concentration Dependent Rheology and Microdynamics Nina Gasbarro , Michael Solomon |
| Thursday, March 8, 2018 3:30PM - 3:42PM | V55.00004: Synthesis Of Lysine Mimicking Antibacterial Polymers Ankita Arora , Sasmita Majhi , Wan Zheng , Hongjun Liang , Abhijit Mishra |
| Thursday, March 8, 2018 3:42PM - 3:54PM | V55.00005: Transition Between Collective Mechanical Instabilities in 3D Printed Microtissues Sarah Ellison , Cameron Morley , Tapomoy Bhattacharjee , Tristan Hormel , Sean Niemi , W. Sawyer , Thomas Angelini |
| Thursday, March 8, 2018 3:54PM - 4:06PM | V55.00006: Stabilization of helical polymer phases with different bending and torsional constraints Yifan Dai , Michael Bachmann |
| Thursday, March 8, 2018 4:06PM - 4:18PM | V55.00007: Helix Formation by Poly(amino acid)s in Neat Ionic Liquids and Their Mixtures with Buffer David Hoagland , Stephen Strassburg , Harry Bermudez |
| Thursday, March 8, 2018 4:18PM - 4:30PM | V55.00008: The Role of Repulsion in Colloidal Crystal Engineering with DNA Soyoung Seo , Tao Li , Andrew Senesi , Chad Mirkin , Byeongdu Lee |
| Thursday, March 8, 2018 4:30PM - 4:42PM | V55.00009: DNA Droplets: Design, Characterization, and Manipulation Byoung-jin Jeon , Dan Nguyen , Omar Saleh |
| Thursday, March 8, 2018 4:42PM - 4:54PM | V55.00010: Salt Dependent Characteristics of DNA droplets Gabrielle Abraham , Byoung-jin Jeon , Dan Nguyen , Omar Saleh |
| Thursday, March 8, 2018 4:54PM - 5:06PM | V55.00010: Dramatic changes in DNA conductance with stretching: structural polymorphism at a critical extension SAIENTAN BAG , Santosh Mogurampelly , William Goddard , Prabal Maiti |

Thursday, March 8, 2018, 2:30 pm – 5:30 pm

Session V56: Focus Session: Polymers for Energy Applications I

Sponsoring Units: DPOLY

Chair: Christopher Evans, University of Illinois at Urbana-Champaign

Room: 515B

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| Thursday, March 8, 2018 2:30PM - 2:42PM | V56.00001: Understanding Morphology-Mobility Dependence in PEDOT:Tos Igor Zozoulenko , Nicolas Rolland , Juan Felipe Franco-Gonzalez , Riccardo Volpi , Mathieu Linares |
| Thursday, March 8, 2018 2:42PM - 2:54PM | V56.00002: Organic Photovoltaics where Water is the Semiconducting Medium and Protons and Hydroxides are the Charge Carriers William White , Eric Schwartz , Lawrence Renna , Shane Ardo |
| Thursday, March 8, 2018 2:54PM - 3:06PM | V56.00003: Entropy Promotes Charge Separation in Organic Photovoltaics Eisuke Kawashima , Mikiya Fujii , Koichi Yamashita |
| Thursday, March 8, 2018 3:06PM - 3:42PM | V56.00004: Charge Transfer and Mass Transport in Organic Radical Polymers Invited Speaker: Jodie Lutkenhaus , Fei Li , Shaoyang Wang |
| Thursday, March 8, 2018 3:42PM - 3:54PM | V56.00005: Characterization of PTMA for Organic Radical Batteries Using Small Angle Neutron Scattering Halie Martin , Barbara Hughes , Thomas Gennett , Mark Dadmun |
| Thursday, March 8, 2018 3:54PM - 4:06PM | V56.00006: Methanol transport in Nafion investigated with a combination of theory, simulation, and experiment Marielle Soniat , Daniel Miller , Frances Houle |
| Thursday, March 8, 2018 4:06PM - 4:18PM | V56.00007: Transport of Water and Salt Through Desalination Membranes: A Computational Study Dipak Aryal , Venkatraghavan Ganesan |
| Thursday, March 8, 2018 4:18PM - 4:30PM | V56.00008: Insights into the Water Cluster Morphology and Transport in a Novel Multi-Acid and Nanocomposite Polyelectrolyte Membranes using Classical Molecular Dynamics Simulations Soumyadipta Sengupta , Rakesh Pant , Arun Venkatnathan , Alexey Lyulin |
| Thursday, March 8, 2018 4:30PM - 4:42PM | V56.00009: Solvation and Dilution Thermodynamics in Ion-Containing Block Copolymers: a Numerical SCFT Study Kevin Hou , Jian Qin |
| Thursday, March 8, 2018 4:42PM - 4:54PM | V56.00010: Dielectric enhancement in strongly dipolar polymers: mixing and free volume effects Bing Zhang , Yash Thakur , Rui Dong , Wenchang Lu , Ciprian Iacob , James Runt , Qiming Zhang , Jerry Bernholc |
| Thursday, March 8, 2018 4:54PM - 5:06PM | V56.00011: Dipolar interactions as the origin of excess scattering in concentrated solutions and melts of ionic polymers Rajeev Kumar , Brad Lokitz , Timothy Long , Bobby Sumpter |
| Thursday, March 8, 2018 5:06PM - 5:18PM | V56.00012: The Effective Flory-Huggins Parameter in Polarizable Polymeric Systems: One-loop Theory and Field-theoretic Simulations Douglas Grzetic , Kris Delaney , Glenn Fredrickson |
| Thursday, March 8, 2018 5:18PM - 5:30PM | V56.00013: Molecular Dynamics of Ionic Block Copolymers in Thin Films under Electric Fields Wei Li , Brad Lokitz , Bobby Sumpter , Rajeev Kumar |

Thursday, March 8, 2018, 2:30 pm – 5:30 pm

Session V57: Self-assembly in Liquid Crystals and other Complex Solvents II

Sponsoring Units: GSOFD DBIO DPOLY

Chair: Jacinta Conrad, Univ of Houston

Room: 518

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| Thursday, March 8, 2018 2:30PM - 2:42PM | V57.00001: Quantization of bending waves in a living nematic Andrey Sokolov , Mikhail Genkin |
| Thursday, March 8, 2018 2:42PM - 2:54PM | V57.00002: Brownian Dynamics of Colloidal Particles in Lyotropic Chromonic Liquid Crystals Angel Martinez , Peter Collings , Arjun Yodh |
| Thursday, March 8, 2018 2:54PM - 3:06PM | V57.00003: Optimizing parameters in co-assembly of magnetic and semiconducting nanoparticles templated by liquid crystal phase transition Mark Bartolo , Jose Amaral , Randy Espinoza , Noah Bessard , Sayantani Ghosh |
| Thursday, March 8, 2018 3:06PM - 3:18PM | V57.00004: Creating Aqueous Lyotropic Liquid Crystals in the Biphasic Regime Graham Parkinson , Paul Russo |
| Thursday, March 8, 2018 3:18PM - 3:30PM | V57.00005: Polar anchoring strength enhancement in a graphene- nematic suspension and its effect on the nematic electro-optic switching Rajratan Basu |
| Thursday, March 8, 2018 3:30PM - 3:42PM | V57.00006: Liquid Crystals and Nanoparticles: Convergence of the Smectic A Correlation Length Independent of Concentration Luz Martinez-Miranda , Eduardo Soto-Bustamante , Patricio Romero-Hasler , Ariel Meneses-Franco |
| Thursday, March 8, 2018 3:42PM - 3:54PM | V57.00007: Phase behavior and magneto-optic response of lyotropic liquid crystals with ferromagnetic nanoplates Min Shuai , Hayden Dodge , Gregory Smith , Chenhui Zhu , Joseph MacLennan , Matthew Glaser , Noel Clark |
| Thursday, March 8, 2018 3:54PM - 4:06PM | V57.00008: Effects of Chiral Dopants on Doubly Twisted Configurations of Lyotropic Chromonic Liquid Crystals in a Cylindrical Cavity Jonghee Eun , Joonwoo Jeong |
| Thursday, March 8, 2018 4:06PM - 4:18PM | V57.00009: Chiral configurations from racemic lyotropic polymer liquid crystals under cylindrical confinement. Rui Chang , Elsa Reichmanis , Jung Park , Mohan Srinivasarao |
| Thursday, March 8, 2018 4:18PM - 4:30PM | V57.00010: Polymer networks as templates for large-scale defect arrays in liquid crystals MinSu Kim , Francesca Serra |
| Thursday, March 8, 2018 4:30PM - 4:42PM | V57.00011: Amplification of chirality of lyotropic chromic liquid crystals confined to capillaries. Sujin Lee , Rui Chang , Elsa Reichmanis , Jung Park , Mohan Srinivasarao |
| Thursday, March 8, 2018 4:42PM - 4:54PM | V57.00012: Superior Electro-thermo-optical Properties of Homogeneous Liquid Crystals Aligned on Transparent Carbon Nanotube Sheet Kieu Truong , Ji Huyn Park , MD Asiqur Rahman , Martin Urbanski , Giusy Scalia , Dongseok Suh |
| Thursday, March 8, 2018 4:54PM - 5:06PM | V57.00013: Defects in an Active Nematic Confined to a Toroid Perry Ellis , Alberto Fernandez-Nieves |

Thursday, March 8, 2018
5:06PM - 5:18PM

V57.00014: Optically driven birefringent spinners
Alvin Modin , Matan Yah Ben Zion , Melissa Ferrari , Mark
Hannel II , Paul Chaikin

Thursday, March 8, 2018
5:18PM - 5:30PM

V57.00015: Modifying Hydrogen-Bonded Structures by Physical
Vapor Deposition: 4-methyl-3-heptanol
Amanda Young-Gonzales , Mark Ediger , Ranko Richert

Thursday, March 8, 2018, 2:30 pm – 5:30 pm

Session V59: Invited Session: Structure/Property Relationships in Polyolefins

Sponsoring Units: DPOLY

Chair: Valeriy Ginzburg, Dow Chemical Co

Room: *Petree Hall D*

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| Thursday, March 8, 2018 2:30PM - 3:06PM | V59.00001: Linking synthesis with entanglement state in Ultra High Molecular Weight Polyethylene; a route for solvent free processing Invited Speaker: Sanjay Rastogi , Dario Romano , Sara Ronca , Yefeng Yao |
| Thursday, March 8, 2018 3:06PM - 3:42PM | V59.00002: Deuterium-labeled polyolefins: Exchange, characterization, and applications Invited Speaker: Brian Habersberger , Daniel Baugh , Greg Meyers , Mark Rickard , Carl Reinhardt , Jamie Stanley |
| Thursday, March 8, 2018 3:42PM - 4:18PM | V59.00003: Can the failure of tube models in blends of branched polymers be salvaged by slip-link models? Invited Speaker: Jay Schieber , Konstantin Taletskiy |
| Thursday, March 8, 2018 4:18PM - 4:54PM | V59.00004: Molecular simulation of polyolefin crystallization: Nucleation Phenomena Invited Speaker: Gregory Rutledge |
| Thursday, March 8, 2018 4:54PM - 5:30PM | V59.00005: Polymer Modeling At ExxonMobil: Reaction Kinetics And Computational Rheology Invited Speaker: Johannes Soulages |

Friday, March 9, 2018, 8:00 am – 11:00 am

Session X42: Invited Session: Topology, Geometry, and Physics of Elastic Networks

Sponsoring Units: GSNP DPOLY

Chair: Eleni Katifori, University of Pennsylvania

Room: 502B

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| Friday, March 9, 2018 8:00AM - 8:36AM | X42.00001: Structure function properties of cytoskeletal and extracellular networks: Mechanics and crack propagation Invited Speaker: Moumita Das |
| Friday, March 9, 2018 8:36AM - 9:12AM | X42.00002: Understanding adaptability and robustness of mechanical and flow networks as a constraint-satisfaction problem Invited Speaker: Andrea Liu |
| Friday, March 9, 2018 9:12AM - 9:48AM | X42.00003: Cell contraction induces long-ranged stress stiffening in the extracellular matrix Invited Speaker: Pierre Ronceray , Yu Long Han , Martin Lenz , Chase Broedersz , Ming Guo |
| Friday, March 9, 2018 9:48AM - 10:24AM | X42.00004: Odd viscosity in chiral active materials Invited Speaker: Vincenzo Vitelli |
| Friday, March 9, 2018 10:24AM - 11:00AM | X42.00005: Topology counts: Force distributions in random spring networks Invited Speaker: Andrew Sageman-Furnas |

Friday, March 9, 2018, 8:00 am – 11:00 am

Session X43: Polymer Nanocomposites IV

Sponsoring Units: DPOLY

Chair: Robert Hickey, Pennsylvania State Univ

Room: 503

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| Friday, March 9, 2018 8:00AM - 8:12AM | X43.00001: Mesoporous Organosilica as Lithium Single-Ion Conducting Nanoparticle in Nanocomposite Polymer Electrolytes U Hyeok Choi , Ho Kyun Jung , Puji Handayani , Youngdo Kim |
| Friday, March 9, 2018 8:12AM - 8:24AM | X43.00002: Elucidating the Impact of Silica Nanoparticles on Water Transport and Local Chain Relaxation Dynamics in Ionomer Nanocomposites Apoorv Balwani , Antonio Faraone , Eric Davis |
| Friday, March 9, 2018 8:24AM - 8:36AM | X43.00003: Effect of SiO ₂ Nanoparticles on the Conformations of Poly(ethylene oxide) Polymer Chains Kyriakh Chrissopoulou , Helen Papananou , Spiros Anastasiadis , Anastassia Rissanou , Vagelis Harmandaris , Konstantinos Andrikopoulos , George Voyiatzis |
| Friday, March 9, 2018 8:36AM - 8:48AM | X43.00004: Ionic depletion at the crystalline Gibbs layer of PEG-capped gold nanoparticles brushes at aqueous surfaces. David Vaknin , Honghu Zhang , Surya Mallapragada , Alex Travesset , Wenjie Wang |
| Friday, March 9, 2018 8:48AM - 9:00AM | X43.00005: Graphene Surface Decorated with Hybrid Perovskite Nanoparticles for Radiation Detection and Photovoltaic Applications John Murphy , Jessica Andriolo , Molly Brockway , Jack Skinner |
| Friday, March 9, 2018 9:00AM - 9:12AM | X43.00006: Using Block Copolymers as a Templating Additive to Create Ordered Polymer Nanocomposites Deborah Liu , Daniel Krogstad |
| Friday, March 9, 2018 9:12AM - 9:24AM | X43.00007: Nanoplate Alignment and Self-Assembly in Diblock Copolymer Nanocomposites Nadia Krook , Manuel Maréchal , Patrice Rannou , Christopher Murray , Russell Composto |
| Friday, March 9, 2018 9:24AM - 9:36AM | X43.00008: Computer Simulation of Block Copolymer Nanocomposites Javier Diaz , Marco Pinna , Andrei Zvelindovsky , Ignacio Pagonabarraga |
| Friday, March 9, 2018 9:36AM - 9:48AM | X43.00009: Preparation and Characterization of Silver Nanoparticle Incorporated Polydimethylsiloxane for Implanted Medical Devices Falon Kalutantirige , Buddhika Gayani , Ayomi Dilhari , Manjula Weerasekera , Nilwala Kottegoda , Dilru Ratnaweera |
| Friday, March 9, 2018 9:48AM - 10:00AM | X43.00010: The Effect of Composition on the Morphology of Hybrid Inorganic-Organic Diblock Copolymer Electrolytes Gurmukh Sethi , Irune Villaluenga , Nitash Balsara |
| Friday, March 9, 2018 10:00AM - 10:12AM | X43.00011: Intercolloidal Potentials of Mean Force mediated by Homo- and Diblock Polymer Solutions Elucidated by Field-Theoretic Simulations Nick Sherck , Kris Delaney , M. Scott Shell , Glenn Fredrickson |
| Friday, March 9, 2018 10:12AM - 10:24AM | X43.00012: Effect of Copolymer Sequence on Mechanical Properties of Simulated Polymer Nanoparticle Composites Alex Trazkovich , Lisa Hall |

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| Friday, March 9, 2018 10:24AM - 10:36AM | X43.00013: Probe-SAXS and Deformation Studies on Nano-composite gels with 2D-Pair Distribution Function Analysis Kengo Nishi , Mitsuhiro Shibayama |
| Friday, March 9, 2018 10:36AM - 10:48AM | X43.00014: Effect on Thermal and Mechanical Properties of Polystyrene Chain Grafting on Silica Nanoparticles Nazam Sakib , Yung Pyo Koh , Sinee Simon |
| Friday, March 9, 2018 10:48AM - 11:00AM | X43.00015: The Effect of Dispersing Solvent Quality on the Microstructures and Properties of Polymer Nanocomposites Sol Mi Oh , Mozhdeh Abbasi , Kay Saalwaechter , So Youn Kim |

Friday, March 9, 2018, 8:00 am – 11:00 am

Session X52: Physics of Copolymers and Blends

Sponsoring Units: DPOLY

Chair: Tirtha Chatterjee, Dow Chemical Co

Room: 512

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| Friday, March 9, 2018 8:00AM - 8:12AM | X52.00001: Field-theoretic Monte Carlo simulation of the suppression of the order-disorder temperature in a fluctuating asymmetric diblock copolymer melt Jeffrey Roberts , Robert Wickham |
| Friday, March 9, 2018 8:12AM - 8:24AM | X52.00002: Effect of polydispersity on the dynamics, structure, and topology of entangled lamellae forming block copolymers Brandon Peters , Gary Grest |
| Friday, March 9, 2018 8:24AM - 8:36AM | X52.00003: Triply Periodic Bicontinuous Network Structures of Various Symmetries for Molten Block Copolymers Junhan Cho |
| Friday, March 9, 2018 8:36AM - 8:48AM | X52.00004: The Influence of One Block vs. Two Block Polydispersity on Phase Separation of Diblock Copolymers Inho Kim , Yeonji Choe , Sheng Li |
| Friday, March 9, 2018 8:48AM - 9:00AM | X52.00005: Intradomain Phase Transitions in Block Copolymers with Intradomain Ordering Christopher Burke , Gregory Grason |
| Friday, March 9, 2018 9:00AM - 9:12AM | X52.00006: Magnetic Field Alignment of Coil-Coil Block Copolymers and Blends via Intrinsic Chain Anisotropy Yekaterina Rokhlenko , Apostolos Avgeropoulos , Edwin Chan , Chinedum Osuji |
| Friday, March 9, 2018 9:12AM - 9:24AM | X52.00007: Effects of Polydispersity on the Stability of Complex Spherical Packing Phases in Diblock Copolymers Chi To Lai , Weihua Li , Anchang Shi |
| Friday, March 9, 2018 9:24AM - 9:36AM | X52.00008: A Direct Approach to Giant Gyroid Structures from Block Copolymer Self-Assembly Sungmin Park , Pil Yoo , Su-Mi Hur , Du Yeol Ryu |
| Friday, March 9, 2018 9:36AM - 9:48AM | X52.00009: Phase Behavior of Block Copolymer Brushes: Consequence of Grafting Density Control GaRyang Kang , Dongwan Son , Myungwoong Kim , Juan De Pablo , Su-Mi Hur |
| Friday, March 9, 2018 9:48AM - 10:00AM | X52.00010: Self-Assembly of Computationally Designed Amphiphilic Block copolymers in Solution Jee Young Lee , Arthi Jayaraman , Karen Wooley , Darrin Pochan |
| Friday, March 9, 2018 10:00AM - 10:12AM | X52.00011: Polymer mediated interactions between spherical fillers immersed in polymer blend. Alexander Chervanyov |
| Friday, March 9, 2018 10:12AM - 10:24AM | X52.00012: Study for Coordination Power between Poly(2-vinylpyridine) and Poly(4-vinylpyridine) by Phase Behavior of Poly(2-vinyl pyridine)-block-poly(4-vinyl pyridine) copolymer with Gold Nanoparticles. Jaeyong Lee , Jongheon Kwak , Chungryong Choi , Jin Kon Kim |
| Friday, March 9, 2018 10:24AM - 10:36AM | X52.00013: Fluctuation effects in A + B + AB ternary polymer blends Russell Spencer , Mark Matsen |
| Friday, March 9, 2018 10:36AM - 10:48AM | X52.00014: Mechanical and antithrombogenic properties of 2-methoxyethyl acrylate and methyl methacrylate triblock copolymers |

Naruki Kurokawa , Fuyuaki Endo , Kenta Bito , Tomoki Maeda ,
Atsushi Hotta

Friday, March 9, 2018
10:48AM - 11:00AM

X52.00015: Improved Ordering in Low Molecular Weight Protein-
Polymer Conjugates Through Oligomerization of the Protein Block
Justin Paloni , Bradley Olsen

Friday, March 9, 2018, 8:00 am – 11:00 am

Session X53: Liquid Crystals and Self-Assembly

Sponsoring Units: GSOFD DBIO DPOLY

Chair: Roy Beck, Tel Aviv Univ

Room: 513

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| Friday, March 9, 2018 8:00AM - 8:12AM | X53.00001: A Twist on Self-Assembly: Hierarchical Architectures Formed by Amphiphilic Chromonics Doug Cleaver , Alireza Dastan , Bill Frith , Elisabetta Matsumoto |
| Friday, March 9, 2018 8:12AM - 8:24AM | X53.00002: An Insight of Chiral I432 Cubic Phase Formed by Polycatenar Molecules Yu Cao , Qingshu Dong , Carsten Tschierske , Chenhui Zhu , Feng Liu |
| Friday, March 9, 2018 8:24AM - 8:36AM | X53.00003: Insights on the smectic 'spacetime' microstructure Danilo Liarte , Matthew Bierbaum , Ricardo Mosna , Randall Kamien , James Sethna |
| Friday, March 9, 2018 8:36AM - 8:48AM | X53.00004: Nematic Chainmail and the Abelian Sandpile Model Thomas Machon |
| Friday, March 9, 2018 8:48AM - 9:00AM | X53.00005: Drag on a Moving Defect in a 2D Nematic Liquid Crystal Xingzhou Tang , Jonathan Selinger |
| Friday, March 9, 2018 9:00AM - 9:12AM | X53.00006: A Unified Model Reveals the Interfacial Structure and Dynamics of Lyotropic and Multiphase, Thermotropic Liquid Crystals Rui Zhang , Juan De Pablo |
| Friday, March 9, 2018 9:12AM - 9:24AM | X53.00007: Defect Pattern Formation, Stripe Instabilities, and Geometric Memory at the Nematic-Smectic A Liquid Crystal Phase Transition Daniel Beller , Min-Jun Gim , Dong Ki Yoon |
| Friday, March 9, 2018 9:24AM - 9:36AM | X53.00008: Surface Reconstruction of Glass Forming Liquid Crystals as a Tool for Sensing Volatile Organic Compounds Daniel Carrozzini , Lee Vigilia , Petr Shibaev , Gustavo Schwartz , Fariborz Firooznia |
| Friday, March 9, 2018 9:36AM - 9:48AM | X53.00009: Atomistic Simulations as Bulk Elastic Probes in Liquid Crystalline Systems Hythem Sidky , Jonathan Whitmer |
| Friday, March 9, 2018 9:48AM - 10:00AM | X53.00010: Computational study of a nanoparticle-rich domain formation in a nematic liquid crystal Charles Melton , Tayebah Riahinasab , Robin Selinger , Linda Hirst |
| Friday, March 9, 2018 10:00AM - 10:12AM | X53.00011: Designing Liquid Crystalline Ligands for Increased QD Photovoltaic Efficiency Tayebah Riahinasab , Amir Keshavarz , benjamin stokes , Linda Hirst |
| Friday, March 9, 2018 10:12AM - 10:24AM | X53.00012: Capping Ligands as “Atomic Orbitals” in Superlattice Self-Assembly Curt Waltmann , Nathan Horst , Alex Travesset |
| Friday, March 9, 2018 10:24AM - 10:36AM | X53.00013: Self-Reporting and Self-Regulating Liquid Crystals Triggered by Motile Bacteria Young Ki Kim , Xiaoguang Wang , Pranati Mondkar , Emre Bukusoglu , Nicholas Abbott |
| Friday, March 9, 2018 10:36AM - 10:48AM | X53.00014: Computer Simulation of a Possible Magic Number Effect in the Phase Transition of the Eukaryotic Photosynthetic Organelle, the Pyrenoid |

Guanhua He , Bin Xu , Pierre Ronceray , Martin Jonikas , Ned Wingreen

Friday, March 9, 2018
10:48AM - 11:00AM

X53.00015: Complex gels containing a hydrophobically modified polymer and phospholipid: component interactions, rheology and tribology
Barbara Farias , Lilian Hsiao , Saad Khan

Friday, March 9, 2018, 8:00 am – 11:00 am

Session X55: Surface and Interface Effects on Fluid and Particle Dynamics

Sponsoring Units: DPOLY DFD

Chair: Adam Raegen, University of Waterloo

Room: 515A

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| Friday, March 9, 2018 8:00AM - 8:12AM | X55.00001: Beyond the Navier-de Gennes Paradigm: Slip Inhibition on Ideal Substrates Joshua McGraw , Mark Ilton , Thomas Salez , Paul Fowler , Marco Rivetti , Mohammed Aly , Michael Benzaquen , Elie Raphael , Kari Dalnoki-Veress , Oliver Baeumchen |
| Friday, March 9, 2018 8:12AM - 8:24AM | X55.00002: Capillary Levelling of a Liquid Stepped Film Supported on an Immiscible Liquid Film Carmen Lee , Vincent Bertin , John Niven , Thomas Salez , Elie Raphael , Kari Dalnoki-Veress |
| Friday, March 9, 2018 8:24AM - 8:36AM | X55.00003: The Effects of Substrate Temperature on the Final Shape of Evaporated Droplets of Aqueous Polymer Solution Lindsay Douglas , Qingying Chen , Scott Holmstrom |
| Friday, March 9, 2018 8:36AM - 8:48AM | X55.00004: The Effects of Ambient Relative Humidity on the Final Shape of Evaporated Droplets of Aqueous Polymer Solution Qingying Chen , Lindsay Douglas , Scott Holmstrom |
| Friday, March 9, 2018 8:48AM - 9:00AM | X55.00005: Solvent-driven Infiltration of Polymer (SIP) into Nanoparticle Packings Neha Manohar , Bharath Venkatesh , Tianren Zhang , Robert Riggelman , Kathleen Stebe , Daeyeon Lee |
| Friday, March 9, 2018 9:00AM - 9:12AM | X55.00006: The Effect of Physical Confinement and Polymer-Particle Interaction on Polymer Capillary Rise Infiltration (CaRI) Dynamics Jyo Lyn Hor , Haonan Wang , Zahra Fakhraai , Daeyeon Lee |
| Friday, March 9, 2018 9:12AM - 9:24AM | X55.00007: Line Tension of Twist-Free Carbon Nanotube Lyotropic Liquid Crystal Microdroplets on Solid Surfaces Evan Biggers , Vida Jamali |
| Friday, March 9, 2018 9:24AM - 9:36AM | X55.00008: Packing of Bidisperse Nanospheres at a Fluid Interface Yige Gao , Paul Kim , Thomas Russell , David Hoagland |
| Friday, March 9, 2018 9:36AM - 9:48AM | X55.00009: Brownian motion under shear in a narrow gap studied by X-ray Photon Correlation Spectroscopy Taiki Hoshino , So Fujinami , Tomotaka Nakatani , Yoshiki Kohmura |
| Friday, March 9, 2018 9:48AM - 10:00AM | X55.00010: Dissipative Particle Dynamic Mean-field Simulations of Phase Inversion Processing Polymer Thin Films with Hydrodynamic Interactions Huikuan Chao , Robert Riggelman |
| Friday, March 9, 2018 10:00AM - 10:12AM | X55.00011: Role of Tacticity in Determining Polymer-Water Interactions Mesfin Tsige , Selemo Bekele , Ali Dhinojwala , Kshitij Jha |
| Friday, March 9, 2018 10:12AM - 10:24AM | X55.00012: Interfacial Structure of Poly(methylmethacrylate) in Contact with Tetrahydrofuran-Water Mixtures Saranshu Singla , Zhengnan Yang , Ali Dhinojwala |
| Friday, March 9, 2018 10:24AM - 10:36AM | X55.00013: Binary and mixed brushes for dynamic surfaces Christian Pester , Kaila Mattson , David Lunn , Michael Brady , Gregory Su |
| Friday, March 9, 2018 10:36AM - 10:48AM | X55.00014: Universal strategy for stabilizing ultrathin polymer films for spin-on doping applications |

Reika Katsumata , Ratchana Limary , Bhooshan Popere , Yuanyi Zhang , Mingqi Li , Julia Kozhukh , Andrew Heitsch , Peter Trefonas , Rachel Segalman

Friday, March 9, 2018
10:48AM - 11:00AM

X55.00015: Surface and Interfacial Effects on Photo-Carrier Formation in Poly(3-hexylthiophene) Films

Daisuke Kawaguchi , Shuhei Yamaguchi , Yudai Ogata , Keiji Tanaka

Friday, March 9, 2018, 8:00 am – 11:00 am

Session X56: Focus Session: Polymers for Energy Applications II

Sponsoring Units: DPOLY

Chair: Chelsea Chen, Oak Ridge National Lab

Room: 515B

| | |
|--|--|
| Friday, March 9, 2018 8:00AM - 8:12AM | X56.00001: Correlating Electrode-Electrolyte Interface and Battery Performance in Hybrid Solid Polymer Electrolyte-Based Lithium Metal Batteries Christopher Li , Qiwei Pan , Yongwei Zheng |
| Friday, March 9, 2018 8:12AM - 8:24AM | X56.00002: Study of Ion Conductivity and Chain Dynamics in Polymer-Ceramic Composite Electrolytes Chelsea Chen , Amaresh Samuthira Pandian , Naresh Osti , frank delnick , Nancy Dudney |
| Friday, March 9, 2018 8:24AM - 8:36AM | X56.00003: Flame retardant lithium ion battery based on a flexible solid-state polymer electrolyte membrane Guopeng Fu , Mark Soucek , Thein Kyu |
| Friday, March 9, 2018 8:36AM - 8:48AM | X56.00004: Lithium Dendrite Growth through Solid Block Copolymer Electrolyte Membranes Jacqueline Maslyn , Whitney Loo , Nitash Balsara |
| Friday, March 9, 2018 8:48AM - 9:00AM | X56.00005: Robust Polymer Electrolyte Membranes with High Ambient-Temperature Lithium Ion Conductivity via Polymerization-Induced Microphase Separation Sujay Chopade , Jesus Au , Timothy Lodge , Marc Hillmyer |
| Friday, March 9, 2018 9:00AM - 9:12AM | X56.00006: NMR Spin Diffusion Experiments and Simulations for Model Discrimination and Ionic Domain Size Measurements in Proton Exchange Membranes Eric Sorte , Amalie Frischknecht , Todd Alam |
| Friday, March 9, 2018 9:12AM - 9:48AM | X56.00007: Structure and Dynamics in Ion-Conducting Polymers from MD Simulations Invited Speaker: Amalie Frischknecht |
| Friday, March 9, 2018 9:48AM - 10:00AM | X56.00008: Correlating ionic conductivity and nanoscale morphology of backbone type polymerized ionic liquids Preeya Kuray , Takeru Noda , Ciprian Iacob , Natalie Mamrol , Tadashi Inoue , James Runt |
| Friday, March 9, 2018 10:00AM - 10:12AM | X56.00009: Investigation of Morphology and Conductance of Anionic Block Copolymer Membranes for Anion Exchange Membrane Fuel Cells Using Atomic Force Microscopy Austin Barnes , Steven Buratto , Edward Coughlin , Yifeng Du |
| Friday, March 9, 2018 10:12AM - 10:24AM | X56.00010: Effect of Side-Chain on Structure/Property Relationship of PFSA Ionomers Ahmet Kusoglu , Peter Dudenas , Adam Weber |
| Friday, March 9, 2018 10:24AM - 10:36AM | X56.00011: Effect of Side Chain Length in Polymer Single-Ion Conductors Lauren Abbott , John Lawson |
| Friday, March 9, 2018 10:36AM - 10:48AM | X56.00012: Nanoscale Resolution of Electric-Field Induced Motion in Ionic Copolymer Films Jason Dugger , Wei Li , Jyoti Mahalik , Mingtao Chen , Jim Browning , Rajeev Kumar , Timothy Long , Brad Lokitz |
| Friday, March 9, 2018 10:48AM - 11:00AM | X56.00013: Characterization of Ion Transport in Asymmetric Block Copolymer Electrolytes Michael Galluzzo , Whitney Loo , Andrew Wang , Nitash Balsara |

Friday, March 9, 2018, 11:15 am – 2:15 pm

Session Y53: Liquid Crystals

Sponsoring Units: GSOFD DBIO DPOLY

Chair: Doug Cleaver, Sheffield Hallam University

Room: 513

| | |
|--|--|
| Friday, March 9, 2018 11:15AM - 11:27AM | Y53.00001: Polymer-Stabilized Blue Phase Liquid Crystal Droplets Alexander Cohen , Monirosadat Sadati , Xiao Li , Hadi Ramezani-Dakheel , Ye Zhou , Juan Pablo Hernandez-Ortiz , Juan De Pablo |
| Friday, March 9, 2018 11:27AM - 11:39AM | Y53.00002: Ostwald ripening of two-dimensional islands in thin, spherical bubbles of smectic liquid crystal in microgravity Pavel Dolganov , Nikita Shuravin , Vladimir Dolganov , Cheol Park , Eric Minor , Joseph MacLennan , Matthew Glaser , Noel Clark , Christoph Klopp , Torsten Trittel , Ralf Stannarius |
| Friday, March 9, 2018 11:39AM - 11:51AM | Y53.00003: Melting of Nematic Liquid Crystals with Predesigned Topological Defect Arrays Miao Jiang , Yubing Guo , Xiayu Feng , O Lavrentovich , Qihuo Wei |
| Friday, March 9, 2018 11:51AM - 12:03PM | Y53.00004: Simulating the dynamics of liquid-crystal skyrmions Ayhan Duzgun , Jonathan Selinger , Avadh Saxena |
| Friday, March 9, 2018 12:03PM - 12:15PM | Y53.00005: Dielectric Controlled Self-assembly in Binary Colloidal Mixtures Ziwei Wang , Erik Luijten |
| Friday, March 9, 2018 12:15PM - 12:27PM | Y53.00006: Self-assembly of Poly(p-phenylene terephthalamide) Nanofibrils: Emergence of Structural Defects Santhosh Mogurampally , Giacomo Fiorin , Michael Klein |
| Friday, March 9, 2018 12:27PM - 12:39PM | Y53.00007: Charge Transport and Phase Behavior of Ionic Liquid Crystals from Fully Atomistic Simulations Michael Quevillon , Jonathan Whitmer |
| Friday, March 9, 2018 12:39PM - 12:51PM | Y53.00008: Geometry-induced Orientational Ordering in Chiral Liquid Crystals Monirosadat Sadati , Jose Martinez-Gonzalez , Ye Zhou , Khia Kurtenbach , Viviana Palacio Betancur , Juan Pablo Hernandez-Ortiz , Juan De Pablo |
| Friday, March 9, 2018 12:51PM - 1:03PM | Y53.00009: ‘Nemator’ Model of Orientational Distortions in Liquid Crystals with Defects Natalie Aryasova , Sergij Shiyonovskii |
| Friday, March 9, 2018 1:03PM - 1:15PM | Y53.00010: Twist fluctuations and rotational diffusion of the director near hedgehog defects in nematic droplets Alexis de la Cotte , Madeline Van Winkle , Peter Collings , Tom Lubensky , Arjun Yodh |
| Friday, March 9, 2018 1:15PM - 1:27PM | Y53.00011: Defect dynamics of circularly confined 2D active nematic liquid crystals Achini Opathalage , Michael Norton , Michael Juniper , Blake Langesley , Seth Fraden , Zvonimir Dogic |
| Friday, March 9, 2018 1:27PM - 1:39PM | Y53.00012: Density functional theory for two-dimensional hard rods René Wittmann , Christoph Sitta , Frank Smallenburg , Matthieu Marechal , Klaus Mecke , Hartmut Loewen |
| Friday, March 9, 2018 1:39PM - 1:51PM | Y53.00013: Macroscopic orientation control of graphene flakes by magnetic field and broad device applications Feng Lin , Guang Yang , Chao Niu , Yanan Wang , Zhuan Zhu , |

Jonathan Hu , Xufeng Zhou , Zhaoping Liu , Zhiming Wang ,
Jiming Bao

Friday, March 9, 2018
1:51PM - 2:03PM

Y53.00014: Ion trapping by the graphene electrode in a graphene-
ITO hybrid liquid crystal cell
Rajratan Basu , Andrew Lee

Monday

| Session | A43 | A52 | A53 | A54 |
|----------|--------------|-----------------|-------------|----------------|
| Room | 503 | 512 | 513 | 514 |
| Chair | Miyoshi | Green | Charbonneau | Kolinski |
| 8:00 AM | Cheng | Davis | Scacchi | Bruinsma |
| 8:12 AM | | Wang | Rathee | Hormel |
| 8:24 AM | | Zhang | Jacob | Dharmavaram |
| 8:36 AM | Zhuravlev | Boulatov | Hammond | She |
| 8:48 AM | Ono | | Reynolds | Powers |
| 9:00 AM | Hu | | Hayakawa | Patch |
| 9:12 AM | Dasmahapatra | Gunckel | Sato | Mariano |
| 9:24 AM | Wang | Poddar | Park | Kumar |
| 9:36 AM | Schulz | Sarkar | Vasisht | Dalnoki-Veress |
| 9:48 AM | Zhou | Craig | Facchine | Qi |
| 10:00 AM | Mulhearn | | Khirallah | Vanegas |
| 10:12 AM | Chang | | Tyukodi | Pandey |
| 10:24 AM | Jimenez | Rasid | Shim | Ouchi |
| 10:36 AM | Chen | Chen | Singh | Grossutti |
| 10:48 AM | Wang | Zeng | Ramm | Li |

| Session | A55 | A56 | A57 | A58 | A59 |
|----------|-------------------|----------------|--------------|--------------------|-----------------|
| Room | 515A | 515B | 518 | Petree Hall C | Petree Hall B |
| Chair | Priestley | Colby | Reis | Santangelo | Kennemur |
| 8:00 AM | Madkour | McLeish | Rocks | Shi | Winey |
| 8:12 AM | Napolitano | | Kim | | |
| 8:24 AM | Gawek | | Reid | | |
| 8:36 AM | Caglayan | Liu | Nagel | Mahanthappa | Dobrynin |
| 8:48 AM | Tanaka | Costanzo | | | |
| 9:00 AM | Douglas | Grest | | | |
| 9:12 AM | Cangialosi | Xie | Yan | Grason | Meyer |
| 9:24 AM | | Xiong | Dimitriyev | | |
| 9:36 AM | | Wijesinghe | Al Mosleh | | |
| 9:48 AM | Emamy | Milner | Ricketts | Lenz | Sita |
| 10:00 AM | Cadilhe | | Stern | | |
| 10:12 AM | Thees | | Poincloux | | |
| 10:24 AM | Kim | Zhang | Liu | Efrati | Liu |
| 10:36 AM | Simmons | Gonzalez Lopez | Scheff | | |
| 10:48 AM | Schweizer | Bostwick | Gillman | | |

Session A43: Focus Session: Polymer Crystallization from Classical to Functional Systems I

Session A52: Focus Session: Mechano-Responsive Polymers and Soft Materials

Session A53: Rheology and Flow of Soft Materials

Session A54: Soft Interface Mechanics I

Session A55: Focus Session: Confined Polymer Glasses I: Influence of Irreversibly Adsorbed Layers and Free Surfaces

Session A56: Focus Session: Symposium Honoring William W. Graessley I

Session A57: Focus Session: Mechanics of Networks I: Allostery and Designed Response

Session A58: Invited Session: Frustration in Soft Matter Assemblies

Session A59: Invited Session: Bridging New Polymer Chemistry and Polymer Physics

Monday

| Session | B43 | B52 | B53 | B54 | B55 | B56 | B59 |
|----------|--------------|------------------|----------|----------------|---------------|------------------|------------------|
| Room | 503 | 512 | 513 | 514 | 515A | 515B | Petree Hall D |
| Chair | Srivastava | Li | Katifori | Xu | Napolitano | Krishnamoorti | Hule |
| 11:15 AM | Lin | Brinkmann | Ghareeb | Schulman | Zhou | Robertson | Kornfield |
| 11:27 AM | In | | Michel | Garcia-Aguilar | Gagnon | | |
| 11:39 AM | Jackson | | Conrad | Bertin | Huang | | |
| 11:51 AM | Heo | Zhu | Jackson | He | Lipson | Xie | Ruiz |
| 12:03 PM | Audus | Van Horn | Kato | Lim | | Lohse | |
| 12:15 PM | Wu | Zhuravlev | Zhang | Kim | | Wang | |
| 12:27 PM | Lodge | Di Luccio | Tress | Tao | Mani | Russell | Degroot |
| 12:39 PM | | Staub | Dobrynin | Liang | Christie | Mulhearn | |
| 12:51 PM | | Kelly | Bantawa | Oshri | Torkelson | Ge | |
| 1:03 PM | Adhikari | Kim | Zhang | Guerra | Phan | Vo | Jamadagni |
| 1:15 PM | Marciel | Anastasiadis | Berthier | Areyano | Mendoza | Han | |
| 1:27 PM | Tripathi | Mei | Bedi | Defante | Kremer | Omar | |
| 1:39 PM | Danielsen | Kelly | Croll | Manning | Wang | Balsara | Vergheese |
| 1:51 PM | Dähling | Wang | Tighe | | Li | Lam | |
| 2:03 PM | Samanta | Yucheng | Stuji | | Wang | Crist | |

Session B43: Focus Session: Polyelectrolyte Complexation I: Self-Assembly
 Session B52: Focus Session: Polymer Crystallization from Classical to Functional Systems II
 Session B53: Mechanics of Networks II
 Session B54: Focus Session: Soft Interface Mechanics II
 Session B55: Focus Session: Confined Polymer Glasses II: Mobility Gradients
 Session B56: Focus Session: Symposium Honoring William W. Graessley II
 Session B59: Invited Session: Polymer Physics from Academia to Industry and Back

| Session | C46 | C52 | C53 | C55 | C56 | C57 | C59 |
|---------|-------------|-----------------|----------------|-------------|---------------|---------------|-------------------|
| Room | 506 | 512 | 513 | 515A | 515B | 518 | Petree Hall D |
| Chair | Gu | Vogt | Coulais | Audus | Von Hauff | Jensen | Genzer |
| 2:30 PM | Su | Perryman | Saez | McCarty | Ratner | Holmes | Heilshorn |
| 2:42 PM | Zhu | Galvani | Nguyen | Lytle | | | |
| 2:54 PM | DeLongchamp | Seppala | Sutter | Li | | | |
| 3:06 PM | Wang | Ferron | Bauër | Wang | Kronik | Xu | Urayama |
| 3:18 PM | | Levenhagen | Kamrava | | Bombile | Bostwick | |
| 3:30 PM | | Wang | Iniguez-Rabago | | DeCrescent | Datta | |
| 3:42 PM | Murcia | Williams | Twohig | Srivastava | Yoo | Bhattacharjee | Johnson |
| 3:54 PM | Gann | | Serafin | Morin | Thomas | Cha | |
| 4:06 PM | Lewis | | Haddadi | Ali | Pechnikova | Guan | |
| 4:18 PM | Winey | Kotula | Gault | Wen | Plunkett | Ewen | Cipelletti |
| 4:30 PM | Kennedy | Peng | Merkel | Liu | Pickett | Pye | |
| 4:42 PM | Ye | Bubeck | Yamaguchi | Andreev | Laudari | Singh | |
| 4:54 PM | Coric | Friedrich | Rens | Ting | Park | Jiang | Ramirez |
| 5:06 PM | Kim | Bhattacharjee | Shivers | Friedowitz | Jang | To | |
| 5:18 PM | Frieberg | Han | Wentworth-Nice | Shen | Joshi | Molinari | |

Session C46: Focus Session: Advanced Morphological Characterization of Polymer Materials I: Soft and Hard X-ray, and Neutron Scattering
 Session C52: Focus Session: Physics of 3D Printing and Additive Manufacturing
 Session C53: Mechanics of Networks III
 Session C55: Focus Session: Polyelectrolyte Complexation II: Structure and Rheology
 Session C56: Focus Session: Organic Electronics and Photonics I: Charge Transport
 Session C57: Focus Session: Soft Interface Mechanics III
 Session C59: Invited Session: Gels and Networks

Tuesday

| Session | E48 | E52 | E55 | E56 | E59 |
|----------|----------------|----------|---------------------|----------------|-----------------|
| Room | 510 | 512 | 515A | 515B | Petree Hall D |
| Chair | Overvelde | Dishari | Stevens | Yu, Beaucage | Cruz |
| 8:00 AM | Daraio | | | | de Pablo |
| 8:12 AM | | | | | |
| 8:24 AM | | | | | |
| 8:36 AM | Pashine | Kim | | Yu | Nealey |
| 8:48 AM | Sklan | Lee | | | |
| 9:00 AM | Chen | Kim | | | |
| 9:12 AM | Ronellenfitsch | Shin | von Klitzing | Lee | Ediger |
| 9:24 AM | Abdullah | Dolejsi | | Rigby | |
| 9:36 AM | Saremi | Loo | | Beaucage | |
| 9:48 AM | Danas | Dudenas | Snell | Clarson | Mueller |
| 10:00 AM | Celli | Tian | Weight | | |
| 10:12 AM | Elbanna | Fakhraai | Kanduc | | |
| 10:24 AM | Varga | Statt | Alziyadi | Song | Bates |
| 10:36 AM | Wang | Meyer | Hall | Rai | |
| 10:48 AM | Coulais | | Kosgallana | Sukumaran | |

Session E48: Focus Session: Mechanical Metamaterials I

Session E52: Thermodynamics and Physics of Polymer Films

Session E55: Focus Session: Smart Responsive Polymers I

Session E56: Focus Session: Symposium Honoring Ryong-Joon Roe

Session E59: Invited Session: Polymer Physics Prize

| Session | F06 | F43 | F48 | F52 | F55 | F56 | F59 |
|----------|-----------------|------------------|-------------|-------------|----------------|-----------------|----------------|
| Room | 153A | 503 | 510 | 512 | 515A | 515B | Petree Hall D |
| Chair | Albert | Jayaraman | Kang | Sangoro | Genzer | Lee | Schroeder |
| 11:15 AM | Nwosu | Young | Souslov | Kim | Kwon | Arias | Granick |
| 11:27 AM | Yuan | Adams | Mitchell | Patterson | Timachova | | |
| 11:39 AM | Kweon | Holden | Lai | Pryamitsyn | Arora | | |
| 11:51 AM | Shen | Xia | Pajunen | Bang | Wang | Joo | Saleh |
| 12:03 PM | Sliozberg | Pressly | Mitchell | | Choo | Park | |
| 12:15 PM | Sharma | Zhang | Al-Ghalith | | Nicholson | Dong | |
| 12:27 PM | Robbins | Wei | Zhou | Yavitt | Poling-Skutvik | Chabinye | Boukany |
| 12:39 PM | Jabbari-Farouji | Liu | Oğuz | Sunday | Ku | | |
| 12:51 PM | Yin | Savoie | Van Hecke | Chang | Dinic | | |
| 1:03 PM | Beardsley | Riggleman | Zubov | Hickey | O'Connor | Cheng | Leslie |
| 1:15 PM | Prusty | | Broeren | Wessels | Trigg | Lee | |
| 1:27 PM | Villarreal | | Shi | Kim | Li | Roy | |
| 1:39 PM | Jung | Wang | Yousefzadeh | Cheung | | Teferi | Sing |
| 1:51 PM | Ramachandran | Guenza | Librandi | Hassan | | Sarkar | |
| 2:03 PM | Dougherty | Dinpajooh | Pasini | Liu | | Chang | |

Session F06: Semicrystalline Polymers and Polymer Blends

Session F43: Focus Session: Advancing Polymer Physics by Integrating Simulation and Theory I: Dynamics and Coarse-Graining

Session F48: Mechanical Metamaterials II

Session F52: Focus Session: Architectural Design of Polymers I: Assembly, Adsorption and Dynamics

Session F55: Padden Award Symposium

Session F56: Focus Session: Organic Electronics and Photonics II: Applications

Session F59: Invited Session: Recent Advances in Single Polymer Dynamics

Tuesday

| Session | H43 | H52 | H55 | H56 | H59 |
|--------------|----------------|---------------|--------------|----------------|----------------------|
| <i>Room</i> | 503 | 512 | 515A | 515B | <i>Petree Hall D</i> |
| <i>Chair</i> | <i>Whitmer</i> | <i>Ge</i> | <i>Kumar</i> | <i>Collins</i> | <i>Balsara</i> |
| 2:30 PM | | | | | Olsen |
| 2:42 PM | | | | | |
| 2:54 PM | | | | | |
| 3:06 PM | Golebiowski | Lee | Dell | Martin | Segalman |
| 3:18 PM | Mailoa | O'Bryan | Taylor | | Robertson |
| 3:30 PM | Yu | Lee | Chuang | | Ganesan |
| 3:42 PM | Muraoka | Jing | Doyle | Kuei | Thomas |
| 3:54 PM | Ardham | Ferreira | | Culp | Epps |
| 4:06 PM | Paturej | Burkey | | Wang | Wang |
| 4:18 PM | Thomas | Lin | Sharma | Magonov | Kornfield |
| 4:30 PM | Martin | Filippidi | Klotz | Stroupe | Bates |
| 4:42 PM | Khare | Albright | Zhang | Eisele | Rubinstein |
| 4:54 PM | Tiwari | Selin | Sensale | Ulrich | Boudouris |
| 5:06 PM | Salerno | Rathee | Jou | Beyer | Lodge |
| 5:18 PM | | Hollingsworth | Chalise | Rinehart | Holten-Andersen |

Session H43: Advancing Polymer Physics by Integrating Simulation and Theory II

Session H52: Polyelectrolyte Complexation III: Biology and Applications

Session H55: Focus Session: Polymer Physics in Very Strongly Confined Environments

I: Knots and Nanopores

Session H56: Focus Session: Advanced Morphological Characterization of Polymeric Materials

II: Emerging Microscopy and Spectroscopy Techniques

Session H59: Focus Session: Dillon Medal Symposium

Session J55: DPOLY Business Meeting

Session J65: NSF Polymers Q&A and Decadal Workshop Summary

Wednesday

| Session | K3 | K43 | K49 | K52 | K55 | K56 | K59 |
|----------|---------------|---------------|------------------|---------------|------------------|-----------------|-----------------------|
| Room | 150C | 503 | 511A | 512 | 515A | 515B | Petree Hall D |
| Chair | Cangialosi | Stein | Morozov | Hutchens | Sing | Gu | Pochan |
| 8:00 AM | Tsui | Nguyen | Bundschuh | Ransom | Dzubiella | Collins | Saven |
| 8:12 AM | Yu | Gartner | | | | Lee | |
| 8:24 AM | Delgado | Delaney | | | | Nieuwendaal | |
| 8:36 AM | Stafford | Genzer | Zhang | Yang | Sampath | Amassian | Yeates |
| 8:48 AM | Choi | | Brahmachari | Cai | Brown | | |
| 9:00 AM | Carroll | | Wang | Estrada | Kundagrami | | |
| 9:12 AM | Diaz Vela | Dutta | Sevier | Moridani | Lyubimov | Choi | Schurtenberger |
| 9:24 AM | Mohottalalage | Mah | Moller | Kumar | Frischknecht | Jorge | |
| 9:36 AM | Sadtchenko | Burns | Saintillan | Ye | Meng | He | |
| 9:48 AM | Cubeta | Hong | Yeh | Kundu | Yao | Henry | Mezzenga |
| 10:00 AM | Pallaka | Garlea | Rulands | McManus | Tsai | Miller | |
| 10:12 AM | Bay | Sangoro | Jin | Barney | Wang | Heiber | |
| 10:24 AM | Fujimoto | Zeng | Dahlke | Milner | Kim | Jones | Dogic |
| 10:36 AM | Guo | Rauscher | Shakya | Forster | Yang | Hollingsworth | |
| 10:48 AM | Zhang | Zumbro | Dittmore | Chopin | Tang | Dulal | |

Session K03: Confined Polymer Glasses III: Influence of Interfaces on Material Properties

Session K43: Focus Session: Architectural Design of Polymers II: Sequences, Branching and Networks

Session K49: Focus Session: Physics of Genome Organization: From DNA to Chromatin I

Session K52: Focus Session: Extreme Deformation of Polymers and Soft Matter I: Cavitation and Fracture

Session K55: Focus Session: Advancing Polymer Physics by Integrating Simulation Theory

III: Self-Assembly and Charged Polymers

Session K56: Focus Session: Organic Electronics and Photonics III: Organic Photovoltaics

Session K59: Invited Session: Designing Biomacromolecules for Materials Assembly

| Session | L20 |
|----------|-------------|
| Room | 308B |
| Chair | Marinero |
| 11:15 AM | Biswas |
| 11:27 AM | Seo |
| 11:39 AM | Frazer |
| 11:51 AM | Davoody |
| 12:03 PM | Alicki |
| 12:15 PM | Barman |
| 12:27 PM | Sergeev |
| 12:39 PM | Chen |
| 12:51 PM | Agiorgousis |
| 1:03 PM | Satpathi |
| 1:15 PM | Ayhan |
| 1:27 PM | Gebhardt |
| 1:39 PM | |
| 1:51 PM | |
| 2:03 PM | |

Session L20: Solar/Energy Conversion: Theory and Devices

Wednesday

| L60: Poster Session II – 11:15 AM – 2:30 PM | | | | | |
|--|---------------|-----|------------|------|-------------|
| West Hall A, DPOLY Posters 2-146 | | | | | |
| 2. | Devries | 50. | House | 98. | Panariti |
| 3. | Nasrabad | 51. | Kwon | 99. | Rokhlenko |
| 4. | Kim | 52. | Park | 100. | Stoke |
| 5. | Lian | 53. | Beaucage | 101. | Vigilia |
| 6. | McCoy | 54. | Kim | 102. | Comeau |
| 7. | Qiu | 55. | Nishibori | 103. | Dinic |
| 8. | Van Cleave | 56. | Pressly | 104. | Fitzgerald |
| 9. | Abramovitch | 57. | Roders | 105. | Li |
| 10. | Choi | 58. | Karthika S | 106. | Wang |
| 11. | Gilbert | 59. | Schaible | 107. | Zhang |
| 12. | Gu | 60. | Toney | 108. | Biswas |
| 13. | Kim | 61. | Yu | 109. | Kurokawa |
| 14. | Peterson | 62. | Gadelrab | 110. | Lin |
| 15. | Thomas | 63. | Lee | 111. | Mao |
| 16. | Cheng | 64. | Gunder | 112. | Morris |
| 17. | Luo | 65. | Pinna | 113. | Truong |
| 18. | Samanta | 66. | Afshar | 114. | Xu |
| 19. | Zhao | 67. | Aryal | 115. | Fei |
| 20. | Liang | 68. | Martin | 116. | Jo |
| 21. | Charaya | 69. | Son | 117. | Jun |
| 22. | Samanta | 70. | Xu | 118. | Seo |
| 23. | Wu | 71. | Diaz | 119. | Wang |
| 24. | Xu | 72. | Chen | 120. | Wang |
| 25. | Perahia | 73. | Paren | 121. | Yang |
| 26. | Seeger | 74. | Ivanović | 122. | Yu |
| 27. | Smith | 75. | Chipara | 123. | Bentley |
| 28. | Zeng | 76. | Kwon | 124. | Cabral |
| 29. | Evans | 77. | Marenda | 125. | Chipara |
| 30. | Fontecha | 78. | Park | 126. | Dobrynin |
| 31. | Krishnamurthy | 79. | Prunty | 127. | Liu |
| 32. | Henderson | 80. | Solvensky | 128. | Wang |
| 33. | Kim | 81. | Tilahun | 129. | Mucha |
| 34. | Kim | 82. | DelRe | 130. | Foglia |
| 35. | Qui | 83. | Jiang | 131. | Caglayan |
| 36. | Rishi | 84. | Li | 132. | Ko |
| 37. | Senses | 85. | Ono | 133. | Lee |
| 38. | Ding | 86. | Schulz | 134. | Madinya |
| 39. | Cao | 87. | Seo | 135. | Miles |
| 40. | Keith | 88. | Ungar | 136. | Park |
| 41. | Kim | 89. | Aoki | 137. | Park |
| 42. | Kim | 90. | Clapp | 138. | Shin |
| 43. | Kim | 91. | Picu | 139. | Szczepanski |
| 44. | Madsen | 92. | Liu | 140. | Edwards |
| 45. | Heres | 93. | Tian | | |
| 46. | Steinrueck | 94. | Beaucage | | |
| 47. | Wheatle | 95. | Rai | | |
| 48. | Forth | 96. | Kelly | | |
| 49. | Han | 97. | Kuentler | | |

Wednesday

| Session | P43 | P46 | P52 | P55 | P56 |
|--------------|---------------|---------------|-------------------------------|------------------|--------------------|
| <i>Room</i> | 503 | 506 | 512 | 515A | 515B |
| <i>Chair</i> | <i>Crosby</i> | <i>Akcora</i> | <i>Srivastava, Sharma</i> | <i>Katsumata</i> | <i>DeLongchamp</i> |
| 2:30 PM | Thomas | An | Composto | Morimitsu | Luscombe |
| 2:42 PM | | Kim | Mai | Koga | |
| 2:54 PM | | Cheng | Schmidt | Kim | |
| 3:06 PM | Ito | Ghosh | Olsen | Yokoyama | Gu |
| 3:18 PM | Ilton | Karimi | | | Xie |
| 3:30 PM | Jensen | Firestone | | | Toney |
| 3:42 PM | Deogekar | Clarke | Cuadrado | Ji | Zong |
| 3:54 PM | Mao | Arras | Vogt | Kim | Thelen |
| 4:06 PM | Van der Gucht | Gayani | Zhou | Gadelrab | Zhang |
| 4:18 PM | Maiorana | Huang | Zia | Ho | Subramanian |
| 4:30 PM | Long | Lane | | Korzeb | Harrelson |
| 4:42 PM | Elder | Jin | | Bezik | Rosky |
| 4:54 PM | Rencheck | Kwon | Islam | Cheng | Bagchi |
| 5:06 PM | Bae | Feng | Cazzell | Lee | Minkler |
| 5:18 PM | Fortais | | Chen | Choi | |

Session P43: Focus Session: Extreme Deformation of Polymers and Soft Matter II: High Speeds, Rupture, and Large Deformation

Session P46: Polymer Nanocomposites I

Session P52: Focus Session: Structure and Rheology of Hydrogels

Session P55: Focus Session: Block Copolymer Thin Films Integrated with New Materials Platforms
I: Surfaces, Interfaces and Lithography

Session P56: Focus Session: Organic Electronics and Photonics IV: Structure & Morphology

Thursday

| Session | R28 | R43 | R49 | R52 | R55 | R56 |
|----------|-------------|-----------------------|-----------------|---------------|------------------|---------------|
| Room | 405 | 503 | 511A | 512 | 515A | 515B |
| Chair | Chen | Park | Mirny | Michels | Xu | Agarwal |
| 8:00 AM | Cifra | Long | Jacobson | Niebuur | Marenda | Zhang |
| 8:12 AM | Zeng | | | De Silva | Pochan | Bachhar |
| 8:24 AM | Polson | | | Cheng | Tian | Padmanabhan |
| 8:36 AM | Chen | Frenzel | Wu | Son | Weber | Kennedy |
| 8:48 AM | | Paren | Nemzer | Senanayake | Yang | Bilchak |
| 9:00 AM | | Michenfelder-Schauser | Nguyen | Nap | Shayegan | Liu |
| 9:12 AM | Dorfman | Keith | Finnegan | Fery | Stellacci | Vaia |
| 9:24 AM | Jia | Liu | Zandi | Kowalski | | |
| 9:36 AM | Ryu | Sangoro | Burnham | Zhang | | |
| 9:48 AM | Ghanbari | Jung | Kion-Crosby | Kremer | Heller | Lin |
| 10:00 AM | Davis | Morris | Specht | | Majhi | Krishnamoorti |
| 10:12 AM | Huang | Kambe | Osmanovic | | Roa | Yang |
| 10:24 AM | Liu | Smith | Xu | Zong | DelRe | Huang |
| 10:36 AM | Capaldi | Cao | Banigan | Zhao | Qiao | Regitsky |
| 10:48 AM | Roy | Piedrahita | Bhattacharya | Zanjani | Jiang | Khan |

Session R28: Focus Session: Polymer Physics in Very Strongly Confined Environments

II: Nanoslits and Nanochannels

Session R43: Focus Session: Mechanisms of Ionic Conduction and Diffusion in Polymeric Ion Conductors I

Session R49: Focus Session: Physics of Genome Organization: From DNA to Chromatin II

Session R52: Focus Session: Smart Responsive Polymers II

Session R55: Focus Session: Soft Materials Containing Synthetic Polymers, Peptides, Proteins, Biomachinery and Beyond I: Peptides and Assemblies

Session R56: Focus Session: Polymer Nanocomposites II: Functional Applications

Thursday

| Session | S43 | S52 | S55 | S56 | S57 | S59 |
|----------|---------------|-------------|--------------|-------------------|---------------|----------------|
| Room | 503 | 512 | 515A | 515B | 518 | Petree Hall D |
| Chair | Madsen | Lee | Doerk | Liu | Leal | Ullal, Wang |
| 11:15 AM | Zelovich | Wang | Gunkel | Nakatani | Abbott | Liddle |
| 11:27 AM | Stevens | Lin | Evans | Ethier | | |
| 11:39 AM | AlShammasi | Mishra | Leniart | Ginzburg | | |
| 11:51 AM | Crothers | Biswas | Karim | Barnett | Bandara | Woell |
| 12:03 PM | Shen | Cai | | Bhadauriya | Zhang | |
| 12:15 PM | Wang | Qian | | Clarke | Visvanathan | |
| 12:27 PM | Hall | Wei | Toth | Buenning | Luo | King |
| 12:39 PM | | Jin | Qiang | Wang | Davenport | |
| 12:51 PM | | Auguste | Luber | Medidhi | Etcheverry | |
| 1:03 PM | France-Lanord | Shrestha | Basutkar | Benicewicz | Park | Fourkas |
| 1:15 PM | Sethuraman | Ponomarenko | Qiang | | Tuchband | |
| 1:27 PM | Stacy | Friberg | Li | | Tai | |
| 1:39 PM | Wheatle | Mai | Duan | Senses | Kokot | Han |
| 1:51 PM | Pipertzis | Chung | Bo | Carrillo | Shechter | |
| 2:03 PM | Haghighat | Karthika S | Copp | Peng | Bayles | |

Session S43: Focus Session: Mechanisms of Ionic Conduction and Diffusion in Polymeric Ion Conductors II

Session S52: Polymeric Elastomers and Gels

Session S55: Focus Session: Block Copolymer Thin Films Integrated with new Material Platforms

II: Annealing, Architecture, and Multi-Layers

Session S56: Focus Session: Polymer Nanocomposites III: Fundamentals

Session S57: Focus Session: Self-assembly in Liquid Crystals and other Complex Solvents I

Session S59: Invited Session: Super Resolution Microscopy and Lithography of Polymers

| Session | V43 | V52 | V55 | V56 | V57 | V59 |
|---------|-----------|------------------|-----------------------|-------------------|------------------|---------------------|
| Room | 503 | 512 | 515A | 515B | 518 | Petree Hall D |
| Chair | Roth | Beckingham | Qiang | Evans | Conrad | Ginzburg |
| 2:30 PM | Liu | Li | Alexander-Katz | Zozoulenko | Sokolov | Rastogi |
| 2:42 PM | Caruthers | Zhou | | White | Martinez | |
| 2:54 PM | Medvedev | Kharel | | Kawashima | Bartolo | |
| 3:06 PM | Zheng | Dalgicdir | Madsen | Lutkenhaus | Parkinson | Habersberger |
| 3:18 PM | Kropka | Zhao | Gasbarro | | Basu | |
| 3:30 PM | Nguyen | Martin | Arora | | Martinez-Miranda | |
| 3:42 PM | Lu | Xiong | Ellison | Martin | Shuai | Schieber |
| 3:54 PM | Lappala | Beltran-Villegas | Dai | Soniat | Eun | |
| 4:06 PM | Raegen | Sharratt | Hoagland | Aryal | Chang | |
| 4:18 PM | Lopez | Jimenez | Seo | Sengupta | Kim | Rutledge |
| 4:30 PM | White | Chatterjee | Jeon | Hou | Lee | |
| 4:42 PM | Yoon | Watanabe | Abraham | Zhang | Truong | |
| 4:54 PM | Kang | Lopez-Barron | Bag | Kumar | Ellis | Soulages |
| 5:06 PM | Chen | Wang | | Grzetic | Modin | |
| 5:18 PM | Gao | Xu | | Li | Young-Gonzales | |

Session V43: Polymer Glasses

Session V52: Polymer Melts and Solutions

Session V55: Focus Session: Soft Materials Containing Synthetic Polymers, Peptides, Proteins, Biomachinery and Beyond II: Nucleic Acids and Solutions

Session V56: Focus Session: Polymers for Energy Applications I

Session V57: Self-assembly in Liquid Crystals and other Complex Solvents II

Session V59: Invited Session: Structure/Property Relationships in Polyolefins

Friday

| Session | X42 | X43 | X52 | X53 | X55 | X56 |
|--------------|-----------------------|---------------|-------------------|-------------|---------------|---------------------|
| <i>Room</i> | 502B | 503 | 512 | 513 | 515A | 515B |
| <i>Chair</i> | <i>Katifori</i> | <i>Hickey</i> | <i>Chatterjee</i> | <i>Beck</i> | <i>Raegen</i> | <i>Chen</i> |
| 8:00 AM | Das | Choi | Roberts | Cleaver | McGraw | Li |
| 8:12 AM | | Balwani | Peters | Cao | Lee | Chen |
| 8:24 AM | | Chrissopoulou | Cho | Liarte | Douglas | Fu |
| 8:36 AM | Liu | Vaknin | Kim | Machon | Chen | Maslyn |
| 8:48 AM | | Murphy | Burke | Tang | Manohar | Chopade |
| 9:00 AM | | Liu | Rokhlenko | Zhang | Hor | Sorte |
| 9:12 AM | Ronceray | Krook | Lai | Beller | Biggers | Frischknecht |
| 9:24 AM | | Diaz | Park | Carrozzi | Gao | |
| 9:36 AM | | Kalutantirige | Kang | Sidky | Hoshino | |
| 9:48 AM | Vitelli | Sethi | Lee | Melton | Chao | Kuray |
| 10:00 AM | | Sherck | Chervanyov | Riahinasab | Tsige | Barnes |
| 10:12 AM | | Trzkovich | Lee | Waltmann | Singla | Kusoglu |
| 10:24 AM | Sageman-Furnas | Nishi | Spencer | Kim | Pester | Abbott |
| 10:36 AM | | Sakib | Kurokawa | He | Katsumata | Dugger |
| 10:48 AM | | Oh | Paloni | Farias | Kawaguchi | Galluzzo |

Session X42: Invited Session: Topology, Geometry, and Physics of Elastic Networks

Session X43: Polymer Nanocomposites IV

Session X52: Physics of Copolymers and Blends

Session X53: Liquid Crystals and Self-Assembly

Session X55: Surface and Interface Effects on Fluid and Particle Dynamics

Session X56: Focus Session: Polymers for Energy Applications II

| Session | Y53 |
|--------------|----------------|
| <i>Room</i> | 513 |
| <i>Chair</i> | <i>Cleaver</i> |
| 11:15 AM | Cohen |
| 11:27 AM | Dolganov |
| 11:39 AM | Jiang |
| 11:51 AM | Duzgun |
| 12:03 PM | Wang |
| 12:15 PM | Mogurampally |
| 12:27 PM | Quevillon |
| 12:39 PM | Sadati |
| 12:51 PM | Aryasova |
| 1:03 PM | de la Cotte |
| 1:15 PM | Opathalage |
| 1:27 PM | Wittmann |
| 1:39 PM | Lin |
| 1:51 PM | Basu |
| 2:03 PM | |

Session Y53: Liquid Crystals

