

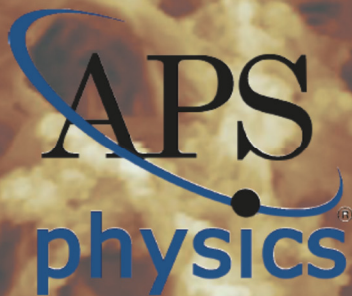
**2017**

**MARCH 13-17**

**NEW ORLEANS, LA**

**DPOLY**

**DIVISION OF POLYMER PHYSICS**



## **DPOLY Short Course on Polymer Colloids: Synthesis, Characterization and Application**

**Saturday, March 11 1:00 p.m. - 6:00 p.m.**

**Sunday, March 12 8:30 a.m. - 6:00 p.m.**

**Room 288**

### **Overview**

The DPOLY short course on "Polymer Colloids: Synthesis, Characterization and Applications" will provide a detailed review on both well-established and emerging topics in the field that will include: emulsion and dispersion polymerization; physical processes to generate colloids; colloidal stabilization; structured colloids; microscopy and scattering in colloids; Pickering emulsions; colloids in motion; colloids in coatings, personal care, and medicine; simulations of colloids. The short course is designed to emphasize the breadth and depth of the field by focusing on fundamental- and special-topics of polymer colloid-related activities within the soft matter community. In addition to the lectures, there are two invited seminars highlighting recent advances in the field that are spearheading new science and technologies.

### **Who Should Attend**

Students, postdocs, faculty and industrial researchers who are interested in learning about the synthesis, characterization and application of polymer-based colloids.

### **Organizers**

Professor Rodney D. Priestley and Professor Robert K. Prud'homme  
*Chemical and Biological Engineering, Princeton University*

### **Confirmed Speakers**

- Mohamed S. El-Aasser, Lehigh University
- Daniel Dermody, Dow Chemical Company
- Robert Prud'homme, Princeton University
- Rui Liu, Tongji University
- Nan Yao, Princeton University
- Matthew Helgeson, University of California Santa Barbara
- Daeyeon Lee, University of Pennsylvania
- Daniel A. Hammer, University of Pennsylvania
- Samiul Amin, L'Oreal Americas
- John Klier, University of Massachusetts Amherst
- Ilona Kretzschmar, City College of New York
- Arash Nikoubashman, University of Mainz
- Kyle Bishop, Columbia University
- Joao Cabral, Imperial College London
- David Pine, New York University
- David Malotky, Dow Chemical Company

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Cover image: Scanning force micrograph of a polymeric water filtration membrane. Courtesy of Tyler Culp, Penn State University and Mou Paul, Dow Chemical Co.

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**Monday, March 13, 2017, 8:00 am – 11:00 am**

Session A9: Focus Session: Symposium Honoring Ed Kramer - Mechanics and Dynamics

Sponsoring Units: DPOLY

Chair: Russell Composto, University of Pennsylvania

Room: 268

Monday, March 13, 2017 8:00AM - 8:36AM	A9.00001: Chasing Extreme Polymer Morphologies with Ed <b>Invited Speaker:</b> Glenn Fredrickson
Monday, March 13, 2017 8:36AM - 9:12AM	A9.00002: Multi-Scale Structure of Coacervates formed by Oppositely Charged Polyelectrolytes <b>Invited Speaker:</b> Michael Rubinstein
Monday, March 13, 2017 9:12AM - 9:24AM	A9.00003: Network Confinement and Heterogeneity Slows Nanoparticle Diffusion in Polymer Gels Emmabeth Parrish , Matthew Caporizzo , Russell Composto
Monday, March 13, 2017 9:24AM - 9:36AM	A9.00004: The First Normal Stress Difference in Waterborne Paints Thickened by Hydrophobically Ethoxylated Urethane (HEUR) Rheology Modifier: A Simplified Phase Diagram Tirtha Chatterjee , Antony Van Dyk , Valeriy Ginzburg , Alan Nakatani
Monday, March 13, 2017 9:36AM - 9:48AM	A9.00005: Thickness Dependence of Failure in Ultra-thin Glassy Polymer Films Reed Bay , Shinichiro Shimomura , Yujie Liu , Mark Ilton, Alfred Crosby
Monday, March 13, 2017 9:48AM - 10:00AM	A9.00006: Statistical Mechanical Theory of Coupled Slow Dynamics in Glassy Polymer-Molecule Mixtures Rui Zhang , Kenneth Schweizer
Monday, March 13, 2017 10:00AM - 10:12AM	A9.00007: Dynamic Polymer Brush using Amphiphilic Block Copolymers Hideaki Yokoyama , Hirokazu Tanoue , Manabu Inutsuka , Kohzo Ito, Norifumi Yamada
Monday, March 13, 2017 10:12AM - 10:24AM	A9.00008: High Rate Micromechanical Behavior of Grafted Polymer Nanoparticle Films Edwin Thomas
Monday, March 13, 2017 10:24AM - 10:36AM	A9.00009: Quantifying Crazing Deformation in Ultrathin Polymer Films Yang Jiao , Ming-Siao Hsiao , Andrew Gillman , Philip Buskohl , Lawrence Drummy , Richard Vaia
Monday, March 13, 2017 10:36AM - 10:48AM	A9.00010: Direct Measurement of Crazing Mechanics in Polystyrene Thin Films: Molecular Weight Effects Shinichiro Shimomura , Reed Bay , Mark Ilton , Alfred Crosby
Monday, March 13, 2017 10:48AM - 11:00AM	A9.00011: X-ray scattering to probe cracks in rubbers Costantino Creton , Quentin Demassieux , Daniel Berghezan

**Monday, March 13, 2017, 8:00 am – 11:00 am**

Session A10: Polymer Nanocomposites - Mechanics

Sponsoring Units: DPOLY

Chair: Laura Clarke, North Carolina State University

Room: 269

Monday, March 13, 2017 8:00AM - 8:12AM	A10.00001: Effect of Filler Morphology and Distribution State on the Nonlinear Mechanical Behaviour of Nanofilled Elastomers Didier Long , Mathieu Tauban , Paul Sotta , Jean-Yves Delannoy
Monday, March 13, 2017 8:12AM - 8:24AM	A10.00002: Coarse grained MD simulations of a fracture of filler-filled polymer nanocomposites under uniaxial elongation Katsumi Hagita , Hiroshi Morita , Hiroshi Takano
Monday, March 13, 2017 8:24AM - 8:36AM	A10.00003: Controllable Reconfiguration of Polymer-grafted Nanoparticle Networks Under Torsion Tao Zhang , Badel Mbanga , Victor Yashin , Anna Balazs
Monday, March 13, 2017 8:36AM - 8:48AM	A10.00004: Similarity between the Damping Function and Payne Effect in Particle-Filled Elastomers Xiaorong Wang
Monday, March 13, 2017 8:48AM - 9:00AM	A10.00005: Interfacial shear strength and glass transition temperature of polymeric composites Yaping Huang
Monday, March 13, 2017 9:00AM - 9:12AM	A10.00006: Self-healing fiber-reinforced composite Minwook Lee , Sam Yoon , Alexander Yarin
Monday, March 13, 2017 9:12AM - 9:24AM	A10.00007: Thermomechanical properties and transparency of self-reinforced polylactide composites with stereocomplex polylactide nanofibers Naruki Kurokawa , Atsushi Hotta
Monday, March 13, 2017 9:24AM - 9:36AM	A10.00008: Controllable polymer degradation via photothermal heating of embedded metal nanoparticles Honglu Huang , Russell E. Gorga , Daniela Fontecha , Gabriel Firestone , Jason R. Bochinski , Laura I. Clarke
Monday, March 13, 2017 9:36AM - 9:48AM	A10.00009: Rheology as a mechano-scopic method to monitor growth of calcium carbonate in gelatin hydrogels Abigail U. Regitsky , Bavand Keshavarz , Gareth H. McKinley , Niels Holten-Andersen
Monday, March 13, 2017 9:48AM - 10:00AM	A10.00010: Multifunctional Polymer Nanocomposites. Zhanhu Guo
Monday, March 13, 2017 10:00AM - 10:12AM	A10.00011: Molecular Dynamics Simulation Of Novel Elastomer Nanocomposites: Structure Design And Property Prediction Jun Liu , Liqun Zhang
Monday, March 13, 2017 10:12AM - 10:24AM	A10.00012: Exploration of multifunctional properties of graphene nanoplatelet - epoxy composites reinforced by carbon fibers Richard Inakpenu , Maryam Jahan , Kuo Li , Guang-Lin Zhao
Monday, March 13, 2017 10:24AM - 10:36AM	A10.00013: Polymeric CNT composites: atomistic simulations of interfacial properties Jacek Golebiowski , Arash A Mostofi , Peter D Haynes
Monday, March 13, 2017 10:36AM - 10:48AM	A10.00014: Mechanical Properties of Graphene-Polymer Nanocomposites Asanka Weerasinghe , Dimitrios Maroudas , Ashwin Ramasubramaniam
Monday, March 13, 2017 10:48AM - 11:00AM	A10.00015: Material Property Changes of Polycyanurate with Ionic Liquid and Carbon Nanotube Additives Evelyn Lopez , Devin M. Reed , Sindee L. Simon

**Monday, March 13, 2017, 8:00 am – 11:00 am**

Session A11: Focus Session: Organic Electronics - Excited States and Energy Transfer

Sponsoring Units: DPOLY DMP

Chair: Bryan Boudouris, Purdue University

Room: 270

Monday, March 13, 2017 8:00AM - 8:12AM	A11.00001: Singlet-to-triplet intermediates and triplet exciton dynamics in pentacene thinfilms Verner Thorsmolle , Michael Korber , Emanuel Obergfell , Thomas Kuhlman , Ian Campbell , Brian Crone , Antoinette Taylor, Richard Averitt , Jure Demsar
Monday, March 13, 2017 8:12AM - 8:24AM	A11.00002: Exciton transfer in self-assembled conjugated polyelectrolyte complexes~ Alexander Ayzner , William Hollingsworth , Carmen Segura , Jonathan Balderrama , Nathaniel Lopez , Pamela Schleissner
Monday, March 13, 2017 8:24AM - 8:36AM	A11.00003: Frenkel-Charge-Transfer exciton intermixing theory for molecular crystals with two isolated Frenkel exciton states. Igor Bondarev , Adrian Popescu
Monday, March 13, 2017 8:36AM - 8:48AM	A11.00004: How far could energy transport within a single crystal. Yifan Zhang , Yanke Che , Jincai Zhao , Granick Steve
Monday, March 13, 2017 8:48AM - 9:00AM	A11.00005: Theory of excited state absorptions in pentacene crystals and films Sumitendra Mazumdar , Souratosh Khan
Monday, March 13, 2017 9:00AM - 9:12AM	A11.00006: Modeling chain configurations of conjugated polymers as a function of charge concentration Brandon Wood , Yongwoo Shin , Kristin Persson
Monday, March 13, 2017 9:12AM - 9:48AM	A11.00007: Spin-pumping into organic semiconductors with tunable spin-orbit coupling <b>Invited Speaker:</b> Zeev Valy Vardeny
Monday, March 13, 2017 9:48AM - 10:00AM	A11.00008: Driving intramolecular charge transfer by tuning molecular orbitals and dielectric constants Melissa Aplan , Youngmin Lee , Jason Munro , Christopher Grieco, Zach Siebers , S. Michael Kilbey , Ismaila Dabo , Qing Wang , John Asbury , Enrique Gomez
Monday, March 13, 2017 10:00AM - 10:12AM	A11.00009: Hierarchical morphology to control energy and charge transfer in polymer blend light emitting diodes Keith Hillaire , Thomas Ferron , Michael Pope , Brian Collins
Monday, March 13, 2017 10:12AM - 10:24AM	A11.00010: Study on the optoelectronic proprieties and molecular structure of Alkyl-substituted Oligopyrrole for organic electronics Hussam BOUAAMALT , Oufae NINIS , Mustapha ABARKAN , Mohammed BOUACHRINE
Monday, March 13, 2017 10:24AM - 10:36AM	A11.00011: Band bending effect in P3HT: Role of morphology J. K. Wenderott , Ban X. Dong , Peter F. Green
Monday, March 13, 2017 10:36AM - 10:48AM	A11.00012: Optical spectroscopy of two-dimensional polymer networks Halleh Balch , Christian Diercks , Peter Waller , Lei Guo , Michio Matsumoto , Raghunath Dasari , Seth Marder , Omar Yaghi , Will Dichtel, Feng Wang
Monday, March 13, 2017 10:48AM - 11:00AM	A11.00013: The isolated large $\pi$ systems in pyrene--fluorene derivatives observed with Scanning Tunneling Microscopy. Zongqiang Pang , Yue Zhang , Zhou Rong , Chao Tang



**Monday, March 13, 2017, 8:00 am – 11:00 am**

Session A21: Invited Session: Polymer Physics - From Academia to Industry and Back

Sponsoring Units: DPOLY FIAP

Chair: Rohan Hule, ExxonMobile, Inc

Room: 281-282

Monday, March 13, 2017 8:00AM - 8:36AM	A21.00001: Engineering Field-Responsive Soft Materials for Protecting First Responders, Athletes and Astronauts <b>Invited Speaker:</b> Norman Wagner
Monday, March 13, 2017 8:36AM - 9:12AM	A21.00002: Comb Block Polyolefins <b>Invited Speaker:</b> Patrick Brant
Monday, March 13, 2017 9:12AM - 9:48AM	A21.00003: Understanding Melt-Memory of Commercial Polyolefins <b>Invited Speaker:</b> Rufina Alamo
Monday, March 13, 2017 9:48AM - 10:24AM	A21.00004: Applications of Polymer Nanocomposites <b>Invited Speaker:</b> Jeffrey Meth
Monday, March 13, 2017 10:24AM - 11:00AM	A21.00005: Block copolymer self-assembly derived ultrafiltration membranes: From science to start-up. <b>Invited Speaker:</b> Ulrich Wiesner

**Monday, March 13, 2017, 11:15 am – 2:15 pm**

Session B6: Focus Session: Thin Films - Block Copolymers

Sponsoring Units: DPOLY

Chair: Bryan Vogt, University of Akron

Room: 265

Monday, March 13, 2017 11:15AM - 11:27AM	B6.00001: Solvent-Vapor-Mitigation of Electrostatics in 3D Cyclopropenium Diblock Copolyelectrolyte Network Sebastian Russell , Sanat Kumar , Luis Campos
Monday, March 13, 2017 11:27AM - 11:39AM	B6.00002: String method study of heterogeneous nucleation Sarah Dawson , An-Chang Shi
Monday, March 13, 2017 11:39AM - 11:51AM	B6.00003: Reduced defectivity in lamellae through combined thermal and solvent annealing Corinne Carpenter , Kris Delaney , Glenn Fredrickson
Monday, March 13, 2017 11:51AM - 12:27PM	B6.00004: Block copolymer films: Hierarchical meshes and bottlebrush morphologies <b>Invited Speaker:</b> Caroline Ross
Monday, March 13, 2017 12:27PM - 12:39PM	B6.00005: Annihilation Kinetics of Dislocation Pairs in Directed Self-Assembly of Block Copolymer Thin Films Su-Mi Hur , Vikram Thapar , Abelardo Ramírez-Hernández , Paulina Rincon Delgadillo , Paul Nealey , Juan de Pablo
Monday, March 13, 2017 12:39PM - 12:51PM	B6.00006: Coarse-Graining Polymer Field Theory for Fast and Accurate Simulations of Directed Self-Assembly Jimmy Liu , Kris Delaney , Glenn Fredrickson
Monday, March 13, 2017 12:51PM - 1:03PM	B6.00007: Film growth kinetics and electric field patterning during electrospray deposition of block copolymer thin films Kristof Toth , Hanqiong Hu , Youngwoo Choo , Michael Loewenberg , Chinedum Osuji
Monday, March 13, 2017 1:03PM - 1:15PM	B6.00008: Vertically Oriented Microdomains of Lamellar Block Copolymer Films with High Temperature Gradient Cold Zone Annealing Monali Basutkar , Saamil Samant , Joseph Strzalka , Alamgir Karim
Monday, March 13, 2017 1:15PM - 1:27PM	B6.00009: Pathway-engineered highly aligned block copolymer array using soft-shear laser zone annealing Youngwoo Choo , Pawel Majewski , Kevin Yager , Chinedum Osuji
Monday, March 13, 2017 1:27PM - 1:39PM	B6.00010: Designing a Cubically Packed Contact Hole Template based on a simple Flat Plate Confinement of di-Block Copolymers: A Coarse-Grained Molecular Dynamics Study Shubham Pinge , Guanyang Lin , Durairaj Baskaran , Munirathna Padmanaban , Yong Joo
Monday, March 13, 2017 1:39PM - 1:51PM	B6.00011: Parametric Conditions for the Directed Self Assembly of Block Copolymers using a Topographically Patterned Angled Substrate and Grafted Brush Nathan Rebello , Vaidyanathan Sethuraman , Gregory Blachut , Christopher Ellison , Grant Willson , Venkat Ganesan
Monday, March 13, 2017 1:51PM - 2:03PM	B6.00012: Orienting Block Copolymer Thin Films via Entropy and Surface Plasma Treatment Rong-Ming Ho , Kai-Yuan Lu , Ting-Ya Lo , Ashkan Dehghan , An-Chang Shi , Georgopanos Prokopios , Apostolos Avgeropoulos

Monday, March 13, 2017  
2:03PM - 2:15PM

B6.00013: Line and Dot Dual Nanopatterns by using Miktoarm  
Block Copolymer with Photocleavable Linker  
Chungryong Choi , Jichoel Park , K. L. Vincent Joseph , Jae Yong  
Lee , Seonghyeon Ahn , Jongheon Kwak , Jin Kon Kim

## Monday, March 13, 2017, 11:15 am – 2:15 pm

Session B9: Focus Session: Multimodal Characterization of Soft Materials in Complex Environments I

Sponsoring Units: DPOLY

Chair: Cheng Wang, LBNL

Room: 268

Monday, March 13, 2017 11:15AM - 11:51AM	B9.00001: Recent instrumentation advances offer new opportunities in electron microscopy of polymers <b>Invited Speaker:</b> Enrique Gomez
Monday, March 13, 2017 11:51AM - 12:03PM	B9.00002: Organic semiconductor material structure measurement by Polarized Resonant Soft X-ray Scattering Dean DeLongchamp , Brian Collins , Eliot Gann , Daniel Fischer
Monday, March 13, 2017 12:03PM - 12:15PM	B9.00003: A Close Look at the Structure of Polymers with Soft X-rays: Insights from Theory and Experiment Gregory Su , Shrayesh Patel , Isvar Cordova , Michael Brady , David Prendergast , Michael Chabinyk , Cheng Wang
Monday, March 13, 2017 12:15PM - 12:27PM	B9.00004: Using resonant x-ray scattering to determine how structure controls the charge generation process in PCPDTBT:PC <sub>70</sub> BM solar cells Michael Pope , Matthew Waldrip , Thomas Ferron , Brian Collins
Monday, March 13, 2017 12:27PM - 12:39PM	B9.00005: Illumination Alters the Conformation, Assembly and Thermodynamics of Conjugated Polymers Mark Dadmun , Brian Morgan
Monday, March 13, 2017 12:39PM - 12:51PM	B9.00006: Deuteration and neutron scattering: a powerful pair in polymer characterizations Kunlun Hong
Monday, March 13, 2017 12:51PM - 1:03PM	B9.00007: Deuteration effect in RSOXS by using polystyrene side-chains Xiaodan Gu , Tadanori Kurosawa , Hongping Yan , Cheng Wang , Michael Toney , Zhenan Bao
Monday, March 13, 2017 1:03PM - 1:15PM	B9.00008: Direct imaging of nanobubble Ostwald ripening using graphene liquid cell TEM Cong Xu , Qian Chen , Steve Granick
Monday, March 13, 2017 1:15PM - 1:27PM	B9.00009: Minimizing beam damage in the electron microscope to enable new imaging approaches for conjugated polymers Brooke Kuei , Enrique D. Gomez
Monday, March 13, 2017 1:27PM - 1:39PM	B9.00010: Material sensitive grazing incidence small angle x-ray scattering Mihael Coric , Nitin Saxena , Jan Wernecke , Stefanie Langner , Peter Mueller-Buschbaum , Michael Krumrey , Eva M. Herzig
Monday, March 13, 2017 1:39PM - 1:51PM	B9.00011: Control of Porosity in Ladder Polymers by Solvent-induced Aggregation. Michael Brady , Eri Gamo , Cheng Wang , Yan Xia
Monday, March 13, 2017 1:51PM - 2:03PM	B9.00012: Resonant Soft X-ray Scattering of Cellulose Microstructure in Plant Primary Cell Walls Dan Ye , Sarah N. Kiemle , Cheng Wang , Daniel J. Cosgrove , Esther W. Gomez , Enrique D. Gomez
Monday, March 13, 2017 2:03PM - 2:15PM	B9.00013: Strategies for Multi-Modal Analysis Alexander Hexemer , Cheng Wang , Ronald Pandolfi , Dinesh Kumar , Singanallur Venkatakrishnan , James Sethian

**Monday, March 13, 2017, 11:15 am – 2:15 pm**

Session B10: Focus Session: Polymer Nanocomposites - Structure and Driven Assembly

Sponsoring Units: DPOLY

Chair: Robert Hickey, Pennsylvania State University

Room: 269

Monday, March 13, 2017 11:15AM - 11:27AM	B10.00001: Driven Assembly and Properties of Interfacial Polymer-Nanoparticle Composite Layers. David Hoagland , Thomas Russell , Tao Feng
Monday, March 13, 2017 11:27AM - 11:39AM	B10.00002: Magnetic Alignment of $\gamma$ -Fe <sub>2</sub> O <sub>3</sub> Nanoparticles in Polymer Nanocomposites Andrew Jimenez , Sanat K. Kumar , Jacques Jestin
Monday, March 13, 2017 11:39AM - 11:51AM	B10.00003: Nanoparticle order through soft patterned confinement Xiaoteng Wang , Ren Zhang , Sonal Bhadauriya , Andrey Dobrynin , Michael Bockstaller , Alamgir Karim
Monday, March 13, 2017 11:51AM - 12:27PM	B10.00004: Tunable Multiscale Nanoparticle Ordering by Polymer Crystallization <b>Invited Speaker:</b> Sanat Kumar
Monday, March 13, 2017 12:27PM - 12:39PM	B10.00005: Predictive Modeling and Design of Corona Driven Self-Assembly Thi Vo , Oleg Gang , Sanat Kumar
Monday, March 13, 2017 12:39PM - 12:51PM	B10.00006: Influence of dielectric inhomogeneities in aggregation of charged nanoparticles in polymer solutions Rituparna Samanta , Venkat Ganesan
Monday, March 13, 2017 12:51PM - 1:03PM	B10.00007: An insight on hierarchical nanoparticle order by polymer crystallization Vianney Gimenez-Pinto , Dan Zhao , Jacques Jestin , Sanat Kumar
Monday, March 13, 2017 1:03PM - 1:15PM	B10.00008: Scaling and phase behavior of polymer-linked particles. Mukta Tripathy
Monday, March 13, 2017 1:15PM - 1:27PM	B10.00009: Structure and dynamics of polymer-tethered colloids in dilute solutions Leo Gury , Samruddhi Kamble , Jianan Zhang , Jaejun Lee , Kris Matyjaszewski , Michael Bockstaller , Dimitris Vlassopoulos , George Fytas
Monday, March 13, 2017 1:27PM - 1:39PM	B10.00010: Quantifying the brush structure and assembly of mixed brush nanoparticles in solution Jason Koski , Amalie Frischknecht
Monday, March 13, 2017 1:39PM - 1:51PM	B10.00011: Preparation and Structural Studies on Hybrid Core-Shell Nanoparticles Consisting of Silica Core and Conjugated Block Copolymer Shell Prepared by Surface-Initiated Polymerization Sourav Chatterjee , Tony Karam , Cornelia Rosu , Xin Li , Changwoo Do , Sang Gil Youm , Louis Haber , Paul Russo , Evgueni Nesterov
Monday, March 13, 2017 1:51PM - 2:03PM	B10.00012: Light Irradiation as Key to Shape and Function of Nano-Assemblies in Solution Franziska Groehn
Monday, March 13, 2017 2:03PM - 2:15PM	B10.00013: From Nano- to Meso-Scale Order in Block Copolymer Self-Assembly-Derived Gyroidal Mesoporous Niobium Nitride Peter Beaucage , Spencer Robbins , James Sethna , Francis J. DiSalvo , R. Bruce Van Dover , Sol M. Gruner , Ulrich Wiesner

**Monday, March 13, 2017, 11:15 am – 2:15 pm**

Session B11: Focus Session: Organic Electronics - Fundamentals of Electronic Transport

Sponsoring Units: DPOLY DMP

Chair: Erin Ratcliff, University of Arizona

Room: 270

Monday, March 13, 2017 11:15AM - 11:27AM	B11.00001: Molecular order in MAPLE-deposited conjugated polymer thin films and the implication for carrier transport characteristics Ban Dong , Anton Li , Joseph Strzalka , Gila Stein , Peter Green
Monday, March 13, 2017 11:27AM - 11:39AM	B11.00002: Carrier-Selective Traps to Control Ambipolar Transport in Conjugated Polymers Michael Ford , John Labram , Ming Wang , Hengbin Wang , Thuc-Quyen Nguyen , Guillermo Bazan
Monday, March 13, 2017 11:39AM - 11:51AM	B11.00003: Modeling space-charge-limited current transport in spatially disordered organic semiconductors M. Zubair , Y.S. Ang , L.K. Ang
Monday, March 13, 2017 11:51AM - 12:03PM	B11.00004: Comparison of spin and charge transport in organic semiconductor P3HT Matthew Groesbeck , Haoliang Liu , Evan Lafalce , Dali Sun , Hans Malissa , Marzieh Kavand , Christoph Boehme , Zeev Vally Vardeny
Monday, March 13, 2017 12:03PM - 12:15PM	B11.00005: Theoretical study of spin Hall effect in conjugated Organic semiconductors. M.R. Mahani , A. Delin
Monday, March 13, 2017 12:15PM - 12:27PM	B11.00006: Organic thin films with charge carrier mobility exceeding that of single crystals Zachary Lamport , Oana Jurchescu , Cynthia Day , William Mitchell , David Sparrowe , Ruipeng Li , Detlef Smilgies , Veaceslav Coropceanu
Monday, March 13, 2017 12:27PM - 1:03PM	B11.00007: Carrier coherence and high-resolution Hall effect measurements in organic semiconductors. <b>Invited Speaker:</b> Vitaly Podzorov
Monday, March 13, 2017 1:03PM - 1:15PM	B11.00008: Charge transport physics of single crystal organic semiconductors Emily G. Bittle , Adam J. Biacchi , Andrew A. Herzing , Lisa A. Fredin , Thomas C. Allison , Angela R. Hight Walker , David J. Gundlach
Monday, March 13, 2017 1:15PM - 1:27PM	B11.00009: Lattice phonons of coronene single crystal polymorphs: a theoretical approach Nicola Bannister , Enrico Da Como , Simon Crampin
Monday, March 13, 2017 1:27PM - 1:39PM	B11.00010: Good vibrations in molecularly doped polymers: combining impedance and Raman spectroscopy to elucidate intermolecular interactions Elizabeth von Hauff , Charusheela Ramanan
Monday, March 13, 2017 1:39PM - 2:15PM	B11.00011: Visualizing electron dynamics in organic materials: Charge transport through molecules and angular resolved photoemission <b>Invited Speaker:</b> Stephan Kümmel

**Monday, March 13, 2017, 11:15 am – 2:15 pm**

Session B18: Polymer Glasses: Formation, Aging, and Nonlinear Response

Sponsoring Units: DPOLY

Chair: Laura Gray, Princeton University

Room: 277

Monday, March 13, 2017 11:15AM - 11:27AM	B18.00001: Insights into Polymer Normal Mode Dynamics During Glass formation from Efficient In-Equilibrium Molecular Dynamics Simulation Jui-Hsiang Hung , Tarak Patra , Jayachandra Hari Mangarala , David Simmons
Monday, March 13, 2017 11:27AM - 11:39AM	B18.00002: Comparative molecular simulation study of low and high density polymer glasses: A competition between attractive and repulsive interactions Jalim Singh , Prasanth Jose
Monday, March 13, 2017 11:39AM - 11:51AM	B18.00003: liquid-solid transitions in a bridging system with short-ranged attractive interparticle potential Guangcui Yuan , Junhua Luo , Chuanzhuang Zhao , Charles C. Han
Monday, March 13, 2017 11:51AM - 12:03PM	B18.00004: String-like Collective Motion in the $\alpha$ - and $\beta$ - Relaxation of a Coarse-Grained Polymer Melt. Jack Douglas , Beatriz Betancourt , Francis Starr
Monday, March 13, 2017 12:03PM - 12:15PM	B18.00005: Why many polymers are so fragile: a new perspective Vladimir Novikov , Cecile Dalle –Ferrier , Alexander Kisliuk , Liang Hong , Giovanni Carini Jr , Giuseppe Carini , Giovanna D'Angelo , Christiane Alba-Simionesco , Alexei Sokolov
Monday, March 13, 2017 12:15PM - 12:27PM	B18.00006: How Free Volume Controls Polymer Segmental Relaxation Times Ronald White , Jane Lipson
Monday, March 13, 2017 12:27PM - 12:39PM	B18.00007: Evidence for a universal localization transition underlying the glass transition David Simmons , Jui-Hsiang Hung , Tarak Patra , Venkatesh Meenakshisundaram , Jayachandra Hari Mangalara
Monday, March 13, 2017 12:39PM - 12:51PM	B18.00008: Dynamical heterogeneity of star-polymers Hamed Emamy , Alexandros Chremos , Jack Douglas , Francis Starr
Monday, March 13, 2017 12:51PM - 1:03PM	B18.00009: Retarded Local Dynamics of Single Fluorescent Probes in Polymeric Glass due to Interaction Strengthening Hao Zhang , Jingfa Yang , Jiang Zhao
Monday, March 13, 2017 1:03PM - 1:15PM	B18.00010: Dynamical heterogeneities, shear banding and internal stress in polymer melts Robin Masurel , Pierre Gelineau , Sabine Cantounet , Hélène Montes , Didier Long , Alain Dequidt , Francois Lequeux
Monday, March 13, 2017 1:15PM - 1:27PM	B18.00011: Features of Structural Relaxation in Diblock Copolymers Yunlong Guo , Mingchao Ma , Tianju Xue
Monday, March 13, 2017 1:27PM - 1:39PM	B18.00012: Aging in Polymer Glasses: A Comparison of Optical and Mechanical Measurements of Segmental Dynamics Josh Ricci , Trevor Bennin , Mark Ediger
Monday, March 13, 2017 1:39PM - 1:51PM	B18.00013: Determination of the Nonlinearity Parameter in the TNM Model of Structural Recovery Rozana Bari , Sindee Simon

Monday, March 13, 2017  
1:51PM - 2:03PM

B18.00014: New Insight in Understanding the~mechanical  
responses of polymer glasses using molecular dynamic simulation  
Yexin Zheng , Shi-Qing Wang , Mesfin Tsige

Monday, March 13, 2017  
2:03PM - 2:15PM

B18.00015: Explanation of the Exothermic Enthalpy Peak  
Exhibited by Glassy Polymers Following Loading-Unloading.  
Grigori Medvedev , James Caruthers



**Monday, March 13, 2017, 11:15 am – 2:15 pm**

Session B21: Invited Session: Biopolymer Physics

Sponsoring Units: DPOLY DBIO

Chair: Brad Olsen, MIT

Room: 281-282

Monday, March 13, 2017 11:15AM - 11:51AM	B21.00001: Multi-scale Modeling of Chromosomal DNA in Living Cells <b>Invited Speaker:</b> Andrew Spakowitz
Monday, March 13, 2017 11:51AM - 12:27PM	B21.00002: Polymer brush coatings for DNA: fundamental polymer physics and nanofabrication applications <b>Invited Speaker:</b> Renko De Vries
Monday, March 13, 2017 12:27PM - 1:03PM	B21.00003: 2-d and 1-d Nanomaterials Construction through Peptide Computational Design and Solution Assembly <b>Invited Speaker:</b> Darrin Pochan
Monday, March 13, 2017 1:03PM - 1:39PM	B21.00004: Structural Interplay - Tuning Mechanics in Peptide-Polyurea Hybrids <b>Invited Speaker:</b> LaShanda Korley
Monday, March 13, 2017 1:39PM - 2:15PM	B21.00005: Self-assembled structural color in nature <b>Invited Speaker:</b> Andrew Parnell

**Monday, March 13, 2017, 2:30 pm – 5:30 pm**

Session C6: Focus Session: Thin Films - Nanocomposites and Block Copolymers

Sponsoring Units: DPOLY

Chair: Muzhou Wang, Northwestern University

Room: 265

Monday, March 13, 2017 2:30PM - 2:42PM	C6.00001: Effect of Graft Polymer Architecture on the Grafted Layer Structure in Polymer Functionalized Nanoparticles. Kevin Modica , Tyler Martin , Arthi Jayaraman
Monday, March 13, 2017 2:42PM - 2:54PM	C6.00002: Molecular Dynamics Simulations to Determine the Effects of Copolymer Architecture and Nanofiller Adsorption Strength on Viscoelastic Properties of Polymer Nanocomposites~ Alex Trzaskovich , Lisa M. Hall
Monday, March 13, 2017 2:54PM - 3:06PM	C6.00003: Position and orientation of gold nanorods in vertical cylinder diblock copolymer films Boris Rasin , Ben Lindsay , Xingchen Ye , Jeffrey Meth , Christopher Murray , Robert Riggelman , Russell Composto
Monday, March 13, 2017 3:06PM - 3:42PM	C6.00004: Self-Assembled Nanorods and Nanoplates in Polymer Nanocomposite Films <b>Invited Speaker:</b> Russell Composto
Monday, March 13, 2017 3:42PM - 3:54PM	C6.00005: Self-assembly of Polymer-Grafted Magnetic Nanoparticles in Solutions and at Interfaces Siqi Liu , Tsengming Chou , Pinar Akcora
Monday, March 13, 2017 3:54PM - 4:06PM	C6.00006: Block copolymer patterning by localized magnetic field screening. Manesh Gopinadhan , Youngwoo Choo , Lalit Mahajan , Dennis Ndaya , Rajeswari Kasi , Chinedum Osuji
Monday, March 13, 2017 4:06PM - 4:18PM	C6.00007: Using Block Co-Polymers to Create a Metal Oxide Hard Mask for Etching Silicon and Silicon Dioxide Omar Cervantes , Luis Castro , Noel Arellano
Monday, March 13, 2017 4:18PM - 4:30PM	C6.00008: Preparation of PVMS-b-PMMA block copolymer with potential for oil-water separation Baraka Lwoya , Md Uddin , Sourav Chatterjee , Julie Albert
Monday, March 13, 2017 4:30PM - 4:42PM	C6.00009: Neutron Reflectometry and Small Angle Neutron Scattering of ABC Miktoarm Terpolymer Thin-Films Matthias M. L. Arras , Weiyu Wang , Jyoti P. Mahalik , Kunlun Hong , Bobby G. Sumpter , Gregory S. Smith , Sergey Chernyy , Hyeyoung Kim , Thomas P. Russell
Monday, March 13, 2017 4:42PM - 4:54PM	C6.00010: Non-native block copolymer nano-structures Kevin Yager , Pawel Majewski , Atikur Rahman , Aaron Stein , Greg Doerk , Gwen Wright , Charles Black
Monday, March 13, 2017 4:54PM - 5:06PM	C6.00011: Order enhancement in shear-aligned block copolymer thin films with solvent vapor annealing Ye Chan Kim , So Youn Kim
Monday, March 13, 2017 5:06PM - 5:18PM	C6.00012: Enhanced Self-Assembly Kinetics in Symmetric Ternary Block Copolymer Blends. Gregory Doerk , Pawel Majewski , Aaron Stein , Kevin Yager , Charles Black
Monday, March 13, 2017 5:18PM - 5:30PM	C6.00013: Beneath the Surface: Understanding Patterns of Intra-Domain Orientational Order Ishan Prasad , Youngmi Seo , Lisa Hall , Gregory Grason

**Monday, March 13, 2017, 2:30 pm – 5:30 pm**

Session C9: Focus Session: Symposium Honoring Ed Kramer - Block Copolymers, Nanoparticles, and Conduction

Sponsoring Units: DPOLY

Chair: Rachel Segalman, University of California, Santa Barbara

Room: 268

Monday, March 13, 2017 2:30PM - 3:06PM	C9.00001: Orientation and Order in Shear-Aligned Thin Films of Cylinder-Forming Block Copolymers. <b>Invited Speaker:</b> Richard Register
Monday, March 13, 2017 3:06PM - 3:18PM	C9.00002: Ordering and partitioning in vesicle forming block copolymer thin films Andrew Parnell , Yohei Kamata , Richard Jones
Monday, March 13, 2017 3:18PM - 3:30PM	C9.00003: Magnetic field alignment of coil-coil diblock copolymers and blends via intrinsic chain anisotropy Yekaterina Rokhlenko , Pawel Majewski , Steven Larson , Kevin Yager , Padma Gopalan , Apostolos Avgeropoulos , Edwin Chan , Chinedum Osuji
Monday, March 13, 2017 3:30PM - 3:42PM	C9.00004: Connecting ion transport in polymer electrolytes across length scales Ksenia Timachova , Lisa Cirrincione , Steven Greenbaum , Nitash Balsara
Monday, March 13, 2017 3:42PM - 3:54PM	C9.00005: Multivalent Ion Transport in Polymers via Metal-Ligand Coordination Gabriel Sanoja , Nicole Schausser , Christopher Evans , Shubhaditya Majumdar , Rachel Segalman
Monday, March 13, 2017 3:54PM - 4:06PM	C9.00006: Direct Imaging of the Electrochemical Polymerization of Polythiophenes by In-Situ Transmission Electron Microscopy David Martin , Jinglin Liu , Bin Wei , Chin-Chen Kuo , Anirhudda Dutta , Vivek Subramanian
Monday, March 13, 2017 4:06PM - 4:18PM	C9.00007: Role of monomer sequence and backbone chemistry in polypeptoid copolymers for marine antifouling coatings Anastasia Patterson , Brandon Wenning , Georgios Rizis , David Calabrese , John Finlay , Sofia Franco , Anthony Clare , Edward Kramer , Christopher Ober , Rachel Segalman
Monday, March 13, 2017 4:18PM - 4:30PM	C9.00008: Reduced domain size and interfacial width in nanofilled block copolymer films by direct immersion annealing Alamgir Karim , Melanie Longanecker , Andrey Dobrynin , Sushil Satija , Joona Bang
Monday, March 13, 2017 4:30PM - 4:42PM	C9.00009: Patchy Particles of Block Copolymers from Interface-Engineered Emulsions Kang Hee Ku , YongJoo Kim , Gi-Ra Yi , Yeon Sik Jung , Bumjoon Kim
Monday, March 13, 2017 4:42PM - 4:54PM	C9.00010: Control of Macromolecular Architectures for Renewable Polymers: Case Studies. Chuanbing Tang
Monday, March 13, 2017 4:54PM - 5:06PM	C9.00011: Biodegradability of poly(butylene succinate-co-butylene adipate) (PBSA) controlled by temperature during the dried-gel process Hana Yamazaki , Tomoki Maeda , Atsushi Hotta

Monday, March 13, 2017  
5:06PM - 5:18PM

C9.00012: Solution Exchange Lithography: A Versatile Tool for  
Sequential Surface Engineering

Christian Pester , Kaila Mattson , David Bothman , Daniel Klinger ,  
Kenneth Lee , Emre Discekici , Benjaporn Narupai , Craig Hawker

Monday, March 13, 2017  
5:18PM - 5:30PM

C9.00013: Evaporation-Rate-Dependent Morphological Evolution of  
Uniform-Sized Block Copolymer Particles

Jaeman Shin , YongJoo Kim , Bumjoon Kim

## Monday, March 13, 2017, 2:30 pm – 5:30 pm

Session C10: Focus Session: Polymer Nanocomposites - Dynamics From Segmental to Chain Scale

Sponsoring Units: DPOLY

Chair: Robert Riggleman, University of Pennsylvania

Room: 269

Monday, March 13, 2017 2:30PM - 2:42PM	C10.00001: Observation of Small Particle Driven Chain Disentanglements in Polymer Nanocomposites Erkan Senses , Siyam Ansar , Christopher Kitchens , Suresh Narayanan , Yimin Mao , Antonio Faraone
Monday, March 13, 2017 2:42PM - 2:54PM	C10.00002: Unexpected Thermal Annealing Effect on the Zero-shear Viscosity of Polymer Nanocomposites. Fei Chen , Kosu Takatsuji , Dan Zhao , Xuanji Yu , Sanat Kumar , Ophelia Tsui
Monday, March 13, 2017 2:54PM - 3:06PM	C10.00003: Modeling Hairy Nanoparticle Assemblies: Effect of Surface Adsorption Strength on Canopy Entanglements and Dynamics Jeffrey Ethier , Lisa M. Hall
Monday, March 13, 2017 3:06PM - 3:18PM	C10.00004: Multi-Scale Polymer Conformations Between Confining Nanoparticles Eric Bailey , Robert A. Riggleman , Karen I. Winey
Monday, March 13, 2017 3:18PM - 3:30PM	C10.00005: Enthalpic and Entropic Competition in Blends of Self-Suspended Hairy Nanoparticles Snehashis Choudhury , Akanksha Agrawal , Lynden Archer
Monday, March 13, 2017 3:30PM - 3:42PM	C10.00006: Molecular Dynamics Simulation on Rheological and Dynamic Properties of Polymer Nanocomposite System With Thermal Stiffening Behaviors Wei Peng , Rahmi Ozisik , Pawel Keblinski
Monday, March 13, 2017 3:42PM - 4:18PM	C10.00007: Structure and Dynamics of Polymer/Polymer grafted nanoparticle composite <b>Invited Speaker:</b> Lynden Archer
Monday, March 13, 2017 4:18PM - 4:30PM	C10.00008: Understanding the interfacial chain dynamics of fiber-reinforced polymer composite Monojoy Goswami , Jan-Michael Carrillo , Amit Naskar , Bobby Sumpter
Monday, March 13, 2017 4:30PM - 4:42PM	C10.00009: Unexpected Decoupling of Translational and Reorientational Segmental Dynamics in Attractive Polymer Nanocomposites Philip Griffin , Eric Bailey , Madhusudan Tyagi , Karen Winey
Monday, March 13, 2017 4:42PM - 4:54PM	C10.00010: Nanostructures and nanosecond dynamics at the polymer/filler interface Tad Koga , Deborah Barkley , Maya Endoh , Tomomi Masui , Hiroyuki Kishimoto , Michihiro Nagao , Takashi Taniguchi
Monday, March 13, 2017 4:54PM - 5:06PM	C10.00011: Linking structure and dynamics in polymer-graphene oxide nanocomposites Michael Weir , Stephen Boothroyd , David Johnson , Rana Ashkar , Erkan Senses , Steven Parnell , Madhu Sudan Tyagi , Antonio Faraone , Richard Thompson , Karl Coleman , Nigel Clarke
Monday, March 13, 2017 5:06PM - 5:18PM	C10.00012: Surface Dynamics in Polymer Nanocomposite Films Kyle Johnson , Emmanouil Glynos , Suresh Narayanan , Georgios Sakellariou , Peter Green
Monday, March 13, 2017 5:18PM - 5:30PM	C10.00013: Interfacial Dynamics of Polymers and Influence on Viscosity in Polymer Nanocomposites Gerald Schneider

## Monday, March 13, 2017, 2:30 pm – 5:30 pm

Session C11: Focus Session: Polymers for Energy Storage and Conversion I

Sponsoring Units: DPOLY

Chair: Lisa Hall, Ohio State University

Room: 270

Monday, March 13, 2017 2:30PM - 3:06PM	C11.00001: Ohm's Law, Batteries, and the Clean Energy Landscape <b>Invited Speaker:</b> Nitash Balsara
Monday, March 13, 2017 3:06PM - 3:18PM	C11.00002: Elucidating the effects of blending and salt-doping in A-B/A polymer blends for lithium-ion battery electrolytes Melody Morris , Thomas H. Epps, III
Monday, March 13, 2017 3:18PM - 3:30PM	C11.00003: Salt Distribution, Domain Spacing, and Interfacial Characteristics in Lithium Ion-Doped Block Polymer Electrolyte Films Thomas Gartner , Cameron Shelton , Melody Morris , Arthi Jayaraman , Thomas Epps, III
Monday, March 13, 2017 3:30PM - 3:42PM	C11.00004: Electrochemical Characterization of Ion Transport Properties of Poly(ethylene oxide)- and Poly(diethylene oxide-methylene oxide)-LiTFSI Electrolytes Alexandra Hasan , Danielle Pesko , Nitash Balsara
Monday, March 13, 2017 3:42PM - 3:54PM	C11.00005: Elucidating the Charge Transfer Mechanism in Radical Polymer Thin Films Sanjoy Mukherjee , Bryan Boudouris
Monday, March 13, 2017 3:54PM - 4:06PM	C11.00006: Impact of Cation form on Structure/Function Relationships of Perfluorosulfonic Acid Ionomers. Ahmet Kusoglu , Shouwen Shi , Meron Tesfaye , Adam Weber
Monday, March 13, 2017 4:06PM - 4:18PM	C11.00007: Probing nanoscale ion dynamics in ultrathin films of polymerized ionic liquids by broadband dielectric spectroscopy Joshua Sangoro , Maximilian Heres , Tyler Cosby
Monday, March 13, 2017 4:18PM - 4:30PM	C11.00008: Dynamics of Lithium Polymer Electrolytes using X-ray Photon Correlation Spectroscopy and Rheology Onyekachi Oparaji , Suresh Narayanan , Alec Sandy , Daniel Hallinan Jr
Monday, March 13, 2017 4:30PM - 4:42PM	C11.00009: Electrostatic Network Ion Gels Formed from Rigid-Rod Polyelectrolytes and Ionic Liquids Louis Madsen , Ying Wang , Ying Chen , Zhou Yu , Yadong He , Hyun Gook Yoon , Liyu Jin , Jianwei Gao , Maria Forsyth , Theo Dingemans , Rui Qiao
Monday, March 13, 2017 4:42PM - 4:54PM	C11.00010: Dynamic and Structure of Polymer-Cellulose Composite Electrolyte for Li-ion Battery Pengfei Zhan , Janna Maranas
Monday, March 13, 2017 4:54PM - 5:06PM	C11.00011: Self-Doped Conjugated Polymer as Binders for Lithium-ion Battery Cathode Xiaoyi Li , Hyosung An , Jodie Lutkenhaus , Rafael Verduzco
Monday, March 13, 2017 5:06PM - 5:18PM	C11.00012: Conducting Block Copolymer Battery Electrode Binders Compared Against Their Homopolymer Blend Analogs Hyosung An , Xiaoyi Li , Cody Chalker , Maria Stracke , Rafael Verduzco , Jodie Lutkenhaus
Monday, March 13, 2017 5:18PM - 5:30PM	C11.00013: Charge transport kinetics in a robust radical-substituted polymer/nanocarbon composite electrode Kan Sato , Kenichi Oyaizu , Hiroyuki Nishide

**Monday, March 13, 2017, 2:30 pm – 5:30 pm**

Session C21: Invited Session: Flexible and Stretchable Organic Electronics

Sponsoring Units: DPOLY

Chair: Bryan Boudouris Brian Collins, Purdue University, Washington State University

Room: 281-282

Monday, March 13, 2017 2:30PM - 3:06PM	C21.00001: Small Molecules for Large-Area Applications <b>Invited Speaker:</b> Yueh-Lin Loo
Monday, March 13, 2017 3:06PM - 3:42PM	C21.00002: Plastic Deformation as a Means to Achieve Stretchable Polymer Semiconductors <b>Invited Speaker:</b> Brendan O'Connor
Monday, March 13, 2017 3:42PM - 4:18PM	C21.00003: Interfacing with the Brain using Organic Electronics. <b>Invited Speaker:</b> George Malliaras
Monday, March 13, 2017 4:18PM - 4:54PM	C21.00004: Molecularly Stretchable Electronics for Energy and Healthcare. <b>Invited Speaker:</b> Darren Lipomi
Monday, March 13, 2017 4:54PM - 5:30PM	C21.00005: High-Throughput Printing Process for Flexible Electronics <b>Invited Speaker:</b> Woo Jin Hyun

**Tuesday, March 14, 2017, 8:00 am – 11:00 am**

Session E5: Focus Session: Physics at Bio-Nano Interface I

Sponsoring Units: DBIO DPOLY

Chair: Binquan Luan, IBM T. J. Watson Research Center

Room: 264

Tuesday, March 14, 2017 8:00AM - 8:36AM	E5.00001: Bioelectronic Sensors and Devices <b>Invited Speaker:</b> Mark Reed
Tuesday, March 14, 2017 8:36AM - 8:48AM	E5.00002: Transport of Proteins through Nanopores Binquan Luan
Tuesday, March 14, 2017 8:48AM - 9:00AM	E5.00003: Amphiphilic gold nanoparticles as modulators of lipid membrane fusion Mukarram Tahir , Alfredo Alexander-Katz
Tuesday, March 14, 2017 9:00AM - 9:12AM	E5.00004: First step in developing SWNT nano-sensor for C17.2 neural stem cells. Tetyana Ignatova , Massooma Pirbhai , Swetha Chandrasekar , Slava V. Rotkin , Sabrina Jedlicka
Tuesday, March 14, 2017 9:12AM - 9:24AM	E5.00005: Self-Assembly of Protein Nanostructures to Enhance Biosensor Sensitivity Bradley Olsen , Xuehui Dong , Allie Obermeyer
Tuesday, March 14, 2017 9:24AM - 9:36AM	E5.00006: Structure of water and ice next to graphene Saranshu Singla , Emmanuel Anim-Danso , Ahmad Islam , Yen Ngo , Steve Kim , Rajesh Naik , Ali Dhinojwala
Tuesday, March 14, 2017 9:36AM - 9:48AM	E5.00007: Thickness-dependent dielectric breakdown and nanopore creation on sub-10-nm-thick SiN membranes in KCl aqueous solution Itaru Yanagi , Koji Fujisaki , Hirotaka Hamamura , Kenichi Takeda
Tuesday, March 14, 2017 9:48AM - 10:00AM	E5.00008: Confronting with single-molecule and FCS measurements mobility within membranes taken from red blood cells Hyun-Sook Jang , Steve Granick
Tuesday, March 14, 2017 10:00AM - 10:12AM	E5.00009: Fabrication of unique 3D microparticles in non-rectangular microchannels with flow lithography Sung Min Nam , Kibeom Kim , Wook Park , Wonhee Lee
Tuesday, March 14, 2017 10:12AM - 10:24AM	E5.00010: Impedimetric Zika and Dengue Biosensor based on Functionalized Graphene Oxide Wrapped Silica Particles Seon-Ah Jin , Ernesto E. Marinero , Lia A. Stanciu Stanciu , Shishir Poudyal , Richard J. Kuhn
Tuesday, March 14, 2017 10:24AM - 10:36AM	E5.00011: Electrophoretic ratcheting of spherical particles in a simple microfluidic device: making particles move against the direction of the net electric field Hanyang Wang , Gary Slater , Hendrick Haan
Tuesday, March 14, 2017 10:36AM - 10:48AM	E5.00012: Shape Effect of Magnetic Nanoparticles on Hyperthermia Applications Jeotikanta Mohapatra , F. Zeng , K. Elkins , N. Poudyal , K. Gandha , J. Ping Liu
Tuesday, March 14, 2017 10:48AM - 11:00AM	E5.00013: Characterization of Peptide/Surface Interactions for MoS <sub>2</sub> , Graphene, and Silica. Andrew Stroud , Pedro Derosa , Rajiv Berry , Gary Leuty , Chris Muratore



**Tuesday, March 14, 2017, 8:00 am – 11:00 am**

Session E9: Focus Session: Glass Formation and Dynamics in Nanostructured Polymers and Glasses I

Sponsoring Units: DPOLY GSOFTE GSNP

Chair: Connie Roth, Emory University

Room: 268

Tuesday, March 14, 2017 8:00AM - 8:12AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:12AM - 8:24AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:24AM - 8:36AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:36AM - 8:48AM	E9.00004: Long-range correlated dynamics in amorphous selenium Tianyi Liu , Richard Stephens , Zahra Fakhraai
Tuesday, March 14, 2017 8:48AM - 9:00AM	E9.00005: The Nanoconfined Free Radical Polymerization: Reaction Kinetics and Thermodynamics Haoyu Zhao , Sindee Simon
Tuesday, March 14, 2017 9:00AM - 9:12AM	E9.00006: Ultras-stable Physical Vapor Deposited Amorphous Teflon Films with Extreme Fictive Temperature Reduction Gregory McKenna , Heedong Yoon , Yung Koh , Sindee Simon
Tuesday, March 14, 2017 9:12AM - 9:48AM	E9.00007: Measuring glassy correlation lengths in ultra-thin polymer films <b>Invited Speaker:</b> Zahra Fakhraai , Yue Zhang , Ethan Glor , Tianyi Liu , Gabriel Angrand
Tuesday, March 14, 2017 9:48AM - 10:00AM	E9.00008: Disconnecting structure and dynamics in glassy thin films Daniel Sussman , Samuel Schoenholz , Ekin Cubuk , Andrea Liu
Tuesday, March 14, 2017 10:00AM - 10:12AM	E9.00009: Glass formation in a continuum of nanostructured polymers from surfactant-laden nanolayers to block copolymers Weston Merling , David Simmons
Tuesday, March 14, 2017 10:12AM - 10:24AM	E9.00010: The Influence of Additives on Polymer Matrix Mobility and Tg Jane Lipson , Jeffrey DeFelice
Tuesday, March 14, 2017 10:24AM - 10:36AM	E9.00011: Effective Viscosity of Ultraviolet Ozone Modified Polymer Nanometer Films Xuanji Yu , Fei Chen , Ophelia KC Tsui
Tuesday, March 14, 2017 10:36AM - 10:48AM	E9.00012: Polymer Diffusion in Confined Thin Films via Fluorescence Recovery after Photobleaching Laura A. G. Gray , Clifford P. Brangwynne , Rodney D. Priestley
Tuesday, March 14, 2017 10:48AM - 11:00AM	E9.00013: Unusual Stiffening and Elastic Response of Polyisobutylene Nanometric Thin Films Heedong Yoon , Caleb Wigham , Gregory McKenna

**Tuesday, March 14, 2017, 8:00 am – 11:00 am**

Session E10: Focus Session: Polymer Nanocomposites Related to Optical and Plasmonic Properties

Sponsoring Units: DPOLY

Chair: Gholiang Liu, Virginia Tech

Room: 269

Tuesday, March 14, 2017 8:00AM - 8:12AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:12AM - 8:24AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:24AM - 8:36AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:36AM - 8:48AM	E10.00004: Low Intensity Post Process Tuning of Optical Properties of Polymer-Plasmonic Nanoparticle Hybrids Clare Mahoney , Kyoungweon Park , Richard Vaia
Tuesday, March 14, 2017 8:48AM - 9:00AM	E10.00005: Probing polymer heat transport and dynamics via photothermal heating from metal nanoparticles Laura Clarke , Gabriel Firestone , Jason Bochinski
Tuesday, March 14, 2017 9:00AM - 9:12AM	E10.00006: Precisely Size-Tunable Magnetic/Plasmonic Core/Shell Nanoparticles with Controlled Optical Properties. Zhiqun Lin , Beibei Jiang , Xinchang Pang , Bo Li
Tuesday, March 14, 2017 9:12AM - 9:24AM	E10.00007: Thermal and Photo Actuators Based on Temperature-Responsive Hydrogel and Nanocomposites Ying Zhou , Adam Hauser , Mark Kuzyk , Ryan Hayward
Tuesday, March 14, 2017 9:24AM - 9:36AM	E10.00008: Determining heat loss from the surface of polymer films via modeling of experimental fluorescence thermometry Gabriel Firestone , Jason Bochinski , Jeffrey Meth , Laura Clarke
Tuesday, March 14, 2017 9:36AM - 9:48AM	E10.00009: Sensitivity of plasmonic metal nanoparticles and their potential in plasmonic polymer nanocomposites Assad Khan , Guoliang Liu
Tuesday, March 14, 2017 9:48AM - 10:24AM	E10.00010: Self-Assembly of Nanoparticles and Origin of Life <b>Invited Speaker:</b> Nicholas Kotov
Tuesday, March 14, 2017 10:24AM - 10:36AM	E10.00011: Plasmonic nanoparticles as sensors to probe the kinetics of polymer brush formation on two-dimensional nanoparticles Assad Khan , Guoliang Liu
Tuesday, March 14, 2017 10:36AM - 10:48AM	E10.00012: Polymer Single Crystal Directed Nanoparticle Assembly Shan Mei , Hao Qi , Tian Zhou , Christopher Li
Tuesday, March 14, 2017 10:48AM - 11:00AM	E10.00013: Interfacially Optimized, High Energy Density Nanoparticle-Polymer Composites for Capacitive Energy Storage Joshua Shipman , Brian Riggs , Sijun Luo , Shiva Adireddy , Douglas Chrisey

**Tuesday, March 14, 2017, 8:00 am – 11:00 am**

Session E11: Focus Session: Organic Electronics - Applied Transport

Sponsoring Units: DPOLY DMP

Chair: Elizabeth von Hauff, Vrije University Amsterdam

Room: 270

Tuesday, March 14, 2017 8:00AM - 8:12AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:12AM - 8:24AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:24AM - 8:36AM	Polymer Physics Prize Break
Tuesday, March 14, 2017 8:36AM - 9:12AM	E11.00004: Mechanisms of transport and electron transfer at conductive polymer/liquid interfaces <b>Invited Speaker:</b> Erin Ratcliff
Tuesday, March 14, 2017 9:12AM - 9:24AM	E11.00005: Electrochemical Activation of Radical Polymers for Transparent, Ambipolar Organic Transistors Seung Hyun Sung , Bryan Boudouris
Tuesday, March 14, 2017 9:24AM - 9:36AM	E11.00006: A 2D nanowire network of conjugated polymers and small molecules for sensitive and discriminative biochemical detection Weiguo Huang , Ryan Hayward
Tuesday, March 14, 2017 9:36AM - 9:48AM	E11.00007: Multilayer polymer electrets and their effects in organic electronics I Evan Plunkett , Olivia Alley , Tejaswini Kale , Qingyang Zhang , Brian Kirby , Daniel Reich , Howard Katz
Tuesday, March 14, 2017 9:48AM - 10:00AM	E11.00008: Strain-stabilized organic semiconductor thin films leads to mobility enhancement Yang Li , Jing Wang , Detlef-M. Smilgies , Richard Sun , Randall Headrick
Tuesday, March 14, 2017 10:00AM - 10:12AM	E11.00009: Understanding polymorph accessibility in molecular semiconductor thin films Geoffrey Purdum , Thomas Gessner , Chao Wu , R. Thomas Weitz , Yueh-Lin Loo
Tuesday, March 14, 2017 10:12AM - 10:24AM	E11.00010: Bias stress in PDI-CN2 and P3HT studied with Kelvin Probe Force Microscopy Minxuan Cao , Jason Moscatello , Chloe Castaneda , Binglan Xue , Ozlem Usluer , Alejandro Briseno , Katherine Aidala
Tuesday, March 14, 2017 10:24AM - 10:36AM	E11.00011: Elucidating the Impact of the Full Molecular Weight Distribution on Charge Transport in Semiconducting Polymers Kaichen Gu , Steven Xiao , Jonathan Onorato , Christine Luscombe , Yueh-Lin Loo
Tuesday, March 14, 2017 10:36AM - 10:48AM	E11.00012: Carrier injection of electrons and holes by nanostructure surface control in field effect transistors Katsumi Tanigaki , Thangavel Kanagasekaran , Hidekazu Shimotani
Tuesday, March 14, 2017 10:48AM - 11:00AM	E11.00013: Impact of the air gap in nanowire array transistors Jeffrey Mativetsky , Tong Yang , Jeremy Mehta

**Tuesday, March 14, 2017, 8:00 am – 11:00 am**

Session E21: Invited Session: Polymer Physics Prize

Sponsoring Units: DPOLY

Chair: Juan de Pablo, University of Chicago

Room: *Hall I-1*

Tuesday, March 14, 2017 8:00AM - 8:36AM	E21.00001: Polymer Physics Prize Talk <b>Invited Speaker:</b> Monica Olvera De La Cruz
Tuesday, March 14, 2017 8:36AM - 9:12AM	E21.00002: Emerging Insights into Directed Assembly: Taking Examples from Nature to Design Synthetic Processes <b>Invited Speaker:</b> Juan J. de Pablo
Tuesday, March 14, 2017 9:12AM - 9:48AM	E21.00003: Programming the Assembly of Unnatural Materials with Nucleic Acids. <b>Invited Speaker:</b> Chad Mirkin
Tuesday, March 14, 2017 9:48AM - 10:24AM	E21.00004: Does Prescribed Randomness Hold the Key to Interface Synthetic and Natural Systems? <b>Invited Speaker:</b> Ting Xu
Tuesday, March 14, 2017 10:24AM - 11:00AM	E21.00005: Integration of Covalent and Supramolecular Polymers <b>Invited Speaker:</b> Samuel Stupp

## Tuesday, March 14, 2017, 11:15 am – 2:15 pm

Session F5: Focus Session: Physics at Bio-Nano Interface II

Sponsoring Units: DBIO DPOLY

Chair: Binquan Luan, IBM T. J. Watson Research Center

Room: 264

Tuesday, March 14, 2017 11:15AM - 11:51AM	F5.00001: Large Scale Molecular Simulation of Nanoparticle-Biomolecule Interactions and their Implications in Nanomedicine <b>Invited Speaker:</b> Ruhong Zhou
Tuesday, March 14, 2017 11:51AM - 12:03PM	F5.00002: Heat generation and nanoscale thermal transport in thermo-magnetic genetic cellular stimulation Rahul Munshi , Idoia Castellanos-Rubio , Arnd Pralle
Tuesday, March 14, 2017 12:03PM - 12:15PM	F5.00003: Nano-plumbing with two-dimensional metamaterials Saroj Dangi , Robert Riehn
Tuesday, March 14, 2017 12:15PM - 12:27PM	F5.00004: Theory of Passive Polymer Translocation Through Amphiphilic Membranes Marco Werner , Jasper Bathmann , Vladimir Baulin , Jens-Uwe Sommer
Tuesday, March 14, 2017 12:27PM - 12:39PM	F5.00005: Nanopore detection of DNA molecules in crowded neutral polymer solutions Rajesh Kumar Sharma , Liang Dai , Patrick Doyle , Slaven Garaj
Tuesday, March 14, 2017 12:39PM - 12:51PM	F5.00006: Confinement Effect on Structure and Elasticity of Proteins Interfacing Polymers Haoyu Wang , Pinar Akcora
Tuesday, March 14, 2017 12:51PM - 1:03PM	F5.00007: Dehydration as a Universal Mechanism for Ion Selectivity in Graphene and Other Atomically Thin Pores Subin Sahu , Massimiliano Di Ventra , Michael Zwolak
Tuesday, March 14, 2017 1:03PM - 1:15PM	F5.00008: Mesophase Assembly of Nanoscale Prisms Ziwei Wang , Zihao Ou , Qian Chen , Erik Luijten
Tuesday, March 14, 2017 1:15PM - 1:27PM	F5.00009: Nano-assays for the detection of circulating biomarkers and their interaction dynamics Loredana Casalis , Pietro Parisse , Elena Ambrosetti
Tuesday, March 14, 2017 1:27PM - 1:39PM	F5.00010: Hierarchical organization of butterfly gyroid nanostructures provide a time-frozen glimpse of intracellular membrane development Bodo Wilts , Benjamin Winter , Michael Klatt , Benjamin Butz , Michael Fischer , Stephen Kelly , Erdmann Spieker , Ullrich Steiner , Gerd Schroeder-Turk
Tuesday, March 14, 2017 1:39PM - 1:51PM	F5.00011: Unexpected Pinhole-shaped-defects in an Ultra-low-noise Solid-state Nanopore: Generation Mechanism and Prevention Methods Kazuma Matsui , Yusuke Goto , Itaru Yanagi , Yoshimitsu Yanagawa , Yu Ishige , Ken-ichi Takeda
Tuesday, March 14, 2017 1:51PM - 2:03PM	F5.00012: Modeling Adsorption Based Filters (Bio-remediation of Heavy Metal Contaminated Water) Chris McCarthy
Tuesday, March 14, 2017 2:03PM - 2:15PM	F5.00013: Kinetically controlled transition from disordered aggregates to ordered lattices of a computationally designed peptide sequence. Yu Tian , Huixi Zhang , Kristi Kiick , Jeffrey Saven , Darrin Pochan

## Tuesday, March 14, 2017, 11:15 am – 2:15 pm

Session F6: The Structure and Dynamics of Confined Biopolymers

Sponsoring Units: DBIO DPOLY

Chair: Greg Morrison, University of Houston

Room: 265

Tuesday, March 14, 2017 11:15AM - 11:27AM	F6.00001: Polymer Crowding in Confined Polymer-Nanoparticle Mixtures Wyatt J. Davis , Alan R. Denton
Tuesday, March 14, 2017 11:27AM - 11:39AM	F6.00002: Macromolecular crowding effects on pressure-induced protein folding/unfolding Andrei G. Gasic , Dirar Hmouz , Margaret S. Cheung
Tuesday, March 14, 2017 11:39AM - 11:51AM	F6.00003: Translocation dynamics of pre-packaged polymers Chandra Bergmann , Ajay Gopinathan
Tuesday, March 14, 2017 11:51AM - 12:27PM	F6.00004: Confined wormlike chains in external fields <b>Invited Speaker:</b> Greg Morrison
Tuesday, March 14, 2017 12:27PM - 12:39PM	F6.00005: Probing the Miscibility Phase Space of Two Nanochannel-Confined DNA Molecules Ahmed Khorshid , Walter Reisner
Tuesday, March 14, 2017 12:39PM - 12:51PM	F6.00006: Wall Depletion Length of a Channel-Confined Polymer Guo Kang Cheong , Xiaolan Li , Kevin Dorfman
Tuesday, March 14, 2017 12:51PM - 1:03PM	F6.00007: Manipulating and Visualizing Molecular Interactions in Customized Nanoscale Spaces Francis Stabile , Gil Henkin , Daniel Berard , Marjan Shayegan , Jason Leith , Sabrina Leslie
Tuesday, March 14, 2017 1:03PM - 1:15PM	F6.00008: Brownian diffusion of single walled carbon nanotubes in highly confined rock-like porous media~ Zhao Tang , Shannon Eichmann , Frederick MacKintosh , Matteo Pasquali
Tuesday, March 14, 2017 1:15PM - 1:27PM	F6.00009: Formatting biopolymers using adjustable nanoconfinement Daniel Berard , Marjan Shayegan , Francois Michaud , Gil Henkin , Shane Scott , Sabrina Leslie
Tuesday, March 14, 2017 1:27PM - 1:39PM	F6.00010: Overlap free energy of polymers under cylindrical confinement James Polson , Aidan Tremblett , Deanna Kerry
Tuesday, March 14, 2017 1:39PM - 1:51PM	F6.00011: Thermodynamics of helix-coil transitions of polyalanine in open carbon nanotubes. Dylan Suvlu , Seneviratne Samaratunga , Dave Thirumalai , Jayendran Rasaiah
Tuesday, March 14, 2017 1:51PM - 2:03PM	F6.00012: Phase separation and the formation of the pyrenoid, a carbon-fixing organelle Bin Xu , Elizabeth Freeman Rosenzweig , Luke Mackinder , Martin Jonikas , Ned S. Wingreen
Tuesday, March 14, 2017 2:03PM - 2:15PM	F6.00013: Numerical modeling of reaction diffusion transport into a core-shell geometry Amelia A. Brown , Scott P. Beckman

**Tuesday, March 14, 2017, 11:15 am – 2:15 pm**

Session F9: Focus Session: Multimodal Characterization of Soft Materials in Complex Environments II

Sponsoring Units: DPOLY

Chair: Matthew Tirrell, University of Chicago

Room: 268

Tuesday, March 14, 2017 11:15AM - 11:51AM	F9.00001: Three dimensional characterization of polymer nanostructures through an integrated scattering and modeling approach <b>Invited Speaker:</b> Manolis Doxastakis
Tuesday, March 14, 2017 11:51AM - 12:03PM	F9.00002: Three-Dimensional Characterization of Block Copolymers using Molecular Simulation and Small-Angle X-ray Scattering Alec Bowen , Manolis Doxastakis , Gurdaman Khaira , Paul Nealey , Juan de Pablo
Tuesday, March 14, 2017 12:03PM - 12:15PM	F9.00003: Characterizing Molecular Orientation with Polarized Resonant Critical Dimension Small Angle X-Ray Scattering Christopher Liman , Daniel Sunday , Hyun Wook Ro , Lee Richter , Thom Germer , R. Joseph Kline
Tuesday, March 14, 2017 12:15PM - 12:27PM	F9.00004: Functional Group Depth Profiling with Resonant Soft X-ray Reflectivity Daniel Sunday , Edwin P. Chan , Sara V. Orski , Chris M. Stafford
Tuesday, March 14, 2017 12:27PM - 12:39PM	F9.00005: Polarization effect in resonant soft X-ray scattering study of helical liquid crystal phases. Chenhui Zhu , Miroslaw Salamonczyk , Anthony Young , Cheng Wang , Alexander Hexemer , Jim Gleeson , Antal Jakli , Sam Sprunt , Michael Tuchband , Min Shuai , Joseph MacLennan , David Walba , Noel Clark , Ewa Grecka , Damian Pocięcha , Natasa Vaupotic
Tuesday, March 14, 2017 12:39PM - 12:51PM	F9.00006: Resonant Soft X-ray Scattering as a Powerful Probe of Buried Polymer Interfaces Wei Chen , Zhang Jiang , Matthew Tirrell
Tuesday, March 14, 2017 12:51PM - 1:03PM	F9.00007: Chain Conformation of Phosphorycholine-based Zwitterionic Polymer Brushes in Aqueous Solutions Jun Mao , Jing Yu , Sungsik Lee , Guangcui Yuan , Sushil Satija , Wei Chen , Matthew Tirrell
Tuesday, March 14, 2017 1:03PM - 1:15PM	F9.00008: Resonant Soft X-Ray Scattering for the Multimodal Operando Characterization of Proton Exchange Membranes Isvar Cordova , Gregory Su , David Kilcoyne , Ahmet Kusoglu , Adam Weber , Cheng Wang
Tuesday, March 14, 2017 1:15PM - 1:27PM	F9.00009: Gel Phase Formation in Dilute Triblock Copolyelectrolyte Complexes Samanvaya Srivastava , Marat Andreev , Vivek Prabhu , Juan de Pablo , Matthew Tirrell
Tuesday, March 14, 2017 1:27PM - 1:39PM	F9.00010: Experimentally Determined Polyelectrolyte Complexation Phase Diagrams Lu Li , Samanvaya Srivastava , Matthew Tirrell
Tuesday, March 14, 2017 1:39PM - 1:51PM	F9.00011: Molecular Exchange Kinetics in Polyelectrolyte Complex Micelles Hao Wu , Samanvaya Srivastava , Jeff Ting , Matthew Tirrell

Tuesday, March 14, 2017  
1:51PM - 2:03PM

F9.00012: Hierarchical structure and dynamics of oligocarbonate-  
functionalized PEG block copolymer gels

Vivek Prabhu , Guangmin Wei , Samim Ali , Shrinivas  
Venkataraman , Yi Yan Yang , James Hedrick

Tuesday, March 14, 2017  
2:03PM - 2:15PM

F9.00013: Measuring Lithium Dendritic Growth in Polymer  
Electrolytes

Yuping He , Gregory Downing , Howard Wang



**Tuesday, March 14, 2017, 11:15 am – 2:15 pm**

Session F10: Ion Containing Polymers - The Role of Structure and Dynamics I

Sponsoring Units: DPOLY GSNP

Chair: Thomas Epps III, University of Delaware

Room: 269

Tuesday, March 14, 2017 11:15AM - 11:27AM	F10.00001: Lyotropic Liquid Crystal Mesophases as a Platform for Understanding Proton Transfer in Hydrated Polymer Membranes Grayson Jackson , Dominic Perroni , Mahesh Mahanthappa
Tuesday, March 14, 2017 11:27AM - 11:39AM	F10.00002: Electrostatic Correlations and the Polyelectrolyte Self Energy Kevin Shen , Zhen-Gang Wang
Tuesday, March 14, 2017 11:39AM - 11:51AM	F10.00003: Concentration Dependence of Ionic Correlation and Its Relation to Non-Ideality Umi Yamamoto , Zhen-Gang Wang
Tuesday, March 14, 2017 11:51AM - 12:03PM	F10.00004: Phase behavior of acid-bearing block copolymers containing ionic additives Ha Young Jung , Moon Jeong Park
Tuesday, March 14, 2017 12:03PM - 12:15PM	F10.00005: Molecular dynamics simulation of low dielectric constant polymer electrolytes Bill Wheatle , Nathaniel Lynd , Venkat Ganesan
Tuesday, March 14, 2017 12:15PM - 12:27PM	F10.00006: Probing the Electromechanical Response Mechanism of Ionic Block Copolymers Jason Dugger , Mingtao Chen , Timothy Long , Yao Fu , Rajeev Kumar , Bradley Lokitz , James Browning
Tuesday, March 14, 2017 12:27PM - 1:03PM	F10.00007: New Polymer Structures for Anion Exchange Membranes <b>Invited Speaker:</b> Michael Hickner
Tuesday, March 14, 2017 1:03PM - 1:15PM	F10.00008: Insights on Li-TFSI diffusion in polyethylene oxide for battery applications Nicola Molinari , Jonathan Mailoa , Boris Kozinsky
Tuesday, March 14, 2017 1:15PM - 1:27PM	F10.00009: Role of Semi-Crystalline Morphology on Proton Conduction Pathways in a Precise Sulfonic Acid Polyethylene Edward B. Trigg , Manuel Marechal , Hakima Mendil-Jakani , Taylor W. Gaines , Demi E. Moed , Kenneth B. Wagener , Patrice Rannou , Mark J. Stevens , Karen I. Winey
Tuesday, March 14, 2017 1:27PM - 1:39PM	F10.00010: The effect of varying linker length on ion-transport properties in polymeric ionic liquids Jordan Keith , Santosh Mogurampelly , Bill Wheatle , Venkat Ganesan
Tuesday, March 14, 2017 1:39PM - 1:51PM	F10.00011: Ion Transport via Structural Relaxations in Polymerized Ionic Liquids Venkat Ganesan , Santosh Mogurampelly
Tuesday, March 14, 2017 1:51PM - 2:03PM	F10.00012: Understanding glass formation and ion transport in polymeric ionic liquids using computer simulations Tarak Patra , Junhong Yang , Yiz Cheng , David Simmons
Tuesday, March 14, 2017 2:03PM - 2:15PM	F10.00013: Ionic-Functionalized Polymeric Microporous Materials Shalini J. Rukmani , Thilanga Liyana-Arachchi , Kyle Hart , Coray Colina

**Tuesday, March 14, 2017, 11:15 am – 2:15 pm**

Session F11: Focus Session: Physics of Natural Polymers, Polymer Hybrids, and Assemblies

Sponsoring Units: DPOLY

Chair: Bradley Olsen, MIT

Room: 270

Tuesday, March 14, 2017 11:15AM - 11:27AM	F11.00001: Simulation Studies of LCST-like Phase Transitions in Elastin-like Polypeptides (ELPs) and Conjugates of ELP with Rigid Macromolecules Joshua Condon , Tyler Martin , Arthi Jayaraman
Tuesday, March 14, 2017 11:27AM - 11:39AM	F11.00002: Role of Hydrogen Bonding on Nonlinear Mechano-Optical Behavior of $\alpha$ -Phenylalanine-based Poly(ester urea)s. Keke Chen , Jiayi Yu , Gustavo Guzman , S. Shams Es-haghi , Matthew L. Becker , Miko Cakmak
Tuesday, March 14, 2017 11:39AM - 11:51AM	F11.00003: High Deformability, Particle Size Distribution and Hydration of Phytoglycogen Nanoparticles Benjamin Baylis , John Dutcher
Tuesday, March 14, 2017 11:51AM - 12:27PM	F11.00004: Self-Assembly and Responsiveness of Polypeptide-Based Star and Triblock Copolymers <b>Invited Speaker:</b> Daniel Savin
Tuesday, March 14, 2017 12:27PM - 12:39PM	F11.00005: Structure of Hydrophobically Modified Phytoglycogen Nanoparticles John Atkinson , Jonathan Nickels , John Dutcher , John Katsaras
Tuesday, March 14, 2017 12:39PM - 12:51PM	F11.00006: Rheology of Aqueous Dispersions of Phytoglycogen Nanoparticles Hurmiz Shamana , John Dutcher
Tuesday, March 14, 2017 12:51PM - 1:03PM	F11.00007: Equilibrium swelling, interstitial forces and water structuring in phytoglycogen nanoparticle films Michael Grossutti , Eric Bergmann , John Dutcher
Tuesday, March 14, 2017 1:03PM - 1:15PM	F11.00008: Tunable mechanical properties of green solid films based on deoxyribonucleic acids Hisao Matsuno , Yuma Morimitsu , Noboru Ohta , Hiroshi Sekiguchi , Atsushi Takahara , Keiji Tanaka
Tuesday, March 14, 2017 1:15PM - 1:27PM	F11.00009: Versatile Assemblies of Zwitterionic Giant Surfactants Toward Two-dimensional "Nano-disks". Stephen Cheng , Zhiwei Lin , Jian Sun , Wei Zhang
Tuesday, March 14, 2017 1:27PM - 1:39PM	F11.00010: Bioinspired Nanocellulose Based Hybrid Materials With Novel Interfacial Properties Sinan Keten
Tuesday, March 14, 2017 1:39PM - 1:51PM	F11.00011: Rapid Configurational Fluctuations in a Model of Methylcellulose Xiaolan Li , Kevin Dorfman
Tuesday, March 14, 2017 1:51PM - 2:03PM	F11.00012: Effect of cellulose nanocrystals on crystallization kinetics of polycaprolactone Kalman Migler , Debjani Roy , Anthony Kotula , Bharath Natarajan , Jeffrey Gilman , Douglas Fox
Tuesday, March 14, 2017 2:03PM - 2:15PM	F11.00013: Self-Renewing Microns-Thick Biopolymer Brush Made of Hyaluronan under Active Synthesis W. Wei , J. Washburn , P. Weigel , J.E. Curtis

**Tuesday, March 14, 2017, 11:15 am – 2:15 pm**

Session F18: Padden Award Symposium

Sponsoring Units: DPOLY

Chair: Darrin Pochan, University of Delaware

Room: 277

Tuesday, March 14, 2017 11:15AM - 11:27AM	F18.00001: Elastocapillarity in Soft Matter: From Wetting and Adhesion to Interface Reinforcement Zhen Cao , Andrey Dobrynin
Tuesday, March 14, 2017 11:27AM - 11:39AM	F18.00002: Light-responsive viscoelastic timescales in bio-inspired metal-coordinate supramolecular hydrogel mechanics Scott Grindy , Niels Holten-Andersen
Tuesday, March 14, 2017 11:39AM - 11:51AM	F18.00003: Morphology Control and Interfacial Activity Study of Semi-Crystalline Graft Copolymers Hyeong Jun Kim , Jin-Seong Kim , Youngkwon Kim , Ryan Hayward , Bumjoon Kim
Tuesday, March 14, 2017 11:51AM - 12:03PM	F18.00004: Study of the Air-Water Interfacial Behavior of Block Polymer Micelles: Toward Rational Design of Polymer Lung Surfactants Hyun Chang Kim , You-Yeon Won
Tuesday, March 14, 2017 12:03PM - 12:15PM	F18.00005: Large strain deformation behavior of polymeric gels in shear- and cavitation rheology Seyed Meysam Hashemnejad , Santanu Kundu
Tuesday, March 14, 2017 12:15PM - 12:27PM	F18.00006: Negative Transference Numbers in Polymer Electrolytes Danielle Pesko , Ksenia Timachova , Nitash Balsara
Tuesday, March 14, 2017 12:27PM - 12:39PM	F18.00007: Investigating Kinetic Pathways During Solvent Vapor Annealing with Soft Shear via In Situ Small-Angle Neutron Scattering Cameron Shelton , Ronald Jones , Thomas Epps
Tuesday, March 14, 2017 12:39PM - 12:51PM	F18.00008: Chain Folding Patterns of Semicrystalline Polymer Formed via Different Crystallization Pathways: Roles of Chain Network Shichen Yuan , Toshikazu Miyoshi
Tuesday, March 14, 2017 12:51PM - 1:03PM	F18.00009: Distinct Thermophysical and Interfacial Properties Associated with Low Molecular Weight Cyclic Polystyrene in Bulk and Confined States: T <sub>g</sub> and Fragility Lanhe Zhang , Ravinder Elupula , Scott Grayson , John Torkelson
Tuesday, March 14, 2017 1:03PM - 1:15PM	F18.00010: Effects of chain stiffness on the performance of conjugated polymers Wenlin Zhang , Enrique Gomez , Scott Milner
Tuesday, March 14, 2017 1:15PM - 1:27PM	F18.00011: Invariant fast surface diffusion on ultra-stable and aged molecular glasses Yue Zhang , Zahra Fakhraei

**Tuesday, March 14, 2017, 11:15 am – 2:15 pm**

Session F21: Invited Session: Polymer Rheology - Flexibility, Charge and Extensibility

Sponsoring Units: DPOLY

Chair: Vivek Sharma, University of Illinois at Chicago

Room: 281-282

Tuesday, March 14, 2017 11:15AM - 11:51AM	F21.00001: Linear Viscoelasticity of Ionic Polymers: Ionomers and Polyelectrolytes <b>Invited Speaker:</b> Ralph Colby
Tuesday, March 14, 2017 11:51AM - 12:27PM	F21.00002: Rheology of polyelectrolyte complex materials <b>Invited Speaker:</b> Matthew Tirrell
Tuesday, March 14, 2017 12:27PM - 1:03PM	F21.00003: Single polymer dynamics in semi-dilute unentangled and entangled solutions: from molecular conformation to normal stress <b>Invited Speaker:</b> Charles Schroeder
Tuesday, March 14, 2017 1:03PM - 1:39PM	F21.00004: Configurations and Dynamics of Semi-Flexible Polymers in Good and Poor Solvents <b>Invited Speaker:</b> Ronald Larson
Tuesday, March 14, 2017 1:39PM - 2:15PM	F21.00005: Flow of Polymeric Solutions: Instabilities & Microstructure <b>Invited Speaker:</b> Paulo Arratia

**Tuesday, March 14, 2017, 2:30 pm – 5:30 pm**

Session H6: Polymer Nanocomposites with Crystallizable Components and Fiber Reinforcement

Sponsoring Units: DPOLY

Chair: Praveen Agarwal, Dow Chemical, Inc.

Room: 265

Tuesday, March 14, 2017 2:30PM - 2:42PM	Dillon Medal Break
Tuesday, March 14, 2017 2:42PM - 2:54PM	Dillon Medal Break
Tuesday, March 14, 2017 2:54PM - 3:06PM	Dillon Medal Break
Tuesday, March 14, 2017 3:06PM - 3:18PM	H6.00004: Crystallization behavior of nanocomposites based on poly(L-lactide) and layered double hydroxides -- Unbiased determination of the rigid amorphous phases due to the crystals and the nanofiller. Andreas Schoenhals , Jing Leng , Andreas Wurm , Christoph Schick
Tuesday, March 14, 2017 3:18PM - 3:30PM	H6.00005: Crystallization in polymer nanocomposites Kyriakh Chrissopoulou , Helena Perivolari , Stefanos Leisch , Hellen Papananou , Spiros H. Anastasiadis
Tuesday, March 14, 2017 3:30PM - 3:42PM	H6.00006: Interfacial Effect on Confined Crystallization of Poly(ethylene oxide)/Silica Composites. Yunlan Su , Weiwei Zhao , Alejandro Müller , Xia Gao , Dujin Wang
Tuesday, March 14, 2017 3:42PM - 3:54PM	H6.00007: On the Isothermal Crystallization of PVDF-BaTiO <sub>3</sub> Nanocomposites Danielle Valdez , Dorina Chipara , James Hinthorne , Mircea Chipara
Tuesday, March 14, 2017 3:54PM - 4:06PM	H6.00008: Synthesis and characterization of gold nanoparticles in a self-assembled ionic liquid polymer nanocomposite Harsha Magurudeniya , Bryan Ringstrand , Katherine Jungjohann , Millicent Firestone
Tuesday, March 14, 2017 4:06PM - 4:18PM	H6.00009: Three dimensional visualization of voids in fiber reinforced composites using dual energy x-ray computed tomography Yasuhito Suzuki , Branden Kappes , Dylan Cousins , John Dorgan
Tuesday, March 14, 2017 4:18PM - 4:30PM	H6.00010: Biomimetic Thermo-Responsive Polymer Nano-Composites. Joao Maia , Shaghayegh Khani , Elvis Cudjoe , Stuart Rowan
Tuesday, March 14, 2017 4:30PM - 4:42PM	H6.00011: Solvent Evaporation Induced Assembly in Binary Mixtures of Nanoparticles Shengfeng Cheng , Yanfei Tang , Gary Grest
Tuesday, March 14, 2017 4:42PM - 4:54PM	H6.00012: Electrospinning of Polymer Blend and Core Shell Polymeric Structures Oscar J. Guerrero , Javier Macossay Torres , Servando A. Garza , Dorina Chipara , Mircea Chipara
Tuesday, March 14, 2017 4:54PM - 5:06PM	H6.00013: Physical or Chemical Aging of PLGA Electrospun Fibers Related to its Sequence Distribution shanshan xu , chenhong wang , bin xiao , charles han

Tuesday, March 14, 2017  
5:06PM - 5:18PM

H6.00014: Biocompatible, Tactic PMMA Blend Fibers: Exploring  
Stereocomplex Formation

Suying Wei , Tanusree Sarker , Jaishri Sharma , Yang Lu ,  
Ashwinin Kucknoor , Lauren Washburn , Evan Wujcik

Tuesday, March 14, 2017  
5:18PM - 5:30PM

H6.00015: Monte Carlo Simulation of Amyloid Protofibril  
Formation

Matthew S. Wilson , Guangjie Shi , Thomas W"ust , David P.  
Landau , Friederike Schmid

## Tuesday, March 14, 2017, 2:30 pm – 5:30 pm

### Session H9: Multimodal Characterization of Soft Materials in Complex Environments III

Sponsoring Units: DPOLY

Chair: Wei Chen, ANL

Room: 268

Tuesday, March 14, 2017 2:30PM - 2:42PM	Dillon Medal Break
Tuesday, March 14, 2017 2:42PM - 2:54PM	Dillon Medal Break
Tuesday, March 14, 2017 2:54PM - 3:06PM	Dillon Medal Break
Tuesday, March 14, 2017 3:06PM - 3:18PM	H9.00004: Structure and Dynamics of Polymer Grafted Nanocomposites During Solvent Sorption Eileen Buenning , Connor Bilchak , Christopher Durning , Brian Benicewicz , Sanat Kumar
Tuesday, March 14, 2017 3:18PM - 3:30PM	H9.00005: Gelation of Polymer-grafted $\text{SiO}_2$ Nanoparticle Colloid Studied with 20 us X-ray Photon Correlation Spectroscopy (XPCS) Qingteng Zhang , Eric Dufresne , Suresh Narayanan , Alec Sandy , Divya Bahadur , Subramanian Ramakrishnan , Piotr Maj , Pawel Grybos
Tuesday, March 14, 2017 3:30PM - 3:42PM	H9.00006: Confined relaxations of grafted polymer in solutions of linear polymer Ryan Poling-Skutvik , Ramanan Krishnamoorti , Jacinta Conrad
Tuesday, March 14, 2017 3:42PM - 3:54PM	H9.00007: Diffusion of Small Sticky Nanoparticles in a Polymer Melt: A Dynamic Light Scattering Study Bobby Carroll , Vera Bocharova , Shiwang Cheng , Umi Yamamoto , Alex Kisliuk , Ken Schweizer , Alexei Sokolov
Tuesday, March 14, 2017 3:54PM - 4:06PM	H9.00008: Investigating Block-Copolymer Micelle Dynamics for Tunable Cargo Delivery Xiuli Li , Bryce Kidd , Tyler Cooksey , Megan Robertson , Louis Madsen
Tuesday, March 14, 2017 4:06PM - 4:18PM	H9.00009: A novel generic method for size-selective purification of nanoparticles based on the critical Casimir effect Hongyu Guo , Gheorghe Stan , Yun Liu
Tuesday, March 14, 2017 4:18PM - 4:30PM	H9.00010: Branching, Chain Scission, and Solution Stability of Worm-Like Micelles. Greg Beaucage , Karsten Vogtt , Hanqui Jiang
Tuesday, March 14, 2017 4:30PM - 4:42PM	H9.00011: Thermodynamic control of star polymer architecture. Durgesh K. Rai , Gregory Beaucage , Kedar Ratkanthwar , Peter A. Beaucage , Ramnath Ramachandran , Nikos Hadjichristidis
Tuesday, March 14, 2017 4:42PM - 4:54PM	H9.00012: Quantification of Aggregate Topology in Fumed Silica Andrew Mulderig , Gregory Beaucage , Karsten Vogtt , Hanqui Jiang
Tuesday, March 14, 2017 4:54PM - 5:06PM	H9.00013: Revealing nanoparticle assembly under high pressure. Hongyou Fan
Tuesday, March 14, 2017 5:06PM - 5:18PM	H9.00014: Directed Self-Assembly of Lamellar Block Copolymers for High Energy Density Capacitors Alamgir Karim , Saumil Samant , Christopher Grabowski , Michael Durstock , Sushil Satija

Tuesday, March 14, 2017  
5:18PM - 5:30PM

H9.00015: Adenine-Functionalized Block Copolymers via RAFT  
polymerization  
Eunseol Kim , Avnish Kumar Mishra , K. L. Vincent Joseph , Jin  
Kon Kim



## Tuesday, March 14, 2017, 2:30 pm – 5:30 pm

Session H10: Focus Session: Physics of Polymer Surfaces and Interfaces I

Sponsoring Units: DPOLY GSOFIT

Chair: Julie Albert, Tulane University

Room: 269

Tuesday, March 14, 2017 2:30PM - 2:42PM	Dillon Medal Break
Tuesday, March 14, 2017 2:42PM - 2:54PM	Dillon Medal Break
Tuesday, March 14, 2017 2:54PM - 3:06PM	Dillon Medal Break
Tuesday, March 14, 2017 3:06PM - 3:18PM	H10.00004: Repulsive interactions between two polyelectrolyte networks Aykut Erbas , Monica Olvera de la Cruz
Tuesday, March 14, 2017 3:18PM - 3:30PM	H10.00005: Dynamic Surface Tension and Adsorption Kinetics of Polyelectrolyte Solutions Nikhila Parsi , Leidy N. Jimenez , Vivek Sharma
Tuesday, March 14, 2017 3:30PM - 3:42PM	H10.00006: First Contact: Adhesion Hysteresis in Soft Interfaces Kyle Schulze , Alexander Bennett , Yongliang Ni , Thomas Angelini , Greg Sawyer
Tuesday, March 14, 2017 3:42PM - 3:54PM	H10.00007: Exploring the Origin of Hysteretic Memory Behavior in Polyelectrolyte Brushes Vivek Yadav , Megan Robertson , Jacinta Conrad
Tuesday, March 14, 2017 3:54PM - 4:06PM	H10.00008: A Predictive Model for Icephobic Surfaces. Kevin Golovin
Tuesday, March 14, 2017 4:06PM - 4:18PM	H10.00009: Influence of Bulk PDMS Network Properties on Water Wettability Matthew Melillo , Edwin Walker , Zoe Klein , Kirill Efimenko , Jan Genzer
Tuesday, March 14, 2017 4:18PM - 4:54PM	H10.00010: Designing Durable Icephobic Surfaces <b>Invited Speaker:</b> Anish Tuteja
Tuesday, March 14, 2017 4:54PM - 5:06PM	H10.00011: Structural and dynamic heterogeneity of interfacial water on chemically modified polymer surfaces Selemon Bekele , Mesfin Tsige
Tuesday, March 14, 2017 5:06PM - 5:18PM	H10.00012: Multi-functional surfaces with controllable wettability and water adhesion Spiros H. Anastasiadis , Melani A. Frysalis , George Kenanakis , Georgia Kaklamani , Lampros Papoutsakis
Tuesday, March 14, 2017 5:18PM - 5:30P	H10.00013: Water adsorption on surface-modified cellulose nanocrystals Zonghui Wei , Robert Sinko , Sinan Keten , Erik Luijten

## Tuesday, March 14, 2017, 2:30 pm – 5:30 pm

Session H11: Focus Session: Organic Electronics - Organic Photovoltaics

Sponsoring Units: DPOLY DMP

Chair: Brian Collins, Washington State University

Room: 270

Tuesday, March 14, 2017 2:30PM - 2:42PM	Dillon Medal Break
Tuesday, March 14, 2017 2:42PM - 2:54PM	Dillon Medal Break
Tuesday, March 14, 2017 2:54PM - 3:06PM	Dillon Medal Break
Tuesday, March 14, 2017 3:06PM - 3:42PM	H11.00004: Charge transfer states for organic opto-electronics <b>Invited Speaker:</b> Koen Vandewal
Tuesday, March 14, 2017 3:42PM - 3:54PM	H11.00005: Origin of Non-Radiative Voltage Losses in Fullerene-Based Organic Solar Cells Johannes Benduhn , Kristofer Tvingstedt , Fortunato Piersimoni , Sascha Ullbrich , Dieter Neher , Donato Spoltore , Koen Vandewal
Tuesday, March 14, 2017 3:54PM - 4:06PM	H11.00006: Role of a pure acceptor phase on charge generation and recombination in BHJ solar cells Thomas Ferron , Matthew Waldrip , Michael Pope , Brian Collins
Tuesday, March 14, 2017 4:06PM - 4:18PM	H11.00007: Incorporating fluorinated moieties in fully conjugated donor-acceptor block copolymers Youngmin Lee , Qing Wang , Enrique D. Gomez
Tuesday, March 14, 2017 4:18PM - 4:54PM	H11.00008: Charge generation in polymer:fullerene and oligomer:fullerene blends for organic photovoltaics <b>Invited Speaker:</b> Natalie Banerji
Tuesday, March 14, 2017 4:54PM - 5:06PM	H11.00009: Energetic disorder induced ultrahigh open circuit voltage loss at low temperatures in organic bulk heterojunction solar cells Wenchao Yang , Yongsong Luo , Yao Yao
Tuesday, March 14, 2017 5:06PM - 5:18PM	H11.00010: Proficient ternary blend organic photovoltaic device with PC <sub>61</sub> BM as an interface modulator SHASHI SRIVASTAVA , SAMARENDRA SINGH
Tuesday, March 14, 2017 5:18PM - 5:30PM	H11.00011: Hybrid ZnO-organic semiconductor interfaces in photodetectors: a comparison of two near-infrared donor-acceptor copolymers Alec Pickett , Abhisek Mohapatra , Amrit Laudari , Satish Patil , Suchismita Guha

## Tuesday, March 14, 2017, 2:30 pm – 5:30 pm

Session H18: Focus Session: Function from Geometry: 3D Printing to Programmable Matter I

Sponsoring Units: GSOFD DPOLY GSNP FIAP

Chair: Pierre-Thomas Brun, MIT

Room: 277

Tuesday, March 14, 2017 2:30PM - 3:06PM	H18.00001: Making Faces: Thin Nematic Elastomer Sheets in Theory and in Practice <b>Invited Speaker:</b> Hillel Aharoni
Tuesday, March 14, 2017 3:06PM - 3:18PM	H18.00002: Molecular dynamics of reversible self-healing materials Ian Madden , Erik Luijten
Tuesday, March 14, 2017 3:18PM - 3:30PM	H18.00003: The resolution limits of voxelated liquid crystal networks and elastomers Benjamin Kowalski , Timothy White
Tuesday, March 14, 2017 3:30PM - 3:42PM	H18.00004: Additive lattice kirigami Toen Castle , Daniel M. Sussman , Mike Tanis , Randall D. Kamien
Tuesday, March 14, 2017 3:42PM - 3:54PM	H18.00005: Surface Design Based on Discrete Conformal Transformations Carlos Duque , Christian Santangelo , Etienne Vouga
Tuesday, March 14, 2017 3:54PM - 4:06PM	H18.00006: Localizing linear and nonlinear elastic responses in liquid crystal elastomers Anesia D. Auguste , Benjamin A. Kowalski , Timothy J. White
Tuesday, March 14, 2017 4:06PM - 4:18PM	H18.00007: Large deflections of a hydrogel rod caused by internal phase separation Michael S. Dimitriyev , Paul M. Goldbart , Ya-Wen Chang , Anton Souslov , Alberto Fernandez-Nieves
Tuesday, March 14, 2017 4:18PM - 4:30PM	H18.00008: Shape Changing Thin Films Powered by DNA Strand Exchange Tae Soup Shim , Zaki Estephan , Zhaoxia Qian , David Chenoweth , Daeyeon Lee , So-Jung Park , John Crocker
Tuesday, March 14, 2017 4:30PM - 4:42PM	H18.00009: Baromorphs Emmanuel Siefert , José Bico , Etienne Reyssat , Benoit Roman
Tuesday, March 14, 2017 4:42PM - 4:54PM	H18.00010: Growth and Pattern Formation in Thin Elastic Shells Salem Al Mosleh , Christian Santangelo
Tuesday, March 14, 2017 4:54PM - 5:06PM	H18.00011: Rational design of reconfigurable prismatic architected materials. Katia Bertoldi , Johannes Overvelde , Chuck Hoberman , James Weaver
Tuesday, March 14, 2017 5:06PM - 5:18PM	H18.00012: Exploring the limits of multifunctionality in adaptable networks: comparing flow networks to mechanical metamaterials Jason W. Rocks , Henrik Ronellenfitsch , Eleni Katifori , Andrea J. Liu , Sidney R. Nagel
Tuesday, March 14, 2017 5:18PM - 5:30PM	H18.00013: Experiments on Hyperuniformity induced by Random Organization Sam Wilken , Rodrigo Guerra , David Pine , Paul Chaikin

## Tuesday, March 14, 2017, 2:30 pm – 5:30 pm

Session H24: Focus Session: Dillon Medal Symposium

Sponsoring Units: DPOLY

Chair: Timothy Lodge, University of Minnesota

Room: *New Orleans Theater C*

Tuesday, March 14, 2017 2:30PM - 3:06PM	H24.00001: Interplay of Transport and Morphology in Nanostructured Ion-Containing Polymers <b>Invited Speaker:</b> Moon Jeong Park
Tuesday, March 14, 2017 3:06PM - 3:18PM	H24.00002: Toward Atomic-Resolution Electron Microscopy of Polymer Crystals Nitash Balsara , Xi Jiang , Douglass Greer , Andrew Minor , Kenneth Downing , Ronald Zuckermann
Tuesday, March 14, 2017 3:18PM - 3:30PM	H24.00003: Conjugated block copolymers as model materials to examine charge transfer in donor-acceptor systems Enrique Gomez , Melissa Aplan , Youngmin Lee
Tuesday, March 14, 2017 3:30PM - 3:42PM	H24.00004: Unusual Semi-Crystalline Morphology of a Precise Carboxylic Acid Polyethylene Karen Winey , Edward Trigg , Robert Middleton
Tuesday, March 14, 2017 3:42PM - 3:54PM	H24.00005: Aqueous Lyotropic Liquid Crystalline Frank-Kasper Mesophases Mahesh Mahanthappa , Sung A Kim , Kyeong-Jun Jeong , Arun Yethiraj
Tuesday, March 14, 2017 3:54PM - 4:06PM	H24.00006: The dependence of chain exchange in copolymer micelles on the chi parameter Timothy Lodge , Yuanchi Ma
Tuesday, March 14, 2017 4:06PM - 4:18PM	H24.00007: Disordered bicontinuous nanostructures from randomly end-linked copolymer networks Ryan Hayward
Tuesday, March 14, 2017 4:18PM - 4:30PM	H24.00008: Directing self-assembly of soft mesophases using orthogonal stimuli -- effective routes to biaxial control Chinedum Osuji
Tuesday, March 14, 2017 4:30PM - 4:42PM	H24.00009: Anisotropic Proton Conductivity in Thin Nafion Films Keiji Tanaka , Yudai Ogata , Norifumi Yamada , Daisuke Kawaguchi
Tuesday, March 14, 2017 4:42PM - 4:54PM	H24.00010: Functional Materials from Polymeric Ionic Liquids Rachel Segalman , Gabriel Sanoja , Nicole Michenfelder-Schauser , Samir Mitragotri , Ram Seshadri
Tuesday, March 14, 2017 4:54PM - 5:06PM	H24.00011: Nanoparticlization and Morphological Change of Sulfur- and Fluorine-Containing Block Copolymers in Organic Solvent Kookheon Char , Jeewoo Lim , Yunshik Cho , Youngjin Kim
Tuesday, March 14, 2017 5:06PM - 5:18PM	H24.00012: Polyampholyte Ionomer Networks Kevin Cavicchi , Guodong Deng
Tuesday, March 14, 2017 5:18PM - 5:30PM	H24.00013: Ionomers for Ion-Conducting Energy Materials Ralph Colby

**Tuesday, March 14, 2017, 5:45 pm – 6:45 pm**

Session J21: DPOLY Business Meeting  
Sponsoring Units: DPOLY  
Room: 281-282

Tuesday, March 14, 2017  
5:45PM - 6:45PM

J21.00001: DPOLY Business Meeting

**Tuesday, March 14, 2017, 6:45 pm – 7:45 pm**

Session J51: NSF Question and Answer Session on Polymers and Soft Matter  
Sponsoring Units: DPOLY  
Room: 281-282

Tuesday, March 14, 2017  
6:45PM - 7:45PM

J51.00001: NSF Question and Answer Session on Polymers and  
Soft Matter

**Wednesday, March 15, 2017, 8:00 am – 11:00 am**

Session K6: Focus Session: Physics of Proteins Association and Recognition I

Sponsoring Units: DBIO DPOLY

Chair: Loren Hough, University of Colorado

Room: 265

Wednesday, March 15, 2017 8:00AM - 8:12AM	K6.00001: Statistical Mechanics of Protein Multimerization and Aggregation Kyle Hagner , Sima Setayeshgar , Michael Lynch
Wednesday, March 15, 2017 8:12AM - 8:24AM	K6.00002: Mechanistic pathways of recognition of a solvent-inaccessible cavity of protein by a ligand Jagannath Mondal , Subhendu Pandit , Bhupendra Dandekar , Pramodh Vallurupalli
Wednesday, March 15, 2017 8:24AM - 8:36AM	K6.00003: Polymorphism of Protein Aggregation: From Amyloid Fibrils to Crystallization Mohammad S Safari , Jacinta C Conrad , Peter G Vekilov
Wednesday, March 15, 2017 8:36AM - 9:12AM	K6.00004: Rate Constants and Mechanisms of Protein-Ligand Binding <b>Invited Speaker:</b> Huan-Xiang Zhou
Wednesday, March 15, 2017 9:12AM - 9:24AM	K6.00005: Protein Folding and Unfolding Dynamics from Direct Energy Landscape Sampling Simulations Nathan Walter , Yang Zhang
Wednesday, March 15, 2017 9:24AM - 9:36AM	K6.00006: pH-dependent Conformational Reorganization due to Ionizable Residues in a Hydrophobic Protein Interior. Ankita Sarkar , Pancham Lal Gupta , Adrian Roitberg
Wednesday, March 15, 2017 9:36AM - 9:48AM	K6.00007: Mechanical function of proteins constrains sequence space to a low dimension: a simple physical model. Tsvi Tlusty , Albert Libchaber , Jean-Pierre Eckmann
Wednesday, March 15, 2017 9:48AM - 10:00AM	K6.00008: Computing the binding affinity of $Zn^{2+}$ in human carbonic anhydrase II on the basis of all-atom molecular dynamics simulations. Thierry Wambo , Roberto Rodriguez
Wednesday, March 15, 2017 10:00AM - 10:12AM	K6.00009: In-silico stress-strain measurements on beta-solenoid protein lattice Rachel Baarda , Daniel Cox
Wednesday, March 15, 2017 10:12AM - 10:24AM	K6.00010: Single Molecule Dynamics in a Model Glycocalyx Jan Scrimgeour , Dylan Young
Wednesday, March 15, 2017 10:24AM - 10:36AM	K6.00011: Single molecule force spectroscopy reveals the adhesion mechanism of hydrophobins Yi Cao , Bing Li , Meng Qin , Wei Wang
Wednesday, March 15, 2017 10:36AM - 10:48AM	K6.00012: New Model for Deep Indentation by Spherical AFM probes Kiarash Rahmani Eliato , Bryant Doss , Harpinder Saini , Mehdi Nikkhah , Robert Ros

**Wednesday, March 15, 2017, 8:00 am – 11:00 am**

Session K9: Focus Session: Glass Formation and Dynamics in Nanostructured Polymers and Glasses II

Sponsoring Units: DPOLY GSOF T GSNP

Chair: David Simmons, University of Akron

Room: 268

Wednesday, March 15, 2017 8:00AM - 8:12AM	K9.00001: The glass transition of supported and unsupported polymer nanorods using Flash differential scanning calorimetry Madhusudhan Reddy Pallaka , Sindee Simon
Wednesday, March 15, 2017 8:12AM - 8:24AM	K9.00002: Cloaking the Effects of Strongly Interacting Substrates in Thin Polymer Films Wengang Zhang , Jack Douglas , Francis Starr
Wednesday, March 15, 2017 8:24AM - 8:36AM	K9.00003: Local Glass Transition Temperature Tg(z) Profiles of Polystyrene Next to End-Grafted Substrates Xinru Huang , Connie Roth
Wednesday, March 15, 2017 8:36AM - 8:48AM	K9.00004: Theory of Cooperative Activated Structural Relaxation in Polymer Nanocomposites Composed of Small and Sticky Particles Shijie Xie , Kenneth Schweizer
Wednesday, March 15, 2017 8:48AM - 9:00AM	K9.00005: Impact of substrate roughness on the segmental mobility of thin polymer films. Anna Panagopoulou , Simone Napolitano
Wednesday, March 15, 2017 9:00AM - 9:12AM	K9.00006: Interfacial Energy and Glass Temperature of Polymers Confined to Nanoporous Alumina George Floudas , Stelios Alexandris , Yang Yao , Periklis Papadopoulos , Martin Steinhart , Hans-Juergen Butt
Wednesday, March 15, 2017 9:12AM - 9:24AM	K9.00007: Thin films of linear polymer exhibiting no Tg-confinement effect: Correlation with low bulk fragility John Torkelson , Lawrence Chen
Wednesday, March 15, 2017 9:24AM - 9:36AM	K9.00008: Compositional Heterogeneity and the Role of Polystyrene Molecular Weight on the Dynamic Response of Poly(vinyl methyl ether) in Thin Film Polystyrene/Poly(vinyl methyl ether) Blends Ravi Sharma , Ban Dong , Peter Green
Wednesday, March 15, 2017 9:36AM - 9:48AM	K9.00009: Prediction of the Local Glass Transition Temperature of Polystyrene and Poly(Methyl Methacrylate) Bilayer Thin Films David Hsu , Wenjie Xia , Jake Song , Sinan Keten
Wednesday, March 15, 2017 9:48AM - 10:00AM	K9.00010: Local dynamics of glass-forming polystyrene thin films from atomistic simulation Yuxing Zhou , Scott Milner
Wednesday, March 15, 2017 10:00AM - 10:12AM	K9.00011: Influence of Finite System Size, Cooling Rate, and Chain Interpenetration on the Local Glass Transition Temperature Tg(z) Profile in Polystyrene Next to Different Polymers Roman Baglay , Connie Roth
Wednesday, March 15, 2017 10:12AM - 10:24AM	K9.00012: Location-Specific Measurements of The Glass Transition Temperature in Fluorescently Labeled Diblock Copolymers Dane Christie , Richard Register , Rodney Priestley
Wednesday, March 15, 2017 10:24AM - 11:00AM	K9.00013: Theory of Spatially Heterogeneous Activated Relaxation, Vitrification and Elasticity in Confined Polymer and Molecular Liquids <b>Invited Speaker:</b> Kenneth Schweizer

**Wednesday, March 15, 2017, 8:00 am – 11:00 am**

Session K10: Focus Session: Ion Containing Polymers - The Role of Structure and Dynamics II

Sponsoring Units: DPOLY GSNP

Chair: Christopher Soles, NIST

Room: 269

Wednesday, March 15, 2017 8:00AM - 8:36AM	K10.00001: Structure and Transport in Ion-containing Polymers under Confinement: Nafion Thin Films <b>Invited Speaker:</b> Christopher Stafford , Bradley Frieberg , Gery Stafford , Eric Davis , Kirt Page , Christopher Soles
Wednesday, March 15, 2017 8:36AM - 8:48AM	K10.00002: Water transport, free volume, and polymer dynamics in crosslinked polymer networks Bradley Frieberg , Christopher Soles
Wednesday, March 15, 2017 8:48AM - 9:00AM	K10.00003: A Comparison of Water Diffusion in Polymer Based Fuel Cell and Reverse Osmosis Membrane Materials Christopher Soles , Bradley Frieberg , Jacob Tarver , Madhusudan Tyagi , Cheol Jeong , Edwin Chan , Christopher Stafford
Wednesday, March 15, 2017 9:00AM - 9:12AM	K10.00004: Charge transport and glassy dynamics in poly(ethylene oxide) based phosphonium ionomers. Ciprian Iacob , Hsin-Jung Yu , Victoria Lumsargis , Jing-Han Helen Wang , Quan Chen , Ralph Colby , James Runt
Wednesday, March 15, 2017 9:12AM - 9:24AM	K10.00005: Solvent Tuning of Cluster Morphology in Ionic Block Copolymer Solutions Manjula Senanayake , Sidath Wijesinghe , Anuradhi Wickramasinghe , Supun Mohottalalage , Dvora Perahia , Lilin He , Carl Willis , Marc Charendoff
Wednesday, March 15, 2017 9:24AM - 9:36AM	K10.00006: Electrostatic effects on clustering and ion dynamics in ionomer melts Boran Ma , Trung Nguyen , Victor Pryamitsyn , Monica Olvera de la Cruz
Wednesday, March 15, 2017 9:36AM - 9:48AM	K10.00007: Effect of Confinement in PFSA Ionomer Thin Films Peter Dudenias , Meron Tesfaye , Adam Weber , Ahmet Kusoglu
Wednesday, March 15, 2017 9:48AM - 10:00AM	K10.00008: Quantifying Ion Transport in Polymers Using Electrochemical Quartz Crystal Microbalance with Dissipation Jodie Lutkenhaus , Shaoyang Wang
Wednesday, March 15, 2017 10:00AM - 10:12AM	K10.00009: Clustering Effects on Dynamics in Ionomer Solutions: A Neutron Spin Echo Insight Dvora Perahia , Sidath Wijesinghe , Manjula Senanayake , Anuradhi Wickramasinghe , Supun S Mohottalalage , Michael Ohl
Wednesday, March 15, 2017 10:12AM - 10:24AM	K10.00010: Superfast Ionic Polymer Actuators Based on Single-Ion Conducting Block Copolymers Onnuri Kim , Moon Jeong Park
Wednesday, March 15, 2017 10:24AM - 10:36AM	K10.00011: Lithium ion migration via ion concentration gradient in bilayer polymer electrolyte membranes Camilo Piedrahita , Jinwei Cao , Thein Kyu
Wednesday, March 15, 2017 10:36AM - 10:48AM	K10.00012: Kinetics of Swelling and Collapse in Polyelectrolyte Systems Arindam Kundagrami , Soumik Mitra , Swati Sen
Wednesday, March 15, 2017 10:48AM - 11:00AM	K10.00013: Modeling pH-Responsive Adsorption of Polyelectrolytes at Oil-Water Interfaces Shiyi Qin , Xin Yong



## Wednesday, March 15, 2017, 8:00 am – 11:00 am

Session K11: Organic Electronics - Processing, Structure, Function

Sponsoring Units: DPOLY DMP  
Chair: Dean DeLongchamp, NIST  
Room: 270

Wednesday, March 15, 2017 8:00AM - 8:12AM	K11.00001: Crystalline Stratification in Semiconducting Polymer Thin Film Quantified by Grazing Incidence X-ray Scattering Eliot Gann , Mario Caironi , Yong-Young Noh , Yun-Hi Kim , Christopher R. McNeill
Wednesday, March 15, 2017 8:12AM - 8:24AM	K11.00002: Photostability of vapor-deposited thin films can be significantly modulated by glass packing Yue Qiu , Mark Ediger , Olivier Lebel
Wednesday, March 15, 2017 8:24AM - 8:36AM	K11.00003: Roll-to-Roll printed large-area all-polymer solar cells with 5% efficiency based on a low crystallinity conjugated polymer blend Xiaodan Gu , Yan Zhou , Kevin Gu , Tadanori Kurosawa , Hongping Yan , Cheng Wang , Micheal Toney , Zhenan Bao
Wednesday, March 15, 2017 8:36AM - 8:48AM	K11.00004: Doping of an Ambipolar DPP Polymer with an Organometallic Dopant Erin Perry , Chien-Yang Chiu , Karttikay Moudgil , Craig Hawker , Seth Marder , Michael Chabinyc
Wednesday, March 15, 2017 8:48AM - 9:00AM	K11.00005: Understanding morphology-property relationship in chemically doped P3HT Eunhee Lim , Kelly Peterson , Michael Chabinyc
Wednesday, March 15, 2017 9:00AM - 9:12AM	K11.00006: Thermally induced texture flip in semiconducting polymer stabilized by epitaxial relationship. Kathryn A. O'Hara , Balaji S.S Pokuri , Christopher J. Takacs , Pierre M. Beaujuge , Baskar Ganapathysubramanian , Michael L. Chabinyc
Wednesday, March 15, 2017 9:12AM - 9:24AM	K11.00007: Resolving Morphology-Dependent Optical Properties with Momentum-Resolved Reflectometry Ryan DeCrescent , Steven Brown , Ruth Schlitz , Michael Chabinyc , Jon Schuller
Wednesday, March 15, 2017 9:24AM - 9:36AM	K11.00008: Polarized soft X-ray scattering reveals differences in chain orientation within block copolymer lamellae Joshua Litofsky , Thinkh Le , Melissa Aplan , Youngmin Lee , Enrique Gomez
Wednesday, March 15, 2017 9:36AM - 9:48AM	K11.00009: Entanglements in Conjugated Polymers Renxuan Xie , Youngmin Lee , Melissa Aplan , Nick Caggiano , Enrique Gomez , Ralph Colby
Wednesday, March 15, 2017 9:48AM - 10:00AM	K11.00010: A bio-derived liquid crystal template for highly ordered semiconducting polymers Bailey Risteen , Jung Ok Park , Mohan Srinivasarao , Paul Russo , Elsa Reichmanis
Wednesday, March 15, 2017 10:00AM - 10:12AM	K11.00011: Conducting Polymers under Mechanical Strain: Tuning Polyaniline's Piezoresistivity through Structural Control Melda Sezen , Yueh-Lin Loo
Wednesday, March 15, 2017 10:12AM - 10:24AM	K11.00012: Exploration of Solvent Effects On Morphology of Polyaniline & Other Polymer Films Deposited Through RIR-MAPLE Enrique Barraza , Adrienne Stiff-Roberts

Wednesday, March 15, 2017 10:24AM - 10:36AM	K11.00013: Characterization of pi-conjugated oligopeptide superstructures created via continuous directed self assembly Lawrence Valverde , Charles Schroeder , William Wilson
Wednesday, March 15, 2017 10:36AM - 10:48AM	K11.00014: Of Devices and Droplets: Evaporative Structuring of Solution-Processed Semiconducting Polymer Blends. Jasper Michels
Wednesday, March 15, 2017 10:48AM - 11:00AM	K11.00015: Machine learning and computation for $\pi$ -conjugated oligopeptides: toward in silico design of assembled organic electronics Bryce Thurston , Andrew Ferguson

**Wednesday, March 15, 2017, 8:00 am – 11:00 am**

Session K18: Focus Session: Polymeric Membranes - Water Purification

Sponsoring Units: DPOLY

Chair: Rafael Verduzco, Rice University

Room: 277

Wednesday, March 15, 2017 8:00AM - 8:12AM	K18.00001: Charge Mosaic Membranes Fabricated from Chemically Tailored Copolymer Materials William Phillip , Siyi Qu , Sherwood Benavides , Aaron Hunter , Yi Shi , Haifeng Gao
Wednesday, March 15, 2017 8:12AM - 8:24AM	K18.00002: Constructing ion conducting, nanostructured block copolymer electrolytes through block copolymer self-assembly and block copolymer lithography Christopher Arges , Yu Kambe , Moshe Dolejsi , Guangpeng Wu , Paul Nealey
Wednesday, March 15, 2017 8:24AM - 8:36AM	K18.00003: Controlling the Pore Size of Mesoporous Carbon Thin Films through Thermal and Solvent Annealing. Zhengping Zhou , Guoliang Liu
Wednesday, March 15, 2017 8:36AM - 9:12AM	K18.00004: Nanostructured membranes based on polysulfone homopolymers and copolymers. <b>Invited Speaker:</b> Suzana Nunes
Wednesday, March 15, 2017 9:12AM - 9:24AM	K18.00005: Nanostructured Block Polymer Membranes as High Capacity Adsorbers for the Capture of Metal Ions from Water Bryan Boudouris , Jacob Weidman , Ryan Mulvenna , William Phillip
Wednesday, March 15, 2017 9:24AM - 9:36AM	K18.00006: Multiscale Simulations of PS-PEO Block Copolymers with LiPF <sub>6</sub> Ions in Lamellar Phase: Equilibrium Characteristics Vaidyanathan Sethuraman , Santosh Mogurampally , Venkat Ganesan
Wednesday, March 15, 2017 9:36AM - 9:48AM	K18.00007: Membranes with charged nanopores from the assembly of random copolymer micelles Ayse Asatekin
Wednesday, March 15, 2017 9:48AM - 10:00AM	K18.00008: Nanofiltration Membranes for Water Purification: structure-transport relationships and applications Steven Jons , Mou Paul , Tamlin Matthews , Leaelaf Hailemariam
Wednesday, March 15, 2017 10:00AM - 10:12AM	K18.00009: 3D morphological characterization of the polyamide active layer of RO and NF membranes using TEM and soft X-ray scattering Tyler Culp , Mou Paul , Abhishek Roy , Steve Rosenberg , Michael Behr , Manish Kumar , Enrique Gomez
Wednesday, March 15, 2017 10:12AM - 10:24AM	K18.00010: Atom Resolved Electron Microscope Images of Polyvinylidene Fluoride Nanofibers for Water Desalination Suqi Liu , Darrell Reneker
Wednesday, March 15, 2017 10:24AM - 10:36AM	K18.00011: Investigations into the microstructure and performance of ion-modified polysulfone membranes Matthew Green , John Felmly
Wednesday, March 15, 2017 10:36AM - 10:48AM	K18.00012: Strong adsorption of random heteropolymers on protein surfaces Trung Nguyen , Baofu Qiao , Brian Panganiban , Christopher Delre , Ting Xu , Monica Olvera de la Cruz

**Wednesday, March 15, 2017, 8:00 am – 11:00 am**

Session K40: Invited Session: Designed Polymer Surfaces for Adhesion, Release, Self-Cleaning, Anti-Fouling, and other Applications

Sponsoring Units: DPOLY GSOFIT

Chair: Tirtha Chatterjee, Dow Chemical Co.

Room: 387

Wednesday, March 15, 2017 8:00AM - 8:36AM	K40.00001: Surface Modification by the Reversible, Electrochemical Deposition of Polyelectrolyte Complex Films <b>Invited Speaker:</b> Kenneth Shull
Wednesday, March 15, 2017 8:36AM - 9:12AM	K40.00002: Role of Monomer Sequence, Hydrogen Bonding and Mesoscale Architecture in Marine Antifouling Coatings <b>Invited Speaker:</b> Rachel Segalman
Wednesday, March 15, 2017 9:12AM - 9:48AM	K40.00003: Chimeric Plastics : a new class of thermoplastic <b>Invited Speaker:</b> Mark Sonnenschein
Wednesday, March 15, 2017 9:48AM - 10:24AM	K40.00004: Scaling Principles for Understanding and Exploiting Adhesion <b>Invited Speaker:</b> Alfred Crosby
Wednesday, March 15, 2017 10:24AM - 11:00AM	K40.00005: Role of Confined Water in Underwater Adhesion <b>Invited Speaker:</b> Ali Dhinojwala

**Wednesday, March 15, 2017, 11:15 am – 2:15 pm**

Session L6: Focus Session: Bring Order from Disorder with Intrinsically Disordered Proteins

Sponsoring Units: DBIO DPOLY

Chair: Aihua Xie, Oklahoma State University

Room: 265

Wednesday, March 15, 2017 11:15AM - 11:27AM	L6.00001: $\alpha$ -synuclein under the magnifying glass. Insights from atomistic and coarse-grain simulations. Ioana M. Ilie , Divya Nayar , Wouter K. den Otter , Nico F. A. van der Vegt , Wim J. Briels
Wednesday, March 15, 2017 11:27AM - 11:39AM	L6.00002: Early-Stage Aggregation of Human Islet Amyloid Polypeptide Ashley Guo , Juan de Pablo
Wednesday, March 15, 2017 11:39AM - 11:51AM	L6.00003: The effects of bound state motion on macromolecular diffusion Loren Hough , Michael Stefferson , Samantha Norris , Laura Maguire , Franck Vernerey , Meredith Betterton
Wednesday, March 15, 2017 11:51AM - 12:27PM	L6.00004: Intrinsically Disordered Proteins and the Origins of Multicellular Organisms <b>Invited Speaker:</b> A. Keith Dunker
Wednesday, March 15, 2017 12:27PM - 12:39PM	L6.00005: Probing phase transitions in dynamic biopolymer complexation Amanda Marciel , Matthew Tirrell
Wednesday, March 15, 2017 12:39PM - 12:51PM	L6.00006: Random-phase-approximation theory for sequence-dependent behaviors of intrinsically disordered proteins in liquid-liquid phase separation Yi-Hsuan Lin , Julie Forman-Kay , Hue Sun Chan
Wednesday, March 15, 2017 12:51PM - 1:03PM	L6.00007: FT-IR Study Reveals Intrinsically Disordered Nature of Heat Shock Protein 90 Aihua Xie , David Neto , Maurie Balch , Johnny Hendriks , Oliver Causey , Junpeng Deng , Robert Matts
Wednesday, March 15, 2017 1:03PM - 1:39PM	L6.00008: Multiple structure-intrinsic disorder interactions regulate and coordinate Hox protein function. <b>Invited Speaker:</b> Sarah Bondos
Wednesday, March 15, 2017 1:39PM - 1:51PM	L6.00009: Mechanisms of selective transport through nuclear pore complex mimics Laura Maguire , Michael Stefferson , Nathan Crossette , Eric Verbeke , Jeeseong Hwang , Meredith Betterton , Loren Hough
Wednesday, March 15, 2017 1:51PM - 2:03PM	L6.00010: Modeling phase separation in mixtures of intrinsically-disordered proteins Chad Gu , Anton Zilman
Wednesday, March 15, 2017 2:03PM - 2:15PM	L6.00011: Fluctuations in protein aggregation Stefano Zapperi , Giulio Costantini , Alessandro Taloni , Zoe Budrikis , Alexander Buell , Caterina La Porta

Wednesday, March 15, 2017, 11:15 am – 2:15 pm

Session M1: Poster Session II

Room: *Exhibit Hall J*

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M1.00002: Classes of morphology of wrinkle patterns in floated polymer

Jooyoung Chang , Narayanan Menon , Thomas Russell

M1.00003: Single Gyroid Nanostructure from Templated Electroless Plating Using Double Gyroid-Structured Block Copolymer Template

Kai-Chieh Yang , Cheng-Thai Yao , Rong-Ming Ho

M1.00004: Investigating the cure kinetics of diglycidyl ether of bisphenol A (DGEBA) epoxy with diethanolamine using model chemical systems

David Devries , Salomon Maestas , John McCoy , Jamie Kropka

M1.00005: "Effect of Polyalkylthiophene Microstructure on Physical and Optoelectronic Properties"

Michael J. Minkler Jr. , Bryan S. Beckingham

M1.00006: Kinetically Controlled Self-Assembly of Hierarchical Nanostructures Based on Block Copolymer Patchy Particles

Jee Young Lee , Karen Wooley , Darrin Pochan

M1.00007: Semi-Crystalline/Amorphous Polymer Blend Films Formed by MAPLE

Yucheng Wang , Mithun Chowdhury , Hyuncheol Jeong , Rodney Priestley

M1.00008: Self-assembly of coiled coil peptides into nanoparticles vs 2-d plates: effects of assembly pathway

Kyunghee Kim , Darrin Pochan

M1.00009: Quantifying lithium salt distributions in nanostructured ion-conducting polymer domains: a neutron reflectivity study

Cameron Shelton , Joseph Dura , Thomas Epps

M1.00010: Determination of Neutral Solute Permeabilities and Membrane Selectivities through PPO/PAGE Copolymer Membranes via *in situ* ATR FTIR Spectroscopy?

Breanna M Dobyns , Bryan S Beckingham

M1.00011: Effect of Gel Microstructure on the Cavitation Instability

Santanu Kundu , Satish Mishra , Mahla Zabet , Seyedmeysam Hashemnejad , Brandon Yrle

M1.00012: Mechanical Properties of Stable Glasses Using Nanoindentation

Sarah Wolf , Tianyi Liu , Yijie Jiang , Keyume Ablajan , Yue Zhang , Patrick Walsh , Kevin Turner , Zahra Fakhraei

M1.00013: Chirality Effect on Self-Assembly of Chiral Triblock Copolymer

Hsiao-Fang Wang , Po-Ting Chiu , Rong-Ming Ho

M1.00014: Simulations of Indentation on a Polymer Thin Film and Properties Analysis

Wenlu Shi , Graham Cross

M1.00015: Complex Cure Kinetics of the Tertiary Amine activated Reaction in DGEBA Epoxy Hardened with Diethanolamine

Windy Ancipink , John McCoy , Caitlyn Clarkson , Jamie Kropka , Mathias Celina , Nicholas Giron , Lebelo Hailesilassie , Narjes Fredj

M1.00016: Gradient hydrogel coatings for medical applications

Pandiyarajan Chinnayan Kannan , Jan Genzer

M1.00017: Mesoscale Simulations of pH-Responsive Swelling of Polyelectrolyte Complexes

Shiyi Qin , Xin Yong

M1.00018: Controlling the morphology of immiscible polymer blends using bottlebrush random copolymers

Huizhen (Adeline) Mah , Pantea Afzali , Luqing Qi , Stacy Pesek , Rafael Verduzco , Gila Stein

M1.00019: Composition, functionality and topology effect on the self-assemble behaviors of PS-POSS conjugates.

Stephen Cheng , Wei Zhang

M1.00020: Tuning Structural Properties of Biocompatible Block Copolymer Micelles by Varying Solvent Composition  
Tyler Cooksey , Avantika Singh , Kim Mai Le , Shu Wang , Elizabeth Kelley , Lilin He , Sameer Vajjala Kesava , Enrique Gomez , Bryce Kidd , Louis Madsen , Megan Robertson

M1.00021: Visualization of Topology through Simulation  
Andrew Mulderig , Gregory Beaucage , Karsten Vogtt , Hanqiu Jiang

M1.00022: The effect of molecular architecture on segmental and chain dynamics in poly(styrene $_{\mathrm{n}}$ -isoprene $_{\mathrm{n}}$ ) miktoarm block copolymers  
Thomas Kinsey , Joshua Sangoro , Weiyu Wang

M1.00023: Photo-processing P3HT conjugated polymers, in solution: A new route towards ordered polymeric structures.  
Newton Barbosa Neto , Marcia Dutra , Paulo Araujo , Renato Sampaio

M1.00024: Binders for Energetics - Modelling and Synthesis in Harmony  
Licia Dossi , Doug Cleaver , Peter Gould , Jim Dunnett , Hamish Cavaye , Laurence Ellison , Federico Luppi , Ron Hollands , Mark Bradley

M1.00025: Nanostructures of Weakly Fluorinated Bottlebrush Polymers in Thin Films  
Dongsook Chang , Matthew Burch , Jan-Michael Carrillo , Yingdong Luo , Alex Belianinov , Kunlun Hong , Olga Ovchinnikova , Bobby Sumpter

M1.00026: Orthogonal Self-Assembly of Block Copolymer Thin Films on Minimal Topographic Patterns  
Jaewon Choi , Yinyong Li , Feng Liu , Kenneth Carter , Thomas Russell

M1.00027: Effects of solvent evaporation conditions on solvent vapor annealed cylinder-forming block polymer thin films  
Meagan Grant , William Jakubowski , Gunnar Nelson , Chloe Drapes , A Baruth

M1.00028: Nanoscale Substrate Roughness for the Tailored Control of Block Copolymer Thin film Orientation  
Justin Cheung , Mani Sen , Maya Endoh , Tadanori Koga

M1.00029: Lamellae to Gyroid Epitaxial Transitions in Weakly Segregated Diblock Copolymers  
Feng Qiu , Nan Ji , Ping Tang , An-Chang Shi

M1.00030: Molecular dynamics study on microstructures of diblock copolymer melts with soft potential and potential recovery  
Seulwoo Kim , Ji Ho Ryu , Han Sol Wee , Won Bo Lee

M1.00031: Understanding ordering of block-copolymer-based supramolecules on lithographically patterned surfaces  
Katherine Evans , Ting Xu

M1.00032: Morphologies of miktoarm polymer in thin film  
Hyeyoung Kim , Beom-goo Kang , Sergey Chernyy , Matthias Arras , Zhiwei Sun , Jaewon Choi , Gregory Smith , Thomas Russell

M1.00033: Trivalent anions in polymerized ionic liquids enhance both ion conductivity and viscosity  
Joshua Bartels , Matthew Helgeson , Rachel Segalman

M1.00034: Elucidating the correlation between morphology and ion dynamics in polymerized ionic liquids.  
Maximilian Heres , Tyler Cosby , Ciprian Iacob , James Runt , Roberto Benson , Hongjun Liu , Stephen Paddison , Joshua Sangoro

M1.00035: Electrode polarization and ion dynamics at the metal-ionic liquid interface  
Zachariah Vicars , Tyler Cosby , Joshua Sangoro

M1.00036: Charge Transport and Dynamics of Ionic Liquids: Evaluating the Impact of Mesoscale Organization  
Tyler Cosby , Zachariah Vicars , Joshua Sangoro

M1.00037: Ion transport in precisely controlled phosphonated polymers  
Sanghee Jang , Moonjeong Park

M1.00038: Morphology and conductivity of PEO-based polymers having various end functional groups  
Ha Young Jung , Prithwiraj Mandal , Moon Jeong Park

M1.00039: The effect of varying molecular weight on ion-transport properties in polymeric ionic liquids  
Jordan Keith , Faisal Aldukhi , Santosh Mogurampelly , Bill Wheatle , Venkat Ganesan

M1.00040: Multivalent Ion Transport Through Polymerized Ionic Liquids  
Nicole Michenfelder-Schauser , Gabriel Sanoja , Rachel Segalman

M1.00041: Liquid crystalline polymer electrolyte membranes with ion gating properties  
Jinwei Cao , Camilo Piedrahita , Kagami Koterawsa , Abegel Freedman , Juliana Martins , Thein Kyu , Coleen Pugh , Kaoru Adachi , Yasuhisa Tsukahara

M1.00042: Molecular Weight Dependence of the Intrinsic Size Effect on  $T_g$  in AAO Template-Supported Polymer Nanorods: A DSC Study  
Tong Wei , Shadid Askar , Anthony Tan , John Torkelson

M1.00043: Equilibrium Polymerization of Butyl Methacrylate in Bulk and in Nanopore Confinement  
Qian Tian , Sindee Simon

M1.00044: The effect of polymer architecture on the interdiffusion in thin polymer films.  
Ayse Caglayan , Guangcui Yuan , Sushil K. Satija , David Uhrig , Kunlun Hong , Bulent Akgun

M1.00045: Exploring ultrastability in nanostructured glassy polymer films by fast-scanning calorimetry.  
Mithun Chowdhury , Yucheng Wang , Hyuncheol Jeong , Daniele Cangialosi , Rodney Priestley

M1.00046: Flory-Stockmayer analysis on reprocessible polymer networks  
Lingqiao Li , Xi Chen , Kailong Jin , John Torkelson

M1.00047: The Effect of Plant Source on the Structural Properties of Lignin-based Polyurethane Blends  
Jason Lang , Mark Dadmun

M1.00048: Preparation Details for Making Silicones: Influence of Molecular Network Architecture on Mechanical and Surface Properties of PDMS Elastomers  
Matthew Melillo , Edwin Walker , Zoe Klein , Kirill Efimenko , Jan Genzer

M1.00049: Structural Characterization of supramolecule/nanoparticle nanocomposites  
Yihan Xiao , Ting Xu

M1.00050: Self-assembled nanocages based on the coiled coil bundle motif  
Nairiti Sinha , Jose Villegas , Jeffery Saven , Kristi Kiick , Darrin Pochan

M1.00051: Effects of wet-dry cycling on structure and performance of sulfonated pentablock copolymer membranes.  
Phuc Truong , Gila Stein , Haleh Ardebili , Mejd Kammoun

M1.00052: Molecular Simulation Evaluation of Macromolecular Transport through Nanofiltration Membranes  
Noelia Almodovar Arbelo , Bryan Boudouris , David Corti

M1.00053: NIST's Polarized Resonant Soft X-ray Scattering facility to measure chemical structure and molecular orientation on the nano-scale  
Eliot Gann , Daniel Fischer , Dean DeLongchamp

M1.00054: Manipulating Energy Transfer in Conjugated Polymers using Radical Mediators  
Daniel Wilcox , Sanjoy Mukherjee , Bryan Boudouris

M1.00055: Renewable chiral nematic liquid crystal template for highly ordered semiconducting polymers  
Bailey Risteen , Alyssa Blake , Michael McBride , Cornelia Rosu , Jung Ok Park , Mohan Srinivasarao , Paul Russo , Elsa Reichmanis

M1.00056: Index matching of TE and TM modes in organic multilayer waveguides  
Jonathan Thompson , Heidrun Schmitzer , Hans Peter Wagner

M1.00057: Electrical characterization of the light induced degradation in CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> thin film  
Bizneh Gebremichael Difer , Gene Tsesema Mola , Sentayehu Yigzaw

M1.00058: Surface Plasmon Peak Resonance Discovered in Sulfuric Acid Treated PEDOT-PSS Conductive Polymers  
Wil Andahazy , Ashleigh Baber , Costel Constantin

M1.00059: Electrospinning Technique for Organic Semiconductive Polymers Composites Coaxial Nanofibers for Electronic Devices  
William Serrano Garcia , Sylvia Thomas

M1.00060: Role of Hydrogen Bonding on Nonlinear Mechano-Optical Behavior of L-Phenylalanine-based Poly(ester urea)s.  
Keke Chen , Jiayi Yu , Gustavo Guzman , S. Shams Es-haghi , Matthew L. Becker , Miko Cakmak



M1.00061: On Polydimethylsiloxane-Polyethylene Oxide Blends  
 Alan Perez , Alin Cristian Chipara , Pulickel Ajayan , Dorina Chipara , Chandra Sekhar Tiwary , Robert Vajtai , Mircea Chipara

M1.00062: Investigation of hydrophobic interactions mediating the self-assembly of supramolecular host/guest polymer complexes utilizing Simultaneous Multiple Sample Light Scattering (SMSLS)  
 Molly Payne , Curtis Jarand , Scott Grayson , Wayne Reed

M1.00063: All-Cellulose Composites of Nanofibril and Molecular Cellulose  
 Doug Henderson , Xin Zhang , Yimin Mao , Liangbing Hu , Robert Briber , Howard Wang

M1.00064: Small-angle Neutron Scattering Study on Cellulose Nanocrystal Solution: Phase Behavior and Magnetic Alignment  
 Yimin Mao , Xin Zhang , Doug Henderson , Howard Wang , Robert Briber

M1.00065: Effect of Water on Cellulose -- EMIM Ac -- DMSO Solution  
 Xin Zhang , Yimin Mao , Doug Henderson , R. M. Briber , Howard Wang

M1.00066: Programing Performance of Silk Fibroin Materials by Controlled Nucleation  
 Zhengwei Chen , Honghao Zhang , Zaifu Lin , Youhui Lin , Jan H. van Esch , Xiangyang Liu

M1.00067: Monitoring the degrafting of polyelectrolyte brushes by using surface gradients  
 Yeongun Ko , Jan Genzer

M1.00068: Mechanophore activation in a crosslinked polymer matrix via instrumented indentation  
 Chelsea Davis , Jeremiah Woodcock , Ryan Beams , Muzhou Wang , Stephan Stranick , Aaron Forster , Jeffrey Gilman

M1.00069: Adhesion of Au Thin Films on PMMA and Other Substrates  
 Yvonne Kinsella , Luis Royo-Romero , Wm. Chris Hughes , Brian Augustine , Xiaofeng (Harry) Hu

M1.00070: Dual-responsive soft actuators based on self-assembled polymers  
 Seungjae Kim , Moonjeong Park

M1.00071: PDMS-co-PVMS Copolymer Synthesis for Microfluidic Devices  
 Arissa Baiamonte , Devin Nguyen , Baraka Lwoya , Giovanni Kelly , Julie N. L. Albert

M1.00072: Preparation of high purity linear and cyclic poly( $\epsilon$ -caprolactone) to demonstrate physical and thermal properties.  
 Fariyah Haque , Ricardo Perez , Juan Lopez , Scott Grayson , Alejandro Mueller

M1.00073: Threading events in ring polymer melts: a detailed geometric analysis and their connection with the slow relaxation modes  
 Vlasias Mavrantzas , Dimitrios Tsalikis , Dimitris Vlassopoulos

M1.00074: The Effect of the Size and Type (Dimensionality) of Carbon Nano-Fillers on the Optical Properties of Polystyrene Composites.  
 Adnan Jaradat

M1.00075: Conducting polymer-metal nanoparticle composites with controlled dimensionality  
 Kyoungwook Kim , Moonjeong Park

M1.00076: Kinetic View of Nanoparticle Assemblies in Supramolecular Nanocomposite Thin Films  
 Jingyu Huang

M1.00077: Novel Technique for Quantitative Fast Scanning Calorimetry on Electrospun Fibers  
 David Thomas , Nelaka Govinna , Christoph Schick , Peggy Cebe

M1.00078: Investigation of polymorphism for amorphous and semi-crystalline poly(-ethylene terephthalate-) using high-pressure Brillouin spectroscopy  
 Jonghyun Song , Young-Ho Ko , Muhtar Ahart , Jae-Hyeon Ko

M1.00079: Nanostructured functional hybrid materials via self-assembly of brush block copolymers  
 Dong-po Song , Yue Gai , Benjamin Yavitt , James Watkins

M1.00080: Using in-Situ Ellipsometry to Monitor Self-Assembly of Polymer Nanocomposites during Solvent Annealing  
 Melissa J. Vettleon , Chen Li , Ethan C. Glor , Robert C. Ferrier , Russell J. Composto , Zahra Fakhraai

M1.00081: Raman Investigations on PVC-Functionalized Single Wall Carbon Nanotube Composites.  
 Jorge Cisneros , Dorina Chipara , Elamin Ibrahim , Mircea Chipara

M1.00082: Chain-Scale Polymer Dynamics Through Homogeneously Confining Nanoparticles  
 Eric Bailey , Huikuan Chao , Robert A. Riggelman , Karen I. Winey

M1.00083: Coarse-grained simulation of polymer-filler blends  
 Gregg Legters , Vikram Kuppa , Gregory Beaucage

M1.00084: Block Copolymer Directed Biomimetic Mineral Formation for Polymer Nanocomposites  
Sarah Gleeson , Tony Yu , Xi Chen , Michele Marcolongo , Christopher Li

M1.00085: Large nanoparticle assembly in block copolymer-based supramolecules  
Yihan Xiao , Ting Xu

M1.00086: Polymer Dynamics of Grafted Nanoparticle Composites.  
Steven Lee , Wei Peng , Rahmi Ozisik

M1.00087: The Effect of Charged Macromolecules on the Crystallization of Ionic Solutes during  
Solution Evaporation  
Seyoung Kim , Jewon Choi , Soo-Hyung Choi , Kookheon Char

M1.00088: Flattening process of polymer chains irreversibly adsorbed on a solid  
Mani Sen , Naisheng Jiang , Justin Cheung , Maya Endoh , Tadanori Koga , Daisuke Kawaguchi , Keiji  
Tanaka

M1.00089: Self-organized structures of  $\pi$ -conjugated polymer chains at the solid-polymer interface  
Zhongjie Hu , Mani Sen , Levent Sendogdular , Maya K. Endoh , Tadanori Koga , Chang-Yong Nam

M1.00090: Tailoring ion transport to improve thermoelectric properties of mixed polymer  
thermoelectrics

Shubhaditya Majumdar , Gabriel E. Sanoja , Nicole Michenfelder-Schauser , Colin R. Bridges , Rachel  
A. Segalman

M1.00091: Multiscale Simulations of PS-PEO Block Copolymers with LiPF<sub>6</sub> Ions in Lamellar  
Phase: Dynamics

Vaidyanathan Sethuraman , Santosh Mogurampally , Venkat Ganesan

M1.00092: Structural properties of thiophenes investigated with simulations of a coarse-grained model  
Jutta Luettmer-Strathmann , Amani Almutairi

M1.00093: Lithium Metal Batteries Using Cross-linked Polymer Electrolytes: Importance of the  
Electrode/Polymer Electrolyte Interfaces

Qiwei Pan , Dmitri Barbash , Christopher Li

M1.00094: Sol-gel transition behavior of aqueous peptide-amphiphile (C16-W3K) solutions: effects of  
alkyl-tail length, mechanical shear, temperature, and salt

Masashi Yamamoto , Takahiro Otsuka , Yoshinori Orimo , Tomoki Maeda , Atsushi Hotta

M1.00095: Deformation Behavior of Monolayer Assemblies of Polystyrene Grafted Nanoparticles

Yang Jiao , Ming-Siao Hsiao , Lawrence Drummy , Richard Vaia

M1.00096: Free Surface Flows and Extensional Rheology of Polymer Solutions

Jelena Dinic , Leidy Nallely Jimenez , Madeleine Biagioli , Alexandro Estrada , Vivek Sharma

M1.00097: Coarse-Grained Simulations of 3D Printing

Zilu Wang , Andrey Dobrynin

M1.00098: Synthesis and characterization of polypeptide-Co<sub>3</sub>O<sub>4</sub> nano-conjugates.

Bithi Paul , Mahmud Reaz , Md Abdullah-Al Mamun , Adam Wanekaya , Robert Delong , Haribhua  
Gholap , Kartik Ghosh

M1.00099: Composite reinforced metallic cylinder for high-speed rotation

Dr. Sahadev Pradhan

M1.00100: Semi-crystalline morphologies of linear and cyclic poly( $\epsilon$ -caprolactones) in the  
diffusion-limited film thickness regime

Giovanni Kelly , Amelia Bergeson , Fariyah Haque , Scott Grayson , Julie Albert

M1.00101: Synthesis and thin film morphology of linear and cyclic poly( $\epsilon$ -caprolactone)

Amelia Bergeson , Fariyah Haque , Giovanni Kelly , Scott Grayson , Julie Albert

M1.00102: Thermally induced lamellar reorganization and thickening in spherical poly (L-lactic acid)  
crystalsome

Mark Staub , Hao Qi , Christopher Li

M1.00103: Cholesteric networks for creation of Liquid Crystalline Nose (LCN).

Petr Shibaev , Xiaoyurui Wang , Violet Guzman , Lee Vigilia , William Charles , Daniel Carrozzi

M1.00104: Chain Folding and Lamellar Thickening Behavior in Polymer Crystallization based on self-  
consistent field theory

Ping Tang , Faqiang Liu , Yuliang Yang

M1.00105: Exploring potential inhomogeneities induced by large deformation in polymer glasses  
Xiaoxiao Li , Yexin Zheng , Mesfin Tsige , Shi-Qing Wang

M1.00106: Impact of melt-deformation on molecular structure and mechanical behavior of glassy polymers  
Jianning Liu , Xiaoxiao Li , Zhichen Zhao , Shi-Qing Wang

M1.00107: Changes of structure and properties in physical aging of polycarbonate  
Toshiaki Ougizawa , Hisashi Jufuku , Kai Hayashi

M1.00108: Thermal and mechanical consequences of post-cure processing of DGEBA epoxy cured with diethanolamine  
Gabriel Arechederra , John McCoy , Jamie Kropka

M1.00109: Volume Recovery of Polymeric Glasses: Application of a Capacitance-based Measurement Technique  
Nazam Sakib , Sindee Simon

M1.00110: Elastic yielding of melt-stretched glassy polymers below glass transition temperature  
Zhichen Zhao , Yexin Zheng , Mesfin Tsige , Shi-Qing Wang

M1.00111: Solvent Size Dependent Structure Of Diblock Copolymer Micelles In N-alkane  
Sangho Lee , Tae-Young Heo , Soo-Hyung Choi

M1.00112: Assembly and Conformation of PNIPAM and Molecular Analogs Below the LCST  
Xiaolong Lang , Michael J. A. Hore

M1.00113: Glassy dynamics of intermediate-chain-stiffness crystallizable polymer melts  
Hong Nguyen , Robert Hoy

M1.00114: From Comb-like Polymers to Bottle-Brushes  
Heyi Liang , Zhen Cao , Andrey Dobrynin , Sergei Sheiko

M1.00115: Gluing Gels by Soft Nanoparticles  
Ryan Sayko , Zhen Cao , Heyi Liang , Andrey Dobrynin

M1.00116: Dynamics of Bottlebrush Networks  
Zhen Cao , William Daniel , Mohammad Vatankhah-Varnosfaderani , Sergei Sheiko , Andrey Dobrynin

M1.00117: Control of polymer network topology in semi-batch systems  
Rui Wang , Bradley Olsen , Jeremiah Johnson

M1.00118: Effects of the Number of Hydrogen Bonds on Mechanical Properties of Block Copolymer-Based Supramolecular Elastomers  
Atsushi Noro , Takato Kajita , Yushu Matsushita

M1.00119: Surface instabilities of elastic bilayers with patterned stiff films  
Tetsu Ouchi , Ryan Hayward

M1.00120: Sustainable Triblock Copolymers for Application as Thermoplastic Elastomers  
Wenyue Ding , Shu Wang , Mitra Ganewatta , Chuanbing Tang , Megan Robertson

M1.00121: Charge Transport and Ion Dynamics in Copolymers Containing Ammonium-based Polymerized Ionic Liquids  
Matthew Harris , Maximilian Heres , Veronika Strehmel , Roberto Benson , Joshua Sangoro

M1.00122: Interaction and Anomalous Diffusion of Polyelectrolytes in Polyzwitterionic Complexes.  
Kehua Lin , Benxin Jing , Yingxi Zhu

M1.00123: A Cation-containing Polymer Anion Exchange Membrane based on Poly(norbornene)  
Frederick Beyer , Samuel Price , Xiaoming Ren , Alice Savage

M1.00124: Single-ion conducting diblock terpolymers for lithium-ion batteries  
Melody Morris , Thomas H. Epps, III

M1.00125: Laponite concentration optimized for the thermoresponsive gelation of PEG-rich PLGA-PEG-PLGA/laponite solution  
Keishi Tanimoto , Tomoki Maeda , Atsushi Hotta

M1.00126: Controlling the biodegradability of poly(butylene succinate-co-butylene adipate) (PBSA) by solvents used in the dried-gel process  
Hana Yamazaki , Saya Kamitabira , Tomoki Maeda , Atsushi Hotta

M1.00127: Impact of Helical Polypeptoid Polymer Chain Shape on Block Copolymer Self-Assembly  
Emily Davidson , Adrienne Rosales , Anastasia Patterson , Ronald Zuckermann , Rachel Segalman

M1.00128: The Effect of Tunable Surface Energy Interlayers on the Control of Phase Behavior and Orientation of Block Copolymers in 2D Confinement  
Youngkeol Kim , Sungyoul Hwang , Kookheon Char

M1.00129: Effects of Morphology on Dynamics of Block Copolymer Systems  
Kuan-Hsuan Shen , Lisa Hall

M1.00130: Gyroid structure via highly asymmetric ABC and AB blends  
Seonghyeon Ahn , Jongheon Kwak , Chungryong Choi , Jin Kon Kim

M1.00131: Synthesis and kinetics studies of poly(styrene-b-vinylmethylsiloxane) and its thin film ordering by thermal and solvent annealing  
Sourav Chatterjee , Md Fakar Uddin , Baraka Lwoya , Julie N.L. Albert

M1.00132: Thermodynamic Interactions in Model Polyolefin/Polydiene Blends  
Jialin Qiu , Katrina Mongcopa , Ruixuan Han , Carlos López-Barrón , Megan Robertson , Ramanan Krishnamoorti

M1.00133: Study of Self-Assembly in Block Copolymer (BCP)-Homopolymer Blends using Dissipative Particle Dynamics (DPD) Simulations  
Amy Goodson , Md Fakar Uddin , Julie Albert

M1.00134: Effect of Polymer Addition on the Morphology of PS-b-PDMS Thin Films  
Amira Muhsen , Amy Goodson , Md Fakar Uddin , Julie Albert

M1.00135: Thin film Phase behavior and domain spacing of binary and ternary homopolymer/block copolymer (BCP) blends.  
Md Fakar Uddin , Baraka S. Lwoya , Amy Goodson , Amira Muhsen , Julie N.L. Albert

M1.00136: Molecular Dynamics Simulation on Rheological and Dynamic Properties of Dynamically Asymmetric Binary Polymer Blends  
Wei Peng , Rahmi Ozisik , Pawel Koblinski

M1.00137: Fluoropolymer based composite with Ag particles as 3D printable conductive ink for stretchable electronics  
Amit Kumar , Thanh Giang La , Xinda Li , Hyun Joong Chung

M1.00138: Fabrication of the stereocomplex polylactide nanofibers for the improvement of the thermomechanical properties of poly(L-lactide)  
Naruki Kurokawa , Atsushi Hotta

M1.00139: Active microrheology of entangled biopolymer composites link polymer flexibility and length to molecular force response  
Robert Fitzpatrick , Cole Hauer , Carl Kyrillos , Ryan McGorty , Rae Robertson-Anderson

M1.00140: On PVDF-Carbon Nanotubes Composites  
Chamath Dannagoda , Maxim Sumets , Karen Martirosyan , Heinrich Foltz , Mircea Chipara

M1.00141: PEO-C60 Nanocomposites  
Roberto Rangel , Dorina Chipara , Hilario Cortez , Edgar Munoz , Mircea Chipara

M1.00142: Gibbs Ensemble Simulations of the Solvent Swelling of Polymer Films  
Thomas Gartner , Thomas Epps, III , Arthi Jayaraman

M1.00143: Thin film self-assembly of PVMS-b-PMMA block copolymer  
Baraka Lwoya , Md Uddin , Sourav Chatterjee , Julie Albert

M1.00144: Direct visualization of nanoparticle dynamics at liquid interfaces  
Yige Gao , Paul Kim , David Hoagland , Tom Russell

## Wednesday, March 15, 2017, 2:30 pm – 5:30 pm

Session P4: Focus Session: Physics of Polymer Surfaces and Interfaces II

Sponsoring Units: DPOLY GSOFIT

Chair: Rob Hickey, Penn State University

Room: 263

Wednesday, March 15, 2017 2:30PM - 2:42PM	P4.00001: Adhesion of Photoactive Microalgae to Surfaces is Switchable by Light Oliver B"aumchen , Christian Kreis , Marine Le Blay , Christine Linne , Marcin Makowski
Wednesday, March 15, 2017 2:42PM - 2:54PM	P4.00002: Molecular mechanism for adhesion in humid conditions - lessons from spider glue Gaurav Amarpuri , Saranshu Singla , Nishad Dhopatkar , Todd Blackledge , Ali Dhinojwal
Wednesday, March 15, 2017 2:54PM - 3:06PM	P4.00003: Facile assembly of oil-water drop structures on tunable surface energy FOSM-DMA-FOSM (FDF) physical network hydrogel films Namrata Salunke , R. A Weiss , Alamgir Karim
Wednesday, March 15, 2017 3:06PM - 3:18PM	P4.00004: Snakes and labyrinths: contact fingering instability of a soft elastic film between two rigid surfaces. Ben Davis-Purcell , Kari Dalnoki-Veress
Wednesday, March 15, 2017 3:18PM - 3:30PM	P4.00005: How do rigid plates attach to a fluid-fluid interface? Liam O'Brien , Deepak Kumar , Narayanan Menon
Wednesday, March 15, 2017 3:30PM - 3:42PM	P4.00006: Interfacial Properties of Thin Films of Poly(vinyl ether)s with Architectural Design in Water Yukari Oda , Nozomi Itagaki , Sin Sugimoto , Daisuke Kawaguchi , Hisao Matsuno , Keiji Tanaka
Wednesday, March 15, 2017 3:42PM - 4:18PM	P4.00007: Flexible Hybrid Electronic Devices for Human Health and Performance Monitoring <b>Invited Speaker:</b> Azar Alizadeh
Wednesday, March 15, 2017 4:18PM - 4:30PM	P4.00008: Dynamics of bound water molecules in fullerenol at different hydration levels Yilin Wang , Steven Robey , Janice Reutt-Robey
Wednesday, March 15, 2017 4:30PM - 4:42PM	P4.00009: block copolymer stabilized emulsion drops Damith Rozairo , Andrew B. Croll
Wednesday, March 15, 2017 4:42PM - 4:54PM	P4.00010: Harnessing Thermoresponsive Aptamers and Gels To Trap and Release Nanoparticles. Ya Liu , Olga Kuksenok , Ximin He , Michael Aizenberg , Joanna Aizenberg , Anna Balazs
Wednesday, March 15, 2017 4:54PM - 5:06PM	P4.00011: Fragility-tuned Hairy Colloidal Glasses. Makoto Asai , Angelo Cacciuto , Sanat Kumar
Wednesday, March 15, 2017 5:06PM - 5:18PM	P4.00012: Investigation of thermo-responsive properties of conjugated polymer embedded self-assembled systems. Youngkyu Han , Jan-Michael Y. Carrillo , Jiahua Zhu , Zhe Zhang , Yunchao Li , Kunlun Hong , Bobby G. Sumpter , Michael Ohl , Mariappan Parans Paranthaman , Ilia N. Ivanov , Gregory S. Smith , Changwoo Do
Wednesday, March 15, 2017 5:18PM - 5:30PM	P4.00013: Elastic properties, reaction kinetics, and structural relaxation of an epoxy resin polymer during cure Manon Heili , Andrew Bielawski , John Kieffer

## Wednesday, March 15, 2017, 2:30 pm – 5:30 pm

Session P9: Focus Session: Architectural Design of Polymers I

Sponsoring Units: DPOLY

Chair: Gila Stein, University of Tennessee

Room: 268

Wednesday, March 15, 2017 2:30PM - 2:42PM	P9.00001: Universality between Experiment and Simulation of a Diblock Copolymer Melt T M Beardsley , M W Matsen
Wednesday, March 15, 2017 2:42PM - 2:54PM	P9.00002: Dynamics in Model Microphase Separated Tapered Copolymers Lisa M. Hall , Youngmi Seo
Wednesday, March 15, 2017 2:54PM - 3:06PM	P9.00003: Stabilizing Various Bicontinuous Morphologies via Polydispersity of Diblock Copolymers Chi To Lai , An-Chang Shi
Wednesday, March 15, 2017 3:06PM - 3:42PM	P9.00004: Elastomer genome: Reverse tissue engineering. <b>Invited Speaker:</b> Sergei S. Sheiko
Wednesday, March 15, 2017 3:42PM - 3:54PM	P9.00005: Theoretical study of the self-assembly of Janus Bottlebrush Polymers from A-Branch-B Diblock Macromonomers Karim Gadelrab , Alfredo Alexander-Katz
Wednesday, March 15, 2017 3:54PM - 4:06PM	P9.00006: Molecular Mobility in Phase Segregated Bottlebrush Block Copolymer Melts Benjamin Yavitt , Yue Gai , Dongpo Song , H. Henning Winter , James Watkins
Wednesday, March 15, 2017 4:06PM - 4:18PM	P9.00007: Molecular Dynamics Simulations of Fluorinated Bottlebrush Copolymers in Thin Films Jan-Michael Carrillo , Dongsook Chang , Kunlun Hong , Bobby Sumpter
Wednesday, March 15, 2017 4:18PM - 4:30PM	P9.00008: Influence of side chain length and volume fraction on the morphology of bottlebrush block copolymers Yue Gai , Dong-po Song , Benjamin Yavitt , James Watkins
Wednesday, March 15, 2017 4:30PM - 4:42PM	P9.00009: Effects of co-Polymer Structured Architecture on Solution Assembly Anuradhi Wickramasinghe , Manjula Senanayake , Sidath Wijesinghe , Supun S Mohottalalage , Dipak Aryal , Dvora Perahia , Lilin He , Gary S Grest
Wednesday, March 15, 2017 4:42PM - 4:54PM	P9.00010: Renewable Pentablock Copolymers Containing Bulky Natural Rosin for Tough Bioplastics. Md Anisur Rahman , Mitra S. Ganewatta , Hasala N. Lokupitiya , Yuan Liang , Morgan Stefik , Chuanbing Tang
Wednesday, March 15, 2017 4:54PM - 5:06PM	P9.00011: Quantifying the molecular interactions between block copolymers and lipid bilayers Wenjia Zhang , Karen Haman , Timothy Lodge , Frank Bates
Wednesday, March 15, 2017 5:06PM - 5:18PM	P9.00012: Identifying The Gyroid-disorder Transition In Simulations Of Diblock Copolymer Melts Taher Ghasimakbari , David Morse
Wednesday, March 15, 2017 5:18PM - 5:30PM	P9.00013: Determination of Globally Stable Block Copolymer Phases Using Particle Swarm Optimization Carol Tsai , Kris Delaney , Glenn Fredrickson

**Wednesday, March 15, 2017, 2:30 pm – 5:30 pm**

Session P10: Focus Session: Morphology Evolution and Structure-Property Relationship in Multicomponent Curing Systems

Sponsoring Units: DPOLY

Chair: Jodi Mecca, Dow Chemical Co.

Room: 269

Wednesday, March 15, 2017 2:30PM - 3:06PM	P10.00001: Functional bicontinuous nanostructures by in situ formation of block polymer modified thermosets <b>Invited Speaker:</b> Marc Hillmyer
Wednesday, March 15, 2017 3:06PM - 3:18PM	P10.00002: Anisotropic Bicontinuous Nanoporous Materials with Controlled Pore Sizes from Randomly End-linked Copolymer Networks. Di Zeng , Ryan Hayward
Wednesday, March 15, 2017 3:18PM - 3:30PM	P10.00003: Structure and phase behavior of styrene-ethylene/propylene (SEP) diblock copolymer in crosslinkable acrylate monomers YE HUANG , Zhifeng Bai , Jake Joo , Brian Landes , Chris Taylor , Michael Williams , Penkala Kenneth
Wednesday, March 15, 2017 3:30PM - 3:42PM	P10.00004: Enhanced Stress Relaxation and Reduced Cure Stress in Thermosets with Ferrocene-Based Crosslinkers Brad Jones , David Wheeler , Mark Stavig , Hayden Black , Patricia Sawyer , Nicholas Giron , Mathias Celina , Todd Alam
Wednesday, March 15, 2017 3:42PM - 4:18PM	P10.00005: Reaction Induced Phase Separation in Multi-component Epoxy Thermosets for Large Thickness Casting <b>Invited Speaker:</b> Rujul Mehta
Wednesday, March 15, 2017 4:18PM - 4:30PM	P10.00006: Understanding Ion Transport in Epoxy-based Polymer Electrolyte. U Hyeok Choi , Hyekyeong Jang , Byung Mun Jung , Sang-Bok Lee
Wednesday, March 15, 2017 4:30PM - 4:42PM	P10.00007: Recyclable crosslinked polymer networks with full property recovery made via one-step controlled radical polymerization Kailong Jin , Lingqiao Li , John Torkelson
Wednesday, March 15, 2017 4:42PM - 4:54PM	P10.00008: Impact of x-Linkable Polymer Blends on Phase Morphology and Adhesion Chun Liu , Grace Wan , Ellen Keene , Joseph Harris , Sipei Zhang , Stephanie Anderson , Colin Li Pi Shan
Wednesday, March 15, 2017 4:54PM - 5:06PM	P10.00009: Synthesis, structure and properties of highly elastic poly(dimethylsiloxane)/graphene oxide composite elastomer membranes Heonjoo Ha , Jaesung Park , Benny D. Freeman , Christopher J. Ellison
Wednesday, March 15, 2017 5:06PM - 5:18PM	P10.00010: Polymeric Helical Microactuators: Achieving High Speed and High Extension. Yongjin Kim , Alfred Crosby
Wednesday, March 15, 2017 5:18PM - 5:30PM	P10.00011: Effect of Cross-Linking on Free Volume Properties of PEG Based Thiol-Ene Networks Ramesh Ramakrishnan , Vivek Vasagar , Sergei Nazarenko

## Wednesday, March 15, 2017, 2:30 pm – 5:30 pm

Session P11: Focus Session: Polymers for Energy Storage and Conversion II

Sponsoring Units: DPOLY

Chair: Lisa Hall, Ohio State University

Room: 270

Wednesday, March 15, 2017 2:30PM - 2:42PM	P11.00001: Controlling Crystal Microstructure to Minimize Loss in Polymer Dielectrics Daniel Miranda , Ciprian Iacob , Shihai Zhang , James Runt
Wednesday, March 15, 2017 2:42PM - 2:54PM	P11.00002: Achieving dielectric enhancement in dipolar polymer blends: free volume increase while maintaining low loss Bing Zhang , Yash Thakur , Rui Dong , Wenchang Lu , Ciprian Iacob , James Runt , Qiming Zhang , Jerry Bernholc
Wednesday, March 15, 2017 2:54PM - 3:06PM	P11.00003: Fabrication of laser induced periodic surface structures on P3HT/ PC\$_{\mathrm{71}}\$BM photovoltaic blends T.A. Ezquerra , J. Cui , A. Rodriguez-Rodriguez , M. Hernandez , M.C. Garcia-Gutierrez , A. Nogales , M. Castillejo , E. Rebollar
Wednesday, March 15, 2017 3:06PM - 3:42PM	P11.00004: Simultaneously Ion- and Electron-Conducting Block Copolymer Binders for Battery Electrodes <b>Invited Speaker:</b> Rafael Verduzco
Wednesday, March 15, 2017 3:42PM - 3:54PM	P11.00005: Optoelectronic Properties of Conjugated Block Copolymer with Flexible Linking Group Zhiqi Hu , Rafael Verduzco
Wednesday, March 15, 2017 3:54PM - 4:06PM	P11.00006: Morphological Effect on Performance of Organic Photovoltaics---In Terms of Entropy and Helmholtz Energy Eisuke Kawashima , Mikiya Fujii , Koichi Yamashita
Wednesday, March 15, 2017 4:06PM - 4:18PM	P11.00007: The Influence of Backbone Correlation Length and Dopant Strength on the Thermoelectric Power Factor of Semiconducting Polymers Shrayesh Patel , Anne Glaudell , Eunhee Lim , Michael Chabinye
Wednesday, March 15, 2017 4:18PM - 4:30PM	P11.00008: A theoretical study on charge transfer type excitons at donor/acceptor interfaces of organic solar cells. Azusa Muraoka , Reina Tachibana , Mikiya Fujii , Kenji Mishima , Koichi Yamashita
Wednesday, March 15, 2017 4:30PM - 4:42PM	P11.00009: Thermoelectric Transport in Organic Semiconductors Using Polymerized Ionic Liquid Gate Dielectrics Elayne Thomas , Bhooshan Popere , Haiyu Fang , Michael Chabinye , Rachel Segalman
Wednesday, March 15, 2017 4:42PM - 4:54PM	P11.00010: Achieving Novel Relaxor Ferroelectric Behavior in a Nylon Terpolymer Zhongbo Zhang , Lei Zhu , Morton Litt
Wednesday, March 15, 2017 4:54PM - 5:06PM	P11.00011: Structure-Function Relationships of Ferroelectric Polymers. Eleni Pavlopoulou , Jon Maiz , Nicoletta Spampinato , Mario Maglione , Georges Hadziioannou
Wednesday, March 15, 2017 5:06PM - 5:18PM	P11.00012: Ferroelectric Properties of Large Area Evaporated Vinylidene Fluoride Thin Films Keith Foreman , Shashi Poddar , Adam Workman , Sara Callori , Stephen Ducharme , Shireen Adenwalla



Wednesday, March 15, 2017  
5:18PM - 5:30PM

P11.00013: Stretching-Induced Novel Relaxor Ferroelectric Behavior In a Poly(vinylidene fluoride-co-trifluoroethylene-co-hexafluoropropylene) Random Terpolymer  
Lei Zhu , Yue Li , Thibaut Soulestin , Bruno Ameduri , Fabrice Domingues Dos Santos

**Wednesday, March 15, 2017, 2:30 pm – 5:30 pm**

Session P21: Invited Session: Soft Tribute to John Cahn

Sponsoring Units: DPOLY GSNP

Chair: Kalman Migler, NIST

Room: 281-282

Wednesday, March 15, 2017 2:30PM - 3:06PM	P21.00001: The Legacy of John W. Cahn <b>Invited Speaker:</b> James Warren
Wednesday, March 15, 2017 3:06PM - 3:42PM	P21.00002: Reconciliation of Cahn-Hilliard predictions for spinodal decomposition lengthscales in polymer blends <b>Invited Speaker:</b> Joao Cabral
Wednesday, March 15, 2017 3:42PM - 4:18PM	P21.00003: Liquid Quasicrystals <b>Invited Speaker:</b> Goran Ungar
Wednesday, March 15, 2017 4:18PM - 4:54PM	P21.00004: Softening and Hardening Mechanisms in Dislocation-Enabled Plasticity <b>Invited Speaker:</b> James Langer
Wednesday, March 15, 2017 4:54PM - 5:30PM	P21.00005: Small Angle Neutron Scattering Study in Multi-Component Polymer Systems: Spinodal Decomposition and Beyond <b>Invited Speaker:</b> Charles Han

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R4: Focus Session: Physics of Proteins Association and Recognition II

Sponsoring Units: DBIO DPOLY

Chair: Margaret Cheung, University of Houston

Room: 263

Thursday, March 16, 2017 8:00AM - 8:12AM	R4.00001: Conflicting thermal response of a monomer and a tandem dimer of a membrane protein segment (hHv1) Panisak Boonamnaj , Sunita Subedi Paudel , Warin Jetsadawisut , Sunan Kitjaruwankul , Pornthep Sompornpisut , Ras Pandey
Thursday, March 16, 2017 8:12AM - 8:24AM	R4.00002: Membrane permeation of self-adapting metaphilic peptides Ming Han , Michelle Lee , Gerard Wong , Erik Luijten
Thursday, March 16, 2017 8:24AM - 8:36AM	R4.00003: Temperature- and solvent-responsive structures of CorA protein and its membrane segments Sunan Kitjaruwankul , Panisak Boonamnaj , Sunita Paudel , Warin Jetsadawisut , Pornthep Sompornpisut , Ras Pandey
Thursday, March 16, 2017 8:36AM - 9:12AM	R4.00004: Opposing intermolecular tuning of Ca <sup>2+</sup> affinity for Calmodulin by its target peptides <b>Invited Speaker:</b> Margaret Cheung
Thursday, March 16, 2017 9:12AM - 9:24AM	R4.00005: Side-chain mobility in the folded state of Myoglobin Heiko Lammert , Jose Onuchic
Thursday, March 16, 2017 9:24AM - 9:36AM	R4.00006: Characterizing insertions in coiled coil proteins Nathan Schmidt , William DeGrado
Thursday, March 16, 2017 9:36AM - 9:48AM	R4.00007: Estimates of Twisting and Bending Rigidities of Beta-Solenoid Proteins Using Molecular Dynamics Amanda Parker , Krishnakumar Ravikumar , Daniel Cox
Thursday, March 16, 2017 9:48AM - 10:00AM	R4.00008: Representing the Marginal Stability of Peptides in Coarse Grained Models Mehmet Sayar , Cahit Dalgicdir , Farhad Ramezanghorbani
Thursday, March 16, 2017 10:00AM - 10:12AM	R4.00009: Computational Studies of Protein Core Mutations Jennifer Gaines , Lynne Regan , Corey O'Hern
Thursday, March 16, 2017 10:12AM - 10:24AM	R4.00010: Effect of salt entropy on protein solubility and Hofmeister series Yuba Dahal , Jeremy Schmit
Thursday, March 16, 2017 10:24AM - 10:36AM	R4.00011: Photo-reduction on the rupture of disulfide bonds and the related protein assembling Wei Wang
Thursday, March 16, 2017 10:36AM - 10:48AM	R4.00012: Effect of point mutations on the mechanics of enzymes Zahrasadat Alavi
Thursday, March 16, 2017 10:48AM - 11:00AM	R4.00013: Modelling Tethered Enzymatic Reactions Citlali Solis Salas , Jesse Goyette , Nicola Coker-Gordon , Marcus Bridge , Samuel Isaacson , Jun Allard , Philip Maini , Omer Dushek

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R6: Polymer Melts and Solutions

Sponsoring Units: DPOLY

Chair: Guruswamy Kumaraswamy, CSIR-NCL

Room: 265

Thursday, March 16, 2017 8:00AM - 8:12AM	R6.00001: Flexibility governs diffusivity of active colloidal chains Bipul Biswas , Guruswamy Kumaraswamy , Raj Manna , Abhrajit Laskar , Sunil Kumar , Ronojoy Adhikari
Thursday, March 16, 2017 8:12AM - 8:24AM	R6.00002: Many-Body Dissipative Particle Dynamics Simulations of Polymer Solutions: Hydrodynamic Interactions and Entanglements Xin Yong
Thursday, March 16, 2017 8:24AM - 8:36AM	R6.00003: Preventing Small Molecule Nucleation and Crystallization by Sequestering in a Micelle Corona Ziang Li , Lindsay Johnson , Ralm Ricarte , Letitia Yao , Marc Hillmyer , Frank Bates , Timothy Lodge
Thursday, March 16, 2017 8:36AM - 8:48AM	R6.00004: Viscoelastic Relaxation of Mono-functionally End-Associating Rouse Chains: Experimental Test Hiroshi Watanabe , Yumi Matsumiya
Thursday, March 16, 2017 8:48AM - 9:00AM	R6.00005: Melt extending polyisoprene to develop new understanding of nonlinear polymer rheology Jianning Liu , Yi Feng , Misichronis Kostas , Apostolos Avgeropoulos , Shi-Qing Wang
Thursday, March 16, 2017 9:00AM - 9:12AM	R6.00006: Fingerprinting molecular deformation of entangled polymers by small-angle neutron scattering Yangyang Wang , Zhe Wang , Christopher Lam , Weiyu Wang , Jianning Liu , Yun Liu , Kunlun Hong , Christopher Stanley , Wei-Ren Chen
Thursday, March 16, 2017 9:12AM - 9:24AM	R6.00007: How mechanical behavior of glassy polymers enables us to characterize melt deformation: elastic yielding in glassy state after melt stretching? Shi-Qing Wang , Zhichen Zhao , Mesfin Tsige , Yexin Zheng
Thursday, March 16, 2017 9:24AM - 9:36AM	R6.00008: How does a polymer swell in poor solvent mixtures? Debashish Mukherji , Carlos Marques , Torsten Stuehn , Kurt Kremer
Thursday, March 16, 2017 9:36AM - 9:48AM	R6.00009: Dynamics of Entangled Polymers: Role of Attractive Interactions Gary S. Grest , Jason Koski
Thursday, March 16, 2017 9:48AM - 10:00AM	R6.00010: Crossover Behavior of Gas Transport in Polymer Melts: A Molecular Simulation Approach to the Robeson Plot Kai Zhang , Sanat Kumar
Thursday, March 16, 2017 10:00AM - 10:12AM	R6.00011: Polymer Dynamics Studied by Field-Cycling NMR Relaxometry Marius Hofmann , Benjamin Kresse , Alexei Privalov , Franz Fajara , Nail Fatkullin , Ernst Roesler
Thursday, March 16, 2017 10:12AM - 10:24AM	R6.00012: Multipoint Segmental Repulsive Potential Model for Dissipative Particles Dynamics of Uncrossing Polymer Chains Nobuyuki IWAOKA , Katsumi HAGITA , Hiroshi TAKANO
Thursday, March 16, 2017 10:24AM - 10:36AM	R6.00013: High Throughput investigation of Tunable Thermo-responsive Polymers Jodi Mecca , Anurima Singh , Sara Ouellette , Jeff Mitchell

Thursday, March 16, 2017  
10:36AM - 10:48AM

R6.00014: Re-entrance of Poly(N,N-diethylacrylamide) in  
D<sub>2</sub>O/d-Ethanol Mixture at 27 °C.  
He Cheng

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R9: Focus Session: Architectural Design of Polymers II

Sponsoring Units: DPOLY

Chair: Bryan Beckingham, Auburn University

Room: 268

Thursday, March 16, 2017 8:00AM - 8:12AM	R9.00001: Domain bridging in melts of starblock copolymers Russell Spencer , Mark Matsen
Thursday, March 16, 2017 8:12AM - 8:24AM	R9.00002: Inverse design of bulk morphologies in block copolymers using particle swarm optimization Mihir Khadilkar , Kris Delaney , Glenn Fredrickson
Thursday, March 16, 2017 8:24AM - 8:36AM	R9.00003: Adjustable bridge blocks make huge difference to the self-assembly of multiblock copolymers Weihua Li
Thursday, March 16, 2017 8:36AM - 9:12AM	R9.00004: Self-Consistent Field Theories for the Role of Large Length-Scale Architecture in Polymers <b>Invited Speaker:</b> David Wu
Thursday, March 16, 2017 9:12AM - 9:24AM	R9.00005: Effect of Molecular Weight on Competitive Self-Assembly of Poly(3-dodecylthiophene)-block-poly(methyl methacrylate) Copolymers Kyu Seong Lee , Jicheol Park , Chungryong Choi , Jongheon Kwak , Hong Chul Moon , Jin Kon Kim
Thursday, March 16, 2017 9:24AM - 9:36AM	R9.00006: Examining the Self-Assembly of Rod-Coil Block Copolymers via Physics Based Polymer Models and Polarized X-Ray Scattering Adam Hannon , Daniel Sunday , Donald Windover , Christopher Liman , Alec Bowen , Gurdaman Khaira , Juan de Pablo , Dean DeLongchamp , R. Joseph Kline
Thursday, March 16, 2017 9:36AM - 9:48AM	R9.00007: Regioregularity-Driven Phase Transition of Poly(3-hexylthiophene)-Based Block Copolymers Jin-Seong Kim , Yongjoo Kim , Hyun-Jeong Kim , Hyeong Jun Kim , Hyunseung Yang , Yeon Sik Jung , Gila E. Stein , Bumjoon J. Kim
Thursday, March 16, 2017 9:48AM - 10:00AM	R9.00008: Melt Miscibility in Block Copolymers Containing Polyethylene and Substituted Polynorbornenes. William Mulhearn , Richard Register
Thursday, March 16, 2017 10:00AM - 10:12AM	R9.00009: Generation of Complex Morphologies in Diblock Copolymers via Blending Ronald Lewis , Morgan Schulze , Seamus Jones , Haley Beech , Robert Hickey , James Lettow , Frank Bates
Thursday, March 16, 2017 10:12AM - 10:24AM	R9.00010: Systematic and Simulation-Free Coarse Graining of Polymer Blends Qiang Wang
Thursday, March 16, 2017 10:24AM - 10:36AM	R9.00011: Probing Kinetic and Thermodynamic Effects on Self-Stratified Polymer Blends Samantha Rinehart , Mark Dadmun
Thursday, March 16, 2017 10:36AM - 10:48AM	R9.00012: Novel Modelling Tool for Energetics Licia Dossi
Thursday, March 16, 2017 10:48AM - 11:00AM	R9.00013: Phase behavior of particle-forming polyisoprene-b-poly lactide diblock copolymers Kyungtae Kim , Ronald Lewis , Morgan Schulze , Akash Arora , Kevin Dorfman , Frank Bates

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R10: Polyelectrolyte Complexation

Sponsoring Units: DPOLY

Chair: Debra Audus, NIST

Room: 269

Thursday, March 16, 2017 8:00AM - 8:12AM	R10.00001: Complex Coacervation of Oppositely Charged Polyelectrolyte Mixtures: a Liquid-State Theory Study Pengfei Zhang , Nayef Alsaifi , Jianzhong Wu , Zhen-Gang Wang
Thursday, March 16, 2017 8:12AM - 8:24AM	R10.00002: Dynamics in Complex Coacervates Sarah Perry
Thursday, March 16, 2017 8:24AM - 8:36AM	R10.00003: Molecular Structure and Sequence in Complex Coacervates Charles Sing , Tyler Lytle , Jason Madinya , Mithun Radhakrishna
Thursday, March 16, 2017 8:36AM - 8:48AM	R10.00004: Molecular Effects on Coacervate-Driven Block Copolymer Self Assembly Tyer Lytle , Mithun Radhakrishna , Charles Sing
Thursday, March 16, 2017 8:48AM - 9:00AM	R10.00005: Interaction between Oppositely Charged Polymers Anisha Shakya , John King
Thursday, March 16, 2017 9:00AM - 9:12AM	R10.00006: Sequence effects on Polyelectrolyte Complexation Michael McGovern , David Morse , Kevin Dorfman
Thursday, March 16, 2017 9:12AM - 9:24AM	R10.00007: Effects of charge connectivity on macromolecular complexation Jian Qin
Thursday, March 16, 2017 9:24AM - 9:36AM	R10.00008: Effects of the dielectric contrast and hydrogen bond between polymer and ionic liquid on the shift in the critical point of the spinodal from a polymer-poor to a polymer-rich region Issei Nakamura
Thursday, March 16, 2017 9:36AM - 9:48AM	R10.00009: Effects of drying and ionic strength on non-linear growth of polyelectrolyte multilayers Victor Selin , John Ankner , Svetlana Sukhishvili
Thursday, March 16, 2017 9:48AM - 10:00AM	R10.00010: Effect of Water on the Thermal Transition Observed in Polyelectrolyte Complexes Yanpu Zhang , Piotr Batys , Fei Li , Jodie Lutkenhaus , Maria Sammalkorpi
Thursday, March 16, 2017 10:00AM - 10:12AM	R10.00011: Spontaneous formation of aqueous droplets in complex coacervate systems Samim Ali , Vivek Prabhu
Thursday, March 16, 2017 10:12AM - 10:24AM	R10.00012: Field Theoretic Simulations of Self-Coacervation Phenomena in Block Polyampholytes Scott Danielsen , Kris Delaney , Rachel Segalman , Glenn Fredrickson
Thursday, March 16, 2017 10:24AM - 10:36AM	R10.00013: Stoichiometric Polyzwitterion-Inorganic Heteropolyaion Complexation into Tunable Coacervates and Hydrogels. Benxin Jing , Manuela Ferreira , Yingxi Elaine Zhu
Thursday, March 16, 2017 10:36AM - 10:48AM	R10.00014: Polyelectrolyte Complexes in Solution: A Molecular Dynamics Study Yanfei Tang , Shengfeng Cheng
Thursday, March 16, 2017 10:48AM - 11:00AM	R10.00015: Diffusion of oligonucleotides from within Iron-Cross-Linked, Polyelectrolyte-Modified Alginate Beads: A Model System for Drug Release. Sergii Domanskyi , Vladimir Privman , Roberto Luz , Nataliia Guz , Lawrence Glasser , Evgeny Katz

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R11: Focus Session: Polymer Crystallization Under Confinement

Sponsoring Units: DPOLY

Chair: George Floudas, University of Ioannina

Room: 270

Thursday, March 16, 2017 8:00AM - 8:36AM	R11.00001: Correlating Polymer Crystals via Self-Induced Nucleation <b>Invited Speaker:</b> G\u00fcter Reiter
Thursday, March 16, 2017 8:36AM - 8:48AM	R11.00002: Precisely Branched Polyethylene: Effect of Alkyl Branch Size on Nanoscale Morphology Ingo Lieberwirth , Kenneth Wagener , Bora Inci , Haixin Zhou
Thursday, March 16, 2017 8:48AM - 9:00AM	R11.00003: Overall Isothermal Crystallization Kinetics of Precision Polyethylenes with Bromine in a Wide Temperature Range Xiaoshi Zhang , Wei Zhang , Emine Boz , Kenneth B Wagener , Rufina G Alamo
Thursday, March 16, 2017 9:00AM - 9:12AM	R11.00004: Effect of chain topology on crystallization within nanoporous alumina. Yang Yao , Yasuhito Suzuki , Takamasa Sakai , Jan Seiwert , Holger Frey , Martin Steinhart , Hans-Juergen Butt , George Floudas
Thursday, March 16, 2017 9:12AM - 9:24AM	R11.00005: Effects of polydispersity, additives, and impurities on the crystallization of semi-crystalline polymers confined to nanoporous alumina Yasuhito Suzuki , Martin Steinhart , Hans-J\u00fcrgen Butt , George Floudas
Thursday, March 16, 2017 9:24AM - 9:36AM	R11.00006: Functional Polymer Crystallization in Cylindrical Pores Aurora Nogales , Jaime Martin
Thursday, March 16, 2017 9:36AM - 9:48AM	R11.00007: Polymer crystallization in gratings prepared by Nanoimprint Lithography as revealed by Atomic Force Microscopy and Grazing Incidence X-ray Scattering T. A. Ezquerra , M. Soccio , D.E. Martinez-Tong , N. Alayo , M.C. Garcia-Gutierrez , F. Perez-Murano , N. Lotti , A. Munari
Thursday, March 16, 2017 9:48AM - 10:00AM	R11.00008: Polymer Crystallization in Nanoparticles Aurora Nogales , Jing Cui , Daniel Martinez-Tong , Tiberio A Ezquerra
Thursday, March 16, 2017 10:00AM - 10:12AM	R11.00009: Confined and directed polymer crystallization at liquid/liquid interface. Christopher Li , Hao Qi , Mark Staub
Thursday, March 16, 2017 10:12AM - 10:24AM	R11.00010: Polymer Deposition from a Quasi-Vapor Phase as a New Route to Access a Wide Temperature Range for Crystallization Hyuncheol Jeong , Craig Arnold , Rodney Priestley
Thursday, March 16, 2017 10:24AM - 10:36AM	R11.00011: Interface & confinement induced order and orientation in thin films of Poly-Caprolactone Kossack Wilhelm , Anne Seidlitz , Thomas Thurn-Albrecht , Friedrich Kremer
Thursday, March 16, 2017 10:36AM - 10:48AM	R11.00012: Ultrathin film crystallization of poly( $\epsilon$ -caprolactone) in blends containing styrene-isoprene block copolymers: the nano-rose morphology Giovanni Kelly , Julie Albert



Thursday, March 16, 2017  
10:48AM - 11:00AM

R11.00013: Crystal Thickening in Strongly Segregated Crystalline-  
Amorphous Diblock Copolymers  
Adam B. Burns , Richard A. Register

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R18: Polymers Adsorbed onto Solids - Interplay Among Structures, Dynamics, and Properties I

Sponsoring Units: DPOLY

Chair: Bulent Akgun, Bogazici University

Room: 277

Thursday, March 16, 2017 8:00AM - 8:12AM	R18.00001: Polymer Conformation Under 1-Dimensional Rigid Symmetric Confinement James Pressly , Ronald Jones , Robert Riggelman , Karen Winey
Thursday, March 16, 2017 8:12AM - 8:24AM	R18.00002: Effect of Asymmetric Dynamics of Interfacial Polymers on Mechanical Response and Particle Dynamics of Polymer Nanocomposites Siyang Yang , Suresh Narayanan , Pinar Akcora
Thursday, March 16, 2017 8:24AM - 8:36AM	R18.00003: Unveiling the Dynamics of Self-Assembled Layers of Thin Films of PVME by Nanosized Relaxation Spectroscopy Sherif Madkour , Paulina Szymoniak , Andreas Schoenhals
Thursday, March 16, 2017 8:36AM - 8:48AM	R18.00004: Unraveling the Interfacial Interactions in Poly (2-vinylpyridine)/Silica Nanocomposites Dmitry Voylov , Adam Holt , Benjamin Doughty , Vera Bocharova , Harry Meyer III , Shiwang Cheng , Halie Martin , Mark Dadmun , Alexander Kisliuk , Alexei Sokolov
Thursday, March 16, 2017 8:48AM - 9:00AM	R18.00005: Probing the Intercalation Behavior and Confining Effect of Clay Particles on an Amorphous Dendritic Polyester Kevin Meyers , Jeremy Decker , Sergei Nazarenko
Thursday, March 16, 2017 9:00AM - 9:12AM	R18.00006: Dynamically asymmetric polymer blends on nanoparticles: Effects on chain conformation, entanglement and particle mobility in nanocomposites Antonio Faraone , Erkan Senses , Pinar Akcora , Madhusudan Tyagi , Yimin Mao , Suresh Narayanan
Thursday, March 16, 2017 9:12AM - 9:24AM	R18.00007: Adhesion properties of an elastomer enhanced by the presence of liquid drops in its structure Anais Giustiniani , Wiebke Drenckhan , Christophe Poulard
Thursday, March 16, 2017 9:24AM - 9:36AM	R18.00008: Selective Electroless Nickel Plating on PMMA using Chloroform Pre-Treatment Nicholas Sipes
Thursday, March 16, 2017 9:36AM - 9:48AM	R18.00009: Solid/liquid and solid/solid friction of polystyrene in contact with alkylsilane self-assembled monolayers Joshua McGraw , Antoine Niguès , Alessandro Siria
Thursday, March 16, 2017 9:48AM - 10:00AM	R18.00010: How do ultrathin sheets attach to a fluid-fluid interface? Deepak Kumar , Joseph D. Paulsen , Thomas Russell , Benny Davidovitch , Dominic Vella , Narayanan Menon
Thursday, March 16, 2017 10:00AM - 10:12AM	R18.00011: Visualization of the spatiotemporal elasto-hydrodynamic deformation of a compliant thin film under confinement Joelle Frechette
Thursday, March 16, 2017 10:12AM - 10:24AM	R18.00012: Chain conformation near the buried interface in nanoparticle stabilized polymer thin films Justin Cheung , Deborah Barkley , Naisheng Jiang , Mani Sen , Maya Endoh , Jonathan Rudick , Tadanori Koga , Yugang Zhang , Oleg Gang , Guangcui Yuan , Sushil Satija , Daisuke Kawaguchi , Keiji Tanaka , Alamgir Karim

Thursday, March 16, 2017 10:24AM - 10:36AM	R18.00013: Interpenetration of thin polymer layers: effects of crosslinking and molecular weight Thomas A Seery , David Schwarzle , Oswald Prucker , Jurgen Ruehe , Mark Dadmun
Thursday, March 16, 2017 10:36AM - 10:48AM	R18.00014: Too Soft to Stick: Influence of Substrate Modulus on Gecko Adhesion Michael Wilson , Mena Klittich , Craig Bernard , Rochelle Rodrigo , Austin Keith , Peter Niewiarowski , Ali Dhinojwala
Thursday, March 16, 2017 10:48AM - 11:00AM	R18.00015: Entropic segregation of short chains to the surface of a polydisperse melt Pendar Mahmoudi , Mark Matsen

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R21: Invited Session: Polymer Glasses in Confinement and Deformation

Sponsoring Units: DPOLY

Chair: Connie Roth, Emory University

Room: 281-282

Thursday, March 16, 2017 8:00AM - 8:36AM	R21.00001: Shear elasticity and shear relaxation in glass-forming polymer melts and films <b>Invited Speaker:</b> Jorg Baschnagel
Thursday, March 16, 2017 8:36AM - 9:12AM	R21.00002: Tg and Structural Recovery of Single Ultrathin Films <b>Invited Speaker:</b> Sindee Simon
Thursday, March 16, 2017 9:12AM - 9:48AM	R21.00003: Confinement and Interfacial Effects on the Dynamics of Polymer Nanocomposites and Ultra-Thin Films <b>Invited Speaker:</b> Francis Starr
Thursday, March 16, 2017 9:48AM - 10:24AM	R21.00004: Deformation and Recovery of Polymer Glasses: Insights from Molecular Simulations <b>Invited Speaker:</b> Joerg Rottler
Thursday, March 16, 2017 10:24AM - 11:00AM	R21.00005: What We Know and Don't Know About the Thermo-mechanical Behavior of Glassy Polymers <b>Invited Speaker:</b> James Caruthers

**Thursday, March 16, 2017, 8:00 am – 11:00 am**

Session R49: Invited Session: Mechanics in Morphogenesis

Sponsoring Units: GSNP GSOFD DBIO DPOLY

Chair: Andrei Kosmrlj, Princeton University

Room: 396

Thursday, March 16, 2017 8:00AM - 8:36AM	R49.00001: Does the lattice matter? The interplay of tissue mechanics and cell-cell signaling <b>Invited Speaker:</b> Madhav Mani
Thursday, March 16, 2017 8:36AM - 9:12AM	R49.00002: Beller Lectureship: Stochasticity and robustness in growth and morphogenesis <b>Invited Speaker:</b> Arezki Boudaoud
Thursday, March 16, 2017 9:12AM - 9:48AM	R49.00003: A growing Leaf as a Sheet of an Active Solid <b>Invited Speaker:</b> Eran Sharon
Thursday, March 16, 2017 9:48AM - 10:24AM	R49.00004: Motifs in morphogenesis <b>Invited Speaker:</b> L. Mahadevan
Thursday, March 16, 2017 10:24AM - 11:00AM	R49.00005: Buckling and folding in lung development <b>Invited Speaker:</b> Celeste Nelson

**Thursday, March 16, 2017, 11:15 am – 2:15 pm**

Session S4: Focus Session: Photoreceptor and Signal Transduction

Sponsoring Units: DBIO DPOLY

Chair: Wouter Hoff, Oklahoma State University

Room: 263

Thursday, March 16, 2017 11:15AM - 11:27AM	S4.00001: Tryptophan-to-Tryptophan Energy Transfer in UV-B photoreceptor UVR8 Xiankun Li , Dongping Zhong
Thursday, March 16, 2017 11:27AM - 11:39AM	S4.00002: Global Picosecond Structural Dynamics of Orange Carotenoid Protein in Photo/Chemical Activated Signaling States Yanting Deng , Mengyang Xu , Hanjun Liu , Robert Blankenship , Andrea Markelz
Thursday, March 16, 2017 11:39AM - 11:51AM	S4.00003: Temperature dependence of phonons in photosynthesis proteins Mengyang Xu , Dean Myles , Robert Blankenship , Andrea Markelz
Thursday, March 16, 2017 11:51AM - 12:27PM	S4.00004: Direct observation of light-induced structural changes in photoreceptors by dynamic crystallography <b>Invited Speaker:</b> Xiaojing Yang
Thursday, March 16, 2017 12:27PM - 12:39PM	S4.00005: High-field CW electron paramagnetic resonance spectroscopy with Gd(III) tags for structure-dynamics studies of proteorhodopsin Jessica A. Clayton , Chung-ta Han , C. Blake Wilson , Mian Qi , Adelheid Godt , Daniella Goldfarb , Mark S. Sherwin , Songi Han
Thursday, March 16, 2017 12:39PM - 12:51PM	S4.00006: DFT study of tetracationic 5,10,15,20-tetrakis(1-methyl4-pyridyl)-21H,23H porphyrin Helena Petrilli , Eduardo Suárez , Danilo Pereira , Filipe Lima , Arles Rebaza , Vera Constantino
Thursday, March 16, 2017 12:51PM - 1:27PM	S4.00007: Understanding blue-light photoreceptors <b>Invited Speaker:</b> Brian Crane
Thursday, March 16, 2017 1:27PM - 1:39PM	S4.00008: Putting a photon to biological work: lessons from novel photoactive yellow protein homologs. Wouter Hoff , Miwa Hara , Jie Ren , Masato Kumauchi , Aihua Xie , Delmar Larsen , Tyler Mix , Shojiro Haraguchi , Takahito Shingae , Masashi Unno
(Author Not Attending)	S4.00009: Architecture of Allosteric Materials and Edge Modes Le Yan , Riccardo Ravasio , Carolina Brito , Matthieu Wyart
Thursday, March 16, 2017 1:51PM - 2:03PM	S4.00010: Ballistic Motion of Enzymes that Catalyze Highly Exothermic Reactions Konstantinos Tsekouras , Steve Pressé
Thursday, March 16, 2017 2:03PM - 2:15PM	S4.00011: Multistate coarse-grained molecular dynamics for modelling the catalytic cycle of allosteric enzyme. Wenfei Li , Wei Wang , Shoji Takada

## Thursday, March 16, 2017, 11:15 am – 2:15 pm

Session S6: Focus Session: Polymeric Membranes

Sponsoring Units: DPOLY

Chair: Edwin Chan, NIST

Room: 265

Thursday, March 16, 2017 11:15AM - 11:27AM	S6.00001: Ion Specific Effects in Charged Polymer Membranes for Water Purification Geoffrey Geise , Yuanyuan Ji
Thursday, March 16, 2017 11:27AM - 11:39AM	S6.00002: Ion Exchange Polymeric Coatings for Selective Capacitive Deionization Amit Jain , Jun Kim , Qilin Li , Rafael Verduzco
Thursday, March 16, 2017 11:39AM - 11:51AM	S6.00003: Dimensional analysis of membrane distillation flux through fibrous membranes Meagan Mauter
Thursday, March 16, 2017 11:51AM - 12:27PM	S6.00004: Polymeric water filtration membranes <b>Invited Speaker:</b> Mou Paul
Thursday, March 16, 2017 12:27PM - 12:39PM	S6.00005: Molecular Dynamics of Adsorption: Interaction between Benzoic Acid in Solution and Functionalized Carbon Nanotubes Iskinder Arsano , Kevin Feezel , Xingmao Ma , Saikat Talapatra , Mesfin Tsige
Thursday, March 16, 2017 12:39PM - 12:51PM	S6.00006: Structure and Properties of Superhydrophobic membranes of Poly(vinylidene fluoride) and Poly(methyl methacrylate)-r-1H,1H,2H,2H-perfluorodecyl methacrylate Nelaka Govinna , Ilin Sadeghi , Ayse Asatekin , Peggy Cebe
Thursday, March 16, 2017 12:51PM - 1:03PM	S6.00007: Weak polyelectrolytes in Confined Geometries Jonathan K. Whitmer , Vikramjit S. Rathee , Benjamin Sikora
Thursday, March 16, 2017 1:03PM - 1:15PM	S6.00008: Permeability Enhancement in Polymer-Grafted Nanoparticle Membranes with Controllable Free-Volume Connor Bilchak , Eileen Buenning , Sanat Kumar , Christopher Durning , Brian Benicewicz , Ferruccio Doghieri
Thursday, March 16, 2017 1:15PM - 1:27PM	S6.00009: Chemical characterization of solid polymer electrolyte membrane surfaces in $\text{LiFePO}_4$ half-cells. Thein Kyu , Ruixuan He , Fang Peng , William E. Dunn
Thursday, March 16, 2017 1:27PM - 1:39PM	S6.00010: Characterizing the Swelling of a Crosslinked Organosilicon Polymer Zane Thornburg , Paul Bonvallet
Thursday, March 16, 2017 1:39PM - 1:51PM	S6.00011: Effects of Humidity on the Dynamics of Hydrophilic and Hydrophobic Polymers Daniel Hallinan , Onyekachi Oparaji
Thursday, March 16, 2017 1:51PM - 2:03PM	S6.00012: A Particle-Field Hybrid Simulation Method for Studying Strong Correlations in Polymeric Systems Dong Meng , Jing Zong
Thursday, March 16, 2017 2:03PM - 2:15PM	S6.00013: The role of Swelling in Diffusion-Controlled Drug Release: a Lattice Monte Carlo Approach Maxime Ignacio , Gary W. Slater

## Thursday, March 16, 2017, 11:15 am – 2:15 pm

Session S7: Focus Session: Theory and Simulation of Fiber-Based Materials

Sponsoring Units: DCOMP DMP DPOLY

Chair: Ben Jensen, NASA LARC

Room: 266

Thursday, March 16, 2017 11:15AM - 11:51AM	S7.00001: How much can we learn from athermal models of the mechanical response of biopolymer networks? <b>Invited Speaker:</b> Erik Van der Giessen
Thursday, March 16, 2017 11:51AM - 12:27PM	S7.00002: Mechanical critical phenomena and the elastic response of fiber networks <b>Invited Speaker:</b> Fred MacKintosh
Thursday, March 16, 2017 12:27PM - 12:39PM	S7.00003: Anisotropic contraction of hydrogel reinforced by aligned fibers Monica Olvera de la Cruz , Shuangping Liu
Thursday, March 16, 2017 12:39PM - 12:51PM	S7.00004: Competing Morphological Responses to Chirality-Induced Frustration in Twisted Filament Bundles Douglas Hall , Gregory Grason
Thursday, March 16, 2017 12:51PM - 1:03PM	S7.00005: Atomistics of carbon nanotube-polyacrylonitrile interfaces for next-generation carbon fibers: A multiscale computational study Juho Lee , Ji Il Choi , Seung Soon Jang , Satish Kumar , Art E. Cho , Yong-Hoon Kim
Thursday, March 16, 2017 1:03PM - 1:15PM	S7.00006: Mesoscopic Distinct Element Method Simulations of the Mechanical Properties of Hybrid Nanoparticle-Carbon Nanotube Films Yuezhou Wang , Traian Dumitrica
Thursday, March 16, 2017 1:15PM - 1:27PM	S7.00007: Supercapacitors based on Carbon Nanotube Forests Ajay Muralidharan , Xinli You , Lawrence Pratt , Gary Hoffman
Thursday, March 16, 2017 1:27PM - 1:39PM	S7.00008: Objective Molecular Dynamics with Self-consistent Charge Density Functional Tight-Binding (SCC-DFTB) Method Traian Dumitrica , Ben Hourahine , Balint Aradi , Thomas Frauenheim
Thursday, March 16, 2017 1:39PM - 1:51PM	S7.00009: Algebraic Test of Material Conservation in Self-Consistent Field Theory Jaep Kim
Thursday, March 16, 2017 1:51PM - 2:03PM	S7.00010: Molecular Dynamics Modeling of Carbon Nanotube Composite Fracture using ReaxFF Benjamin Jensen , Kristopher Wise , Gregory Odegard
Thursday, March 16, 2017 2:03PM - 2:15PM	S7.00011: Fiber networks stabilized by cohesion: limits of stability and mechanical behavior Ahmed Sengab , Catalin Picu



## Thursday, March 16, 2017, 11:15 am – 2:15 pm

Session S9: Focus Session: Tough Hydrogels I

Sponsoring Units: DPOLY GSOFIT

Chair: Hyun-Joong Chung, University of Alberta

Room: 268

Thursday, March 16, 2017 11:15AM - 11:27AM	S9.00001: Surface-attached orthogonal gradient hydrogels Pandiyarajan Chinnayan Kannan , Jan Genzer
Thursday, March 16, 2017 11:27AM - 11:39AM	S9.00002: Modulation of the Mechanical Properties of Hydrophobically Modified Supramolecular Hydrogels by Surfactant-Driven Structural Rearrangement Chao Wang , Clinton Wiener , Bryan Vogt , R. A. Weiss
Thursday, March 16, 2017 11:39AM - 11:51AM	S9.00003: Study on requirements of the first network for tough double network gels Tasuku Nakajima , Takayuki Kurokawa , Jian Ping Gong
Thursday, March 16, 2017 11:51AM - 12:03PM	S9.00004: Structure and mechanical properties of supramolecular random copolymer hydrogels cross linked by hydrophobic aggregates. Bryan Vogt , Clinton Wiener , Chao Wang , Bob Weiss
Thursday, March 16, 2017 12:03PM - 12:15PM	S9.00005: The Effect of Salt on the Biaxial Viscosity and Creep Behavior of Polyelectrolyte Complex Films Shawn Chen , Kazi Sadman , Kenneth Shull
Thursday, March 16, 2017 12:15PM - 12:27PM	S9.00006: Polymer Structure and Water States in Salt-Containing Polyampholyte Hydrogels Xinda Li , Janet A.W. Elliott , Byeongdu Lee , Hyun-joong Chung
Thursday, March 16, 2017 12:27PM - 1:03PM	S9.00007: Physics and Mechanics of dual-crosslink gels <b>Invited Speaker:</b> Costantino Creton
Thursday, March 16, 2017 1:03PM - 1:15PM	S9.00008: Percolation is not the end of gelation Pasha Tabatabai , Benjamin Partlow , David Kaplan , Daniel Blair
Thursday, March 16, 2017 1:15PM - 1:27PM	S9.00009: Fabrication of macroscopic composite hydrogels to increase fracture toughness Riku Takahashi , Daniel King , Takayuki Nonoyama , Tasuku Nakajima , Taolin Sun , Takayuki Kurokawa , Jian Ping Gong
Thursday, March 16, 2017 1:27PM - 1:39PM	S9.00010: Polycation Crosslinked Triblock Copolymer Hydrogels with High Toughness and Controllable Structures Yaoyao Chen , Kenneth Shull
Thursday, March 16, 2017 1:39PM - 1:51PM	S9.00011: The role of energy dissipation of the matrix in the synergistic toughening of fiber reinforced soft composites Yiwan Huang , Daniel R. King , Tao Lin Sun , Takayuki Kurokawa , Jian Ping Gong
Thursday, March 16, 2017 1:51PM - 2:03PM	S9.00012: Mechanical properties of supermolecular nanocomposite hydrogels formed by solution assembly of graphene oxide with polyelectrolytes Yipin Duan , Chao Wang , Nicole Zacharia , Bryan Vogt
Thursday, March 16, 2017 2:03PM - 2:15PM	S9.00013: The role of reinforcement geometry in toughening hydrogel composites Daniel King , Yiwan Huang , Tao Lin Sun , Takayuki Kurokawa , Jian Ping Gong

## Thursday, March 16, 2017, 11:15 am – 2:15 pm

### Session S10: Charged and Ion-Containing Polymers

Sponsoring Units: DPOLY

Chair: Charles Sing, UIUC

Room: 269

Thursday, March 16, 2017 11:15AM - 11:27AM	S10.00001: The effect of salt on the morphologies of compositionally asymmetric block copolymer electrolytes Whitney Loo , Jacqueline Maslyn , Hee Jeung Oh , Nitash Balsara
Thursday, March 16, 2017 11:27AM - 11:39AM	S10.00002: Effects of ion size and charge asymmetry on the salt distribution in polyelectrolyte blends and block copolymers Ha-Kyung Kwon , Kenneth R. Shull , Jos W. Zwanikken , Monica Olvera de la Cruz
Thursday, March 16, 2017 11:39AM - 11:51AM	S10.00003: Molecular Dynamics Simulations of Ion-Doped Microphase Separated Diblock Copolymers Youngmi Seo , Jonathan R. Brown , Lisa M. Hall
Thursday, March 16, 2017 11:51AM - 12:03PM	S10.00004: Fluids Density Functional Theory of Salt-Doped Block Copolymers Jonathan R. Brown , Lisa M. Hall
Thursday, March 16, 2017 12:03PM - 12:15PM	S10.00005: Ionic Groups Enhanced Microphase Separation of Diblock Copolymers Jing Zong , Dong Meng
Thursday, March 16, 2017 12:15PM - 12:27PM	S10.00006: Structure and Dynamics Ionic Block co-Polymer Melts: Computational Study Dipak Aryal , Dvora Perahia , Gary S. Grest
Thursday, March 16, 2017 12:27PM - 12:39PM	S10.00007: Anomalous phase behavior of ionic polymer blends and ionic copolymers Victor Pryamitsyn , Ha-Kyung Kwon , Johannes Zwanikken , Monica Olvera de la Cruz
Thursday, March 16, 2017 12:39PM - 12:51PM	S10.00008: Effect of Carboxyl Groups on Ionomer Properties from Molecular Dynamics Simulations Janani Sampath , Lisa M. Hall
Thursday, March 16, 2017 12:51PM - 1:03PM	S10.00009: Synthesis and Properties of a Precision Sulfonated Trimethylene-Styrene Polyelectrolyte. Justin Kennemur , William Neary , Michele Bohlmann , Aaron Kendrick
Thursday, March 16, 2017 1:03PM - 1:15PM	S10.00010: Evaporation of Solutions Containing Charged Polymers: A Molecular Dynamics Study Chengyuan Wen , Shengfeng Cheng
Thursday, March 16, 2017 1:15PM - 1:27PM	S10.00011: Effect of Pendant Side-Chain Sterics and Dipole Forces on Short Range Ordering in Random Polyelectrolytes Chinomso Nwosu , Tara Pandey , Andrew Herring , Edward Coughlin
Thursday, March 16, 2017 1:27PM - 1:39PM	S10.00012: Field-theoretic simulations of correlation effects in charged polymers Jing Cao , Robert Riggleman
Thursday, March 16, 2017 1:39PM - 1:51PM	S10.00013: Dielectric Effects on Polyelectrolyte Adsorption Studied by a Local Monte Carlo Algorithm Jian Jiang , Zhen-Gang Wang
Thursday, March 16, 2017 1:51PM - 2:03PM	S10.00014: Polyelectrolyte brushes on dielectric surfaces Hanne Antila , Erik Luijten

Thursday, March 16, 2017  
2:03PM - 2:15PM

S10.00015: Counterion adsorption and desorption rate of a charged  
macromolecule  
Yu Shi , Jingfa Yang , Jiang Zhao

**Thursday, March 16, 2017, 11:15 am – 2:15 pm**

Session S11: Focus Session: Tuning Polymer Rheology for Printing, Spinning, or Coating Applications

Sponsoring Units: DPOLY

Chair: Vivek Sharma, University of Illinois at Chicago

Room: 270

Thursday, March 16, 2017 11:15AM - 11:51AM	S11.00001: A new approach for high performance fiber manufacturing via simultaneous fiber spinning and UV initiated polymerization <b>Invited Speaker:</b> Chris Ellison
Thursday, March 16, 2017 11:51AM - 12:03PM	S11.00002: Capillary Thinning and Pinch-off Dynamics and Printability of Polyelectrolyte Solutions Vivek Sharma , Leidy N. Jimenez , Jelena Dinic , Nikila Parsi
Thursday, March 16, 2017 12:03PM - 12:15PM	S11.00003: Pinch-off dynamics, dripping-onto-substrate rheometry and printability of dilute and semi-dilute polymer solutions Jelena Dinic , Leidy Nallely Jimenez , Madeleine Biagioli , Vivek Sharma
Thursday, March 16, 2017 12:15PM - 12:27PM	S11.00004: Polymer stress anisotropy leads to jetting in rectangular ducts Steven Hudson , Paul Salipante , Charles Little
Thursday, March 16, 2017 12:27PM - 12:39PM	S11.00005: Polymer Disentanglement during 3D Printing. Claire McIlroy , Peter D. Olmsted
(Author Not Attending)	S11.00006: Rheology, thermography, and interlayer welding in polymer extrusion 3D printing Jonathan Seppala , Chelsea Davis , kalman Migler
Thursday, March 16, 2017 12:51PM - 1:03PM	S11.00007: Effect of Flow-Induced Molecular Alignment on Welding of Polymer Interfaces Marco Galvani , Thomas O'Connor , Mark Robbins
Thursday, March 16, 2017 1:03PM - 1:15PM	S11.00008: Disentangling the Role of Entanglement Density and Molecular Alignment in the Mechanical Response of Glassy Polymers Thomas O'Connor , Mark Robbins
Thursday, March 16, 2017 1:15PM - 1:27PM	S11.00009: Improving the Isotropy of Parts Prepared by Fused Deposition Modeling Through the Introduction of Star Architecture Additives Neiko Levenhagen , Mark Dadmun
Thursday, March 16, 2017 1:27PM - 1:39PM	S11.00010: 3D Printing of a Thermoplastic Shape Memory Polymer using FDM Zhiyang Zhao , R.A. Weiss , Bryan Vogt
Thursday, March 16, 2017 1:39PM - 1:51PM	S11.00011: 3D Printing of Ball Grid Arrays Shayandev Sinha , Daniel Hines , Abhijit Dasgupta , Siddhartha Das
Thursday, March 16, 2017 1:51PM - 2:03PM	S11.00012: 3D printable highly conductive and mechanically strong thermoplastic-based nanocomposites Ilyass Tabiai , Daniel Therriault
Thursday, March 16, 2017 2:03PM - 2:15PM	S11.00013: Rheological and Thermal Properties of Bio-based Hyperbranched Polyesters Robert Bubeck , Adina Dumitrascu , Tracy Zhang , Patrick Smith

## Thursday, March 16, 2017, 11:15 am – 2:15 pm

Session S40: Focus Session: Physics of Ring Polymers

Sponsoring Units: DPOLY

Chair: Yongmei Wang, University of Memphis

Room: 387

Thursday, March 16, 2017 11:15AM - 11:51AM	S40.00001: Rheology modification with ring polymers <b>Invited Speaker:</b> Dimitris Vlassopoulos
Thursday, March 16, 2017 11:51AM - 12:03PM	S40.00002: Analysis of the morphology, stability, and folding pathways of ring polymers with supramolecular topological constraints using molecular simulation and nonlinear manifold learning Jiang Wang , Andrew Ferguson
Thursday, March 16, 2017 12:03PM - 12:15PM	S40.00003: Scale-Dependent Viscosity in Ring and Linear Polymer Fluids Watee Srinin , Alexander Grosberg , Jean-Francois Joanny , Yitzhak Rabin
Thursday, March 16, 2017 12:15PM - 12:27PM	S40.00004: Determining the Structure of Ring Polymers and Catenanes in Solution Michael J. A. Hore , Fariyah M. Haque , Scott M. Grayson
Thursday, March 16, 2017 12:27PM - 12:39PM	S40.00005: Nanoparticle Motion in Entangled Melts of Linear and Non-Concatenated Ring Polymers Michael Rubinstein , Ting Ge , Jagannathan Kalathi , Jonathan Halverson , Gary Grest
Thursday, March 16, 2017 12:39PM - 12:51PM	S40.00006: Force-Based Theory for the Center of Mass Dynamics of Dense Ring Polymer Liquids Zachary E. Dell , Kenneth S. Schweizer
Thursday, March 16, 2017 12:51PM - 1:03PM	S40.00007: Confinement in Melts of Chains with Junction Points, but No Ends Mark Foster , Qiming He , Yang Zhou , Fan Zhang , Chongwen Huang , Suresh Narayanan
Thursday, March 16, 2017 1:03PM - 1:15PM	S40.00008: Topological order of a Polymer Chain in a Time-Dependent Potential Ricard Pablo Pedro , Jayson Paulose , Mildred Dresselhaus , Vincenzo Vitelli
Thursday, March 16, 2017 1:15PM - 1:27PM	S40.00009: Tuning polymer dynamics by chain-end association Martin Tress , Kunyue Xing , Pengfei Cao , Shiwang Cheng , Tomonori Saito , Vladimir Novikov , Alexei Sokolov
Thursday, March 16, 2017 1:27PM - 1:39PM	S40.00010: Polymer brushes in weakly interpenetrating regimes Parth Rakesh Desai , Shayandev Sinha , Siddhartha Das
Thursday, March 16, 2017 1:39PM - 1:51PM	S40.00011: Comparison of Critical Adsorption Points of Ring Polymers with Linear Polymers Yongmei Wang , Taihyun Chang
Thursday, March 16, 2017 1:51PM - 2:03PM	S40.00012: Progress in the synthesis and purification of cyclic polymers: towards accurate physical characterization Scott Grayson
Thursday, March 16, 2017 2:03PM - 2:15PM	S40.00013: Design and Fabrication of Novel Polymeric Thin Film Micro-Optical Ring Resonators By Thermocapillary Patterning Yanbing Zhu , Kevin Fiedler , Chengzhe Zhou , Sandra Troian

## Thursday, March 16, 2017, 2:30 pm – 5:30 pm

Session V9: Focus Session: Tough Hydrogels II

Sponsoring Units: DPOLY GSOFIT

Chair: Daniel King, Hokkaido University

Room: 268

Thursday, March 16, 2017 2:30PM - 2:42PM	V9.00001: Mechanically tunable elastomeric hydrogels made from melt-fabricated photoreactive block copolymer micelles Nabila Huq , Travis Bailey
Thursday, March 16, 2017 2:42PM - 2:54PM	V9.00002: Three-dimensional computational model of self-reinforcing polymer gels Santidan Biswas , Victor V. Yashin , Anna C. Balazs
Thursday, March 16, 2017 2:54PM - 3:06PM	V9.00003: Time-dependent Fracture Behaviour of Polyampholyte Hydrogels Tao Lin Sun , Feng Luo , Tasuku Nakajima , Takayuki Kurokawa , Jian Ping Gong
Thursday, March 16, 2017 3:06PM - 3:18PM	V9.00004: Robust Bonding of Tough Double Network Hydrogel to Bone Takayuki Nonoyama , Susumu Wada , Ryuji Kiyama , Nobuto Kitamura , Takayuki Kurokawa , Tasuku Nakajima , Kazunori Yasuda , Jian Ping Gong
Thursday, March 16, 2017 3:18PM - 3:30PM	V9.00005: Polyampholyte hydrogel electrolytes for flexible and self-healing aqueous supercapacitor for low temperature applications Hyun-Joong Chung , Xinda Li
Thursday, March 16, 2017 3:30PM - 3:42PM	V9.00006: Harnessing phase separation of tough hydrogel for optical modulation Thanh-Giang La , Xinda Li , Amit Kumar , Yiyang Fu , Hyun Joong Chung
Thursday, March 16, 2017 3:42PM - 3:54PM	V9.00007: Structural Relaxation in Supramolecular Hydrogels After Uniaxial Elongation Probed by SANS Clinton Wiener , Chao Wang , Yun Liu , R.A. Weiss , Bryan Vogt
Thursday, March 16, 2017 3:54PM - 4:06PM	V9.00008: Structure-Property Relationships in Tough, Superabsorbent Thermoplastic Elastomers for Hemorrhage Control Frederick Beyer , Erich Bain , Tyler Long , Randy Mrozek , Alice Savage , Halie Martin , Mark Dadmun , Joseph Lenhart
Thursday, March 16, 2017 4:06PM - 4:18PM	V9.00009: Extracting Mechanical Properties of Fully-Extended Polymer Chains from DN Gels Takahiro Matsuda , Tatiana B. Kouznetsova , Tasuku Nakajima , Takamasa Sakai , Takayuki Kurokawa , Stephen L. Craig , JianPing Gong
Thursday, March 16, 2017 4:18PM - 4:54PM	V9.00010: Tough Hydrogel Robots: High-Speed, High-Force and Opto-sonically Invisible in Water <b>Invited Speaker:</b> Xuanhe Zhao
Thursday, March 16, 2017 4:54PM - 5:30PM	V9.00011: Three-Dimensional Printing of Complex Structures by Freeform Reversible Embedding of Suspended Hydrogels (FRESH) <b>Invited Speaker:</b> Adam Feinberg

## Thursday, March 16, 2017, 2:30 pm – 5:30 pm

Session V10: Focus Session: Polymers Adsorbed onto Solids - Interplay Among Structures, Dynamics, and Properties II

Sponsoring Units: DPOLY

Chair: Tad Koga, Stony Brook University

Room: 269

Thursday, March 16, 2017 2:30PM - 3:06PM	V10.00001: How irreversible adsorption affects segmental dynamics and glass transition temperature <b>Invited Speaker:</b> Simone Napolitano
Thursday, March 16, 2017 3:06PM - 3:18PM	V10.00002: Dynamics of Poly(methyl methacrylate) and Polystyrene Thin Films on Hydrophobic and Hydrophilic Surfaces Mesfin Tsige
Thursday, March 16, 2017 3:18PM - 3:30PM	V10.00003: Thin Film Stability of Polystyrene with a Functional End Group Keiji Tanaka , Shinichiro Shimomura , Manabu Inutsuka , Koichiro Tajima , Masaaki Nabika , Satoru Moritomi , Hisao Matsuno
Thursday, March 16, 2017 3:30PM - 3:42PM	V10.00004: Modifying Effects of Plasticizer, Chain Connectivity, and Chain Adsorption on the Physical Aging and Interfacial Gradient in Dynamics in Thin Polystyrene Films Michael Thees , Connie Roth
Thursday, March 16, 2017 3:42PM - 3:54PM	V10.00005: Polymer-Substrate Interactions in Irreversible Adsorption Mary J. Burroughs , Rodney D. Priestley
Thursday, March 16, 2017 3:54PM - 4:06PM	V10.00006: Modifying Surface Fluctuations of Polymer Melt Films with Substrate Modification Yang Zhou , Qiming He , Fan Zhang , Feipeng Yang , Suresh Narayanan , Guangcui Yuan , Ali Dhinojwala , Mark Foster
Thursday, March 16, 2017 4:06PM - 4:18PM	V10.00007: Two-dimensional phase separated structures of block copolymers on solids Mani Sen , Naisheng Jiang , Maya Endoh , Tadanori Koga , Alexander Ribbe
Thursday, March 16, 2017 4:18PM - 4:30PM	V10.00008: Monte Carlo Simulation of Polymer Adsorption on Rough Substrates Vikram Kuppa , Abishek Venkatakrishnan
Thursday, March 16, 2017 4:30PM - 4:42PM	V10.00009: Structure of Irreversibly Adsorbed Star Polymers Bulent Akgun , Meryem Seyma Aykan , Seda Canavar , Sushil K. Satija , David Uhrig , Kunlun Hong
Thursday, March 16, 2017 4:42PM - 4:54PM	V10.00010: Structure and Dynamics of Thin Polyacrylate Gel Films Supported on a Polymeric Substrate Sriramvignesh Mani , Rafikul Islam , Rajesh Khare
Thursday, March 16, 2017 4:54PM - 5:06PM	V10.00011: Functionality of Chloroform Treatment to Improve Adhesion of Deposited Au Thin Films on PMMA Luis Royo Romero
Thursday, March 16, 2017 5:06PM - 5:18PM	V10.00012: Studying polymer films deposited on solid surfaces using generic microscopic and mesoscopic soft models Jianguo Zhang , Debashish Mukherji , Kurt Kremer , Kostas Daoulas
Thursday, March 16, 2017 5:18PM - 5:30PM	V10.00013: Kinetics of Chain Collapse Induced by Adding Non-Solvent zhengnan yang , Ali Dhinojwala

## Thursday, March 16, 2017, 2:30 pm – 5:30 pm

Session V11: Focus Session: Polymer Crystallization

Sponsoring Units: DPOLY

Chair: Julie Albert, Tulane University

Room: 270

Thursday, March 16, 2017 2:30PM - 2:42PM	V11.00001: The Crystallization Transition and Microstructure Evolution of Long Chain Aliphatic Polyamide under External Force Xia Dong , Lili Wang , Yunyun Gao , Dujin Wang
Thursday, March 16, 2017 2:42PM - 2:54PM	V11.00002: Model-guided experimental design of flow-induced crystallization of poly(1-butene) under uniaxial extensional flow as measured by small angle x-ray scattering Mu Sung Kweon , Wesley Burghardt
Thursday, March 16, 2017 2:54PM - 3:06PM	V11.00003: Simultaneous rheology and crystallinity measures of the shear-assisted crystallization of polycaprolactones Anthony Kotula , Kalman Migler
Thursday, March 16, 2017 3:06PM - 3:42PM	V11.00004: Chain Trajectory of Semicrystalline Polymers As Revealed by Solid-State NMR Spectroscopy <b>Invited Speaker:</b> Toshikazu Miyoshi
Thursday, March 16, 2017 3:42PM - 3:54PM	V11.00005: "Plunger" Method for Simulating Polymer Crystal-Melt Interfacial Tensions Qin Chen , Daniel Kozuch , Scott Milner
Thursday, March 16, 2017 3:54PM - 4:06PM	V11.00006: Tammann's Nuclei Development Approach in Crystallization of Macromolecules. Christoph Schick , Evgeny Zhuravlev , Rene Androsch
Thursday, March 16, 2017 4:06PM - 4:18PM	V11.00007: Chain Trajectory of Poly (l-Lactic Acid) in Solution- and Melt-Grown Crystals As Studied by $^{13}\text{C}$ - $^{13}\text{C}$ Double-Quantum NMR Shijun Wang , Shichen Yuan , Toshikazu Miyoshi
Thursday, March 16, 2017 4:18PM - 4:30PM	V11.00008: New insights on crystallization in a benchmark organic photovoltaic system by fast scanning chip calorimetry Niko Van den Brande , Bruno Van Mele , Mark Ediger
Thursday, March 16, 2017 4:30PM - 4:42PM	V11.00009: Nanostructures of Oligo- and Polythiophenes by Chain-Growth Polymerization. Chunwa Kei , Evgueni Nesterov
Thursday, March 16, 2017 4:42PM - 4:54PM	V11.00010: Wide- and Small-angle X-ray Scattering Study on Poly(ethylene furanoate): Crystal Structure and Time-resolved Experiment Yimin Mao , Robert Kriegel , David Bucknall
Thursday, March 16, 2017 4:54PM - 5:06PM	V11.00011: Evidence of LLPS in melts of broadly distributed ethylene copolymers via deuterium labeling and effect on self-nucleation and crystallization Xuejian Chen , George D Wignall , Lili He , Rufina G Alamo
Thursday, March 16, 2017 5:06PM - 5:18PM	V11.00012: Heat Capacity, Crystallization, and Nucleation in Poly(vinyl alcohol) Thin Films David Thomas , Andreas Wurm , Evgeny Zhuravlev , Christoph Schick , Peggy Cebe
Thursday, March 16, 2017 5:18PM - 5:30PM	V11.00013: Nucleation, crystallization, and melting of atactic polystyrene. Yu Chai , James Forrest



**Thursday, March 16, 2017, 2:30 pm – 5:30 pm**

Session V18: Focus Session: Function from Geometry: 3D Printing to Programable Matter II

Sponsoring Units: GSOFD DPOLY GSNP FIAP

Chair: Elisabetta Matsumoto, Georgia Tech

Room: 277

Thursday, March 16, 2017 2:30PM - 3:06PM	V18.00001: High Fidelity Additive Manufacturing of Optically Transparent Glass Structures <b>Invited Speaker:</b> Chikara Inamura
Thursday, March 16, 2017 3:06PM - 3:18PM	V18.00002: Drop footprints in a curing elastomer: Extreme rapid printing of an elastic solid Claudio Falcón , Pierre-Thomas Brun , Joel Marthelot , Pedro M. Reis
Thursday, March 16, 2017 3:18PM - 3:30PM	V18.00003: Direct Laser Writing of Single-Material Sheets with Programmable Self-Rolling Capability Anton Bauhofer , Sebastian Krödel , Osama Bilal , Chiara Daraio , Andrei Constantinescu
Thursday, March 16, 2017 3:30PM - 3:42PM	V18.00004: 3D printed cat tongue is a self-cleaning, tangle-teasing brush Alexis Noel , David Hu
Thursday, March 16, 2017 3:42PM - 3:54PM	V18.00005: Viscous dipping, application to the capture of fluids in living organisms Amandine Lechantre , Denis Michez , Pascal Damman
Thursday, March 16, 2017 3:54PM - 4:06PM	V18.00006: High thermal conductivity in soft elastomers with elongated liquid metal inclusions. Navid Kazem , Michael D. Bartlett , Matthew j. Powell-Palm , Xiaonan Huang , Wenhuan Sun , Jonathan A. Malen , Carmel Majidi
Thursday, March 16, 2017 4:06PM - 4:18PM	V18.00007: Failure modes of microstructured fibers with sacrificial bonds made by instability-assisted 3D printing Shibo Zou , Daniel Therriault , Frederick Gosselin
Thursday, March 16, 2017 4:18PM - 4:30PM	V18.00008: Optical Characterization of Polymeric Waveguides Fabricated by Thermocapillary Replication Kevin Fiedler
Thursday, March 16, 2017 4:30PM - 4:42PM	V18.00009: Fabrication of Converging and Diverging Polymeric Microlens Arrays By Spatiotemporal Control of Thermocapillary Forces Soon Wei Daniel Lim , Kevin Fiedler , Chengzhe Zhou , Sandra Troian
Thursday, March 16, 2017 4:42PM - 4:54PM	V18.00010: Focused Laser Dewetting of Metallic Thin Films Jonathan Singer , Tianxing Ma , Jingren Wang , Qingze Zou , Punnathat Bordeenithikasem , Jingbei Liu , Jan Schroers
Thursday, March 16, 2017 4:54PM - 5:06PM	V18.00011: Thermocapillary Multidewetting of Thin Films Arielle Marie Gamboa , Tianxing Ma , Valeria Saro-Cortes , Michael Nitzsche , Jonathan Singer

**Friday, March 17, 2017, 8:00 am – 11:00 am**

Session X9: Self Assembly of Polymers: Solutions, Confinement and External Fields

Sponsoring Units: DPOLY

Chair: Rafael Verduzco, Rice University

Room: 268

Friday, March 17, 2017 8:00AM - 8:12AM	X9.00001: Role of corona block in molecular exchange in block copolymer micelles En Wang , Jie Lu , Timothy Lodge , Frank Bates
Friday, March 17, 2017 8:12AM - 8:24AM	X9.00002: Understanding Unimer Exchange Processes in Block Copolymer Micelles using NMR Diffusometry, Time-Resolved NMR, and SANS Louis Madsen , Bryce Kidd , Xiuli Li , Katherine Miller , Tyler Cooksey , Megan Robertson
Friday, March 17, 2017 8:24AM - 8:36AM	X9.00003: Linear Diblock Copolymer Micellization Kinetics Probed by Integrated Microfluidic Device and Small-angle X-ray Scattering Joseph Kalkowski , Chang Liu , Paola Leon-Plata , Magdalena Szymusiak , Weifeng Shang , Srinivas Chakravarthy , Thomas Irving , Ying Liu
Friday, March 17, 2017 8:36AM - 8:48AM	X9.00004: Simulation of Dynamical Processes in Block Copolymer Micelles Joshua Mysona , David Morse , Alon McCormick
Friday, March 17, 2017 8:48AM - 9:00AM	X9.00005: General Mechanism of Morphology Transition and Spreading Area-dependent Phase Diagram of Block Copolymer Self-assembly at the Air/Water Interface Dong Hyup Kim , So Youn Kim
Friday, March 17, 2017 9:00AM - 9:12AM	X9.00006: Rigid Polymers at Interface: Competition of Interfacial Forces and Molecular Architecture Supun S Mohottalalage , Dvora Perahia
Friday, March 17, 2017 9:12AM - 9:24AM	X9.00007: Polymer Architecture Effects in Confined Geometry: Molecular Dynamics Simulation Study Sidath Wijesinghe , Dvora Perahia , Gary Grest
Friday, March 17, 2017 9:24AM - 9:36AM	X9.00008: Study on the mesophase development of pressure-responsive ABC triblock copolymers Junhan Cho
Friday, March 17, 2017 9:36AM - 9:48AM	X9.00009: The Conformations of Confined Polymers in an External Potential Greg Morrison
Friday, March 17, 2017 9:48AM - 10:00AM	X9.00010: Shifting the Phase Boundary with Electric Fields to Jump In and Out of the Phase Diagram at Constant Temperature Connie B. Roth , Annika Kriisa
Friday, March 17, 2017 10:00AM - 10:12AM	X9.00011: Electric Field Effects in a Polarizable Model of Diblock Copolymer Melts Jonathan Martin , Kris Delaney , Glenn Fredrickson
Friday, March 17, 2017 10:12AM - 10:24AM	X9.00012: Understanding of the charge carriers dynamics in poly(p-phenylene) under external electric and magnetic fields. M.R. Mahani , A. Mirsakiyeva , A. Delin

**Friday, March 17, 2017, 8:00 am – 11:00 am**

Session X10: Physics of Polymers and Polymer Thin Films

Sponsoring Units: DPOLY

Chair: Sourav Chatterjee, Tulane University

Room: 269

Friday, March 17, 2017 8:00AM - 8:12AM	X10.00001: Production of highly mono disperse polymers by evaporative purification Shipei Zhu , Yu Chai , Junjie Yin , Denzil Barkley , James Forrest
Friday, March 17, 2017 8:12AM - 8:24AM	X10.00002: Tackiness of Polymer Melts. Aiping Zhou , Xiaorong Wang
Friday, March 17, 2017 8:24AM - 8:36AM	X10.00003: Capillary Levelling of Cylindrical Holes in Freestanding Polymer Films John Niven , Paul Fowler , Thomas Salez , Howard Stone , Élie Raphaël , Kari Dalnoki-Veress
Friday, March 17, 2017 8:36AM - 8:48AM	X10.00004: Microrheological characterization of thin films and nanoliter droplets using Magnetic Rotational Spectroscopy with ferromagnetic nanorods. Pavel Aprelev , Konstantin Kornev
Friday, March 17, 2017 8:48AM - 9:00AM	X10.00005: Characterization of Polystyrene Soft Nanoparticles Using Small Angle Neutron Scattering Halie Martin , Tyler White , Tomonori Saito , Mark Dadmun
Friday, March 17, 2017 9:00AM - 9:12AM	X10.00006: Single fluorophore localization and orientation reports structure and deformation at the nanoscale Muzhou Wang , James M. Marr , Marcelo Davanco , Jeffrey W. Gilman , J. Alexander Liddle
Friday, March 17, 2017 9:12AM - 9:24AM	X10.00007: Template-guided highly aligned, nano-scale wrinkle structure on a large-area Jongcheon Lim , Pilnam Kim
Friday, March 17, 2017 9:24AM - 9:36AM	X10.00008: Capillary bending of a thin polymer film floating on a liquid bath Timothy Twohig , Andrew B. Croll
Friday, March 17, 2017 9:36AM - 9:48AM	X10.00009: Morphological Study of Langmuir Polymer Films by means of Atomic Force Microscopy and MD Simulations Renate Reiter , Volker Knecht , Sivasurender Chandran , Günter Reiter
Friday, March 17, 2017 9:48AM - 10:00AM	X10.00010: Single Nanometer Thickness of Polymer Nanocapsules Measured using Small Angle Neutron Scattering Andrew Richter , Sergey Dergunov , Eugene Pinkhassik
Friday, March 17, 2017 10:00AM - 10:12AM	X10.00011: Amorphous Cellulose Thin Films Howard Wang , Rui Lu , Xin Zhang , Robert Briber , Li Fu , Hongfei Wang , Guangcui Yuan
Friday, March 17, 2017 10:12AM - 10:24AM	X10.00012: Noncontact viscoelastic measurement of polymer thin films in a liquid medium using a long-needle AFM Dongshi Guan , Chloe Barraud , Elisabeth Charlaix , Penger Tong
Friday, March 17, 2017 10:24AM - 10:36AM	X10.00013: Dewetting Kinetics in Polymer Grafted Nanoparticle Thin Films: Impact of Architecture and Viscosity on Thermal Stability Justin Che , Ali Jawaid , Christopher Grabowski , Yoon-Jae Yi , Richard Vaia

Friday, March 17, 2017  
10:36AM - 10:48AM

X10.00014: Fabrication of Micropatterned, Free-Standing, Flexible  
Thin Films of SU8 and SQ

Luke D'Imperio , Andrew F. McCrossan , Jeffrey R. Naughton ,  
Yitzi M. Calm , Juan M. Merlo , Michael J. Burns , Michael J.  
Naughton

Friday, March 17, 2017  
10:48AM - 11:00AM

X10.00015: Anomalous Behaviors of Block Copolymers at the  
Interface of an Immiscible Polymer Blend

Ji Ho Ryu , Won Bo Lee

**Friday, March 17, 2017, 8:00 am – 11:00 am**

Session X11: Polymeric Elastomers and Gels

Sponsoring Units: DPOLY

Chair: Chelsea Davis, Purdue University

Room: 270

Friday, March 17, 2017 8:00AM - 8:12AM	X11.00001: Structure formation in nanocomposite hydrogels Dilip Gersappe , Di Xu
Friday, March 17, 2017 8:12AM - 8:24AM	X11.00002: Rapid Self-healing Nanocomposite Hydrogel with Tunable Dynamic Mechanics Qiaochu Li , Sumeet Mishra , Brian Chapman , Pangkuan Chen , Joseph Tracy , Niels Holten-Andersen
Friday, March 17, 2017 8:24AM - 8:36AM	X11.00003: Toward a predictive model for the failure of elastomer seals. Nicola Molinari , Musab Khawaja , Adrian Sutton , Arash Mostofi
Friday, March 17, 2017 8:36AM - 8:48AM	X11.00004: The Role of Hydroxide and Metal Concentration on the Viscoelastic Properties of Metal Coordinated Gels Seth Cazzell , Niels Holten-Andersen
Friday, March 17, 2017 8:48AM - 9:00AM	X11.00005: A Poroelastic Approach for Quantifying Gel Network Properties Edwin Chan , Nichole Nadermann , Katie Feldman , Eric Davis
Friday, March 17, 2017 9:00AM - 9:12AM	X11.00006: Quantifying the impact of cyclic defects on polymer network elasticity Rui Wang , Bradley Olsen , Jeremiah Johnson
Friday, March 17, 2017 9:12AM - 9:24AM	X11.00007: Linear and Nonlinear Elasticity of Networks Made of Comb-like Polymers and Bottle-Brushes H. Liang , A. Dobrynin , M. Everhart , W. Daniel , M. Vatankhah-Varnoosfaderani , S. Sheiko
Friday, March 17, 2017 9:24AM - 9:36AM	X11.00008: Molecular model for the diffusion of associating telechelic polymer networks Jorge Ramirez , Thomas Dursch , Bradley Olsen
Friday, March 17, 2017 9:36AM - 9:48AM	X11.00009: Dynamics in weakly-ordered oppositely-charged polyelectrolyte complex gels Anand Rahalkar , Guangmin Wei , Samanvaya Srivastava , Matthew Tirrell , Vivek Prabhu
Friday, March 17, 2017 9:48AM - 10:00AM	X11.00010: A model for structural changes of reconstituted fibroin gels during deformation Peiran Jin , Peter Olmsted
Friday, March 17, 2017 10:00AM - 10:12AM	X11.00011: Synthesis of PEG-rich PLGA-PEG-PLGA for the PLGA-PEG-PLGA/laponite hydrogels with thermoresponsive sol-gel transitions Keishi Tanimoto , Tomoki Maeda , Atsushi Hotta
Friday, March 17, 2017 10:12AM - 10:24AM	X11.00012: Self-assembly of nematic liquid crystal elastomer filaments Wei-Shao Wei , Yu Xia , Shu Yang , A. G. Yodh
Friday, March 17, 2017 10:24AM - 10:36AM	X11.00013: The counter-ion condensation behavior of linear polyelectrolyte polymers and polyelectrolyte gels Honglei Guo , Takayuki Kurokawa , Masakazu Takahata , Wei Hong , Yoshinori Katsuyama , Yiwan Huang , Tasuku Nakajima , Takayuki Nonoyama , JianPing Gong
Friday, March 17, 2017 10:36AM - 10:48AM	X11.00014: Colloid Induced Deformation and Strain Stiffening of Biopolymer Networks Ashesh Ghosh , Kenneth Schweizer

Friday, March 17, 2017  
10:48AM - 11:00AM

X11.00015: The observation and evaluation of cross-linking inhomogeneity from the displacement of nanoparticles embedded in polymer network by small angle scattering under elongation  
Kengo Nishi , Mitsuhiro Shibayama

**Friday, March 17, 2017, 8:00 am – 11:00 am**

Session X21: Invited Session: Physics of Proteins: Novel Methods Revealing New Insights

Sponsoring Units: DPOLY DBIO

Chair: Dongping Zhong, Ohio State University

Room: 281-282

Friday, March 17, 2017 8:00AM - 8:36AM	X21.00001: Optical multiple-dimension spectroscopy of photosynthetic systems <b>Invited Speaker:</b> Greg Engel
Friday, March 17, 2017 8:36AM - 9:12AM	X21.00002: New strategy for protein interactions and application to structure-based drug design <b>Invited Speaker:</b> Xiaoqin Zou
Friday, March 17, 2017 9:12AM - 9:48AM	X21.00003: Cryo-EM visualization of the protein machine that replicates the chromosome <b>Invited Speaker:</b> Huilin Li
Friday, March 17, 2017 9:48AM - 10:24AM	X21.00004: Single Molecule Enzymology via Nanoelectronic Circuits <b>Invited Speaker:</b> Philip Collins
Friday, March 17, 2017 10:24AM - 11:00AM	X21.00005: From channel rhodopsins to optogenetics <b>Invited Speaker:</b> Peter Hegemann

## Friday, March 17, 2017, 11:15 am – 2:15 pm

Session Y9: Polymers for Biological and Energy Applications

Sponsoring Units: DPOLY

Chair: Mithun Chowdhury, Princeton University

Room: 268

Friday, March 17, 2017 11:15AM - 11:27AM	Y9.00001: Physics of the gut: How polymers dynamically structure the gut environment Asher Preska Steinberg , Sujit Datta , Said Bogatyrev , Rustem Ismagilov
Friday, March 17, 2017 11:27AM - 11:39AM	Y9.00002: A Physically Motivated and Improved Fitting Function to Analyze the Performance of Passive Drug Delivery Systems: Going Beyond the Weibull Empirical Fits Gary W. Slater , Mykyta V. Chubynsky , Maxime Ignacio
Friday, March 17, 2017 11:39AM - 11:51AM	Y9.00003: Reaction-diffusion degradation model for delayed erosion of cross-linked polyanhydride biomaterials. Sergii Domanskyi , Katie Poetz , Devon Shipp , Vladimir Privman
Friday, March 17, 2017 11:51AM - 12:03PM	Y9.00004: Measuring the change in hydration of a polypeptide-based block polymer vesicle as a function of pH Ian Smith , Alban Charlier , Alexander Shishlov , Daniel Savin
Friday, March 17, 2017 12:03PM - 12:15PM	Y9.00005: Micropipette Deflection Measurements of Agar-Glass Adhesion Richard Parg , Erin Shelton , John Dutcher
Friday, March 17, 2017 12:15PM - 12:27PM	Y9.00006: Spontaneous deswelling of pNIPAM microgels at high concentrations Urs Gasser , Andrea Scotti , Emily S. Herman , Miguel Pelaez-Fernandez , Jun Han , Andreas Menzel , L. Andrew Lyon , Alberto Fernandez-Nieves
Friday, March 17, 2017 12:27PM - 12:39PM	Y9.00007: Generation of Electricity at Graphene Interface Governed by Underlying Surface Dipole Induced Ion Adsorption Shanshan Yang , Yudan Su , Qiong Wu , Yuanbo Zhang , Chuanshan Tian
Friday, March 17, 2017 12:39PM - 12:51PM	Y9.00008: Investigating polarized fluorescence emission of Naphthalene Diimide polymer films via Stokes Spectroscopy Steven Ulrich , Thabita Sutch , Matthias Schweizer , Greg Szulczewski , Newton Barbosa Neto , Paulo Araujo
Friday, March 17, 2017 12:51PM - 1:03PM	Y9.00009: Fracture: Genesis of Dielectric Breakdown Mayank Misra , Sanat K Kumar
Friday, March 17, 2017 1:03PM - 1:15PM	Y9.00010: Breath figures of P3HT and of its photovoltaic blend with PC71BM Aurora Nogales , Jing Cui , Esther Rebollar , Adolfo del Campo , Mircea Cotlet , Juan Rodriguez
Friday, March 17, 2017 1:15PM - 1:27PM	Y9.00011: Theoretical insights into multiscale electronic processes in organic photovoltaics Sergei Tretiak
Friday, March 17, 2017 1:27PM - 1:39PM	Y9.00012: Photovoltaic Cells involving Iodine-doped Nonconjugated Conductive Polymers: Studies of Cell Stability over time Justin Van Cleave , Mrinal Thakur
Friday, March 17, 2017 1:39PM - 1:51PM	Y9.00013: Charge-regularized swelling kinetics of polyelectrolyte gels Swati Sen , Arindam Kundagrami





## Monday

Session	A9	A10	A11	A21
Room	268	269	270	281-282
Chair	Segalman	Clarke	Boudouris	Hule
8:00 AM	<b>Fredrickson</b>	Long	Thorsmolle	<b>Wagner</b>
8:12 AM		Hagita	Ayzner	
8:24 AM		Zhang	Bondarev	
8:36 AM	<b>Rubinstein</b>	Wang	Zhang	<b>Brant</b>
8:48 AM		Huang	Mazumdar	
9:00 AM		Lee	Wood	
9:12 AM	Parrish	Kurokawa	<b>Vardeny</b>	<b>Alamo</b>
9:24 AM	Chatterjee	Huang		
9:36 AM	Bay	Regitsky		
9:48 AM	Zhang	Guo	Aplan	<b>Meth</b>
10:00 AM	Yokoyama	Liu	Hillaire	
10:12 AM	Thomas	Inakpenu	Bouaamalt	
10:24 AM	Jiao	Golebiowski	Wenderott	<b>Wiesner</b>
10:36 AM	Shimomura	Weerasinghe	Balch	
10:48 AM	Creton	Lopez	Pang	

Session	B6	B9	B10	B11	B18	B21
Room	265	268	269	270	277	281-282
Chair	Vogt	Wang	Hickey	Ratcliff	Gray	Olsen
11:15 AM	Russell	<b>Gomez</b>	Hoagland	Dong	Hung	<b>Spakowitz</b>
11:27 AM	Dawson		Jimenez	Ford	Singh	
11:39 AM	Carpenter		Bockstaller	Zubair	Yuan	
11:51 AM	<b>Ross</b>	DeLongchamp	<b>Kumar</b>	Groesbeck	Douglas	<b>Vries</b>
12:03 PM		Su		Mahani	Novikov	
12:15 PM		Pope		Lamport	White	
12:27 PM	Hur	Dadmun	Vo	<b>Podzorov</b>	Simmons	<b>Pochan</b>
12:39 PM	Liu	Hong	Samanta		Emamy	
12:51 PM	Toth	Gu	Gimenez-Pinto		Zhang	
1:03 PM	Basutkar	Xu	Tripathy	Bittle	Masurel	<b>Korley</b>
1:15 PM	Choo	Kuei	Gury	Bannister	Guo	
1:27 PM	Pinge	Coric	Koski	von Hauff	Ricci	
1:39 PM	Rebello	Brady	Chatterjee	<b>Kümmel</b>	Bari	<b>Parnell</b>
1:51 PM	Ho	Ye	Groehn		Zheng	
2:03 PM	Choi	Hexemer	Beaucage		Medvedev	

A9: Focus Session: Symposium Honoring Ed Kramer - Mechanics

A10: Polymer Nanocomposites - Mechanics

A11: Focus Session: Organic Electronics - Excited States and Energy Transfer

A21: Invited Session: Polymer Physics - From Academia to Industry and Back

B6: Focus Session: Thin Films - Block Copolymers

B9: Focus Session: Multimodal Characterization of Soft Materials in Complex Environments I

B10: Focus Session: Polymer Nanocomposites - Structure and Driven Assembly

B11: Focus Session: Organic Electronics - Fundamentals of Electronic Transport

B18: Polymer Glasses: Formation, Aging, and Nonlinear Response

B21: Invited Session: Biopolymer Physics

## Monday

<b>Session</b>	<b>C6</b>	<b>C9</b>	<b>C10</b>	<b>C11</b>	<b>C21</b>
<i>Room</i>	265	268	269	270	281-282
<i>Chair</i>	<i>Wang</i>	<i>Composto</i>	<i>Riggelman</i>	<i>Hall</i>	<i>Boudouris</i>
2:30 PM	Modica	<b>Register</b>	Shin	<b>Balsara</b>	<b>Loo</b>
2:42 PM	Trazkovich		Chen		
2:54 PM	Rasin		Ethier		
3:06 PM	<b>Composto</b>	Parnell	Bailey	Morris	<b>O'Connor</b>
3:18 PM		Rokhlenko	Choudhury	Gartner	
3:30 PM		Timachova	Peng	Hasan	
3:42 PM	Liu	Sanoja	<b>Archer</b>	Mukherjee	<b>Malliaras</b>
3:54 PM	Gopinadhan	Martin		Kusoglu	
4:06 PM	Cervantes	Patterson		Sangoro	
4:18 PM	Lwoya	Karim	Goswami	Oparaji	<b>Lipomi</b>
4:30 PM	Arras	Ku	Griffin	Madsen	
4:42 PM	Yager	Tang	Koga	Zhan	
4:54 PM	Kim	Yamazaki	Weir	Li	<b>Hyun</b>
5:06 PM	Doerk	Pester	Johnson	An	
5:18 PM	Prasad	Shin	Schneider	Sato	

C6: Focus Session: Thin Films - Nanocomposites and Block Copolymers

C9: Focus Session: Symposium Honoring Ed Kramer - Block Copolymers, Nanoparticles, and Conduction

C10: Focus Session: Polymer Nanocomposites - Dynamics From Segmental to Chain Scale

C11: Focus Session: Polymers for Energy Storage and Conversion I

C21: Invited Session: Flexible and Stretchable Organic Electronics

## Tuesday

Session	E5	E9	E10	E11	E21
Room	264	268	269	270	Hall I-1
Chair	Luan	Roth	Liu	von Hauff	Pablo
8:00 AM	<b>Reed</b>				<b>Olvera De La Cruz</b>
8:12 AM					
8:24 AM					
8:36 AM	Luan	Liu	Mahoney	<b>Ratcliff</b>	<b>Pablo</b>
8:48 AM	Tahir	Zhao	Clarke		
9:00 AM	Ignatova	McKenna	Lin		
9:12 AM	Olsen	<b>Fakhraai</b>	Zhou	Sung	<b>Mirkin</b>
9:24 AM	Singla		Firestone	Huang	
9:36 AM	Yanagi		Khan	Plunkett	
9:48 AM	Jang	Sussman	<b>Kotov</b>	Li	<b>Xu</b>
10:00 AM	Nam	Merling		Purdum	
10:12 AM	Jin	Lipson		Cao	
10:24 AM	Wang	Yu	Khan	Gu	<b>Stupp</b>
10:36 AM	Mohapatra	Gray	Mei	Tanigaki	
10:48 AM	Stroud	Yoon	Shipman	Mativetsky	

Session	F5	F6	F9	F10	F11	F18	F21
Room	264	265	268	269	270	277	281-282
Chair	Luan	Morrison	Tirrell	Epps III	Olsen	Pochan	Sharma
11:15 AM	<b>Zhou</b>	Davis	<b>Doxastakis</b>	Jackson	Condon	Cao	<b>Colby</b>
11:27 AM		Gasic		Shen	Chen	Grindy	
11:39 AM		Bergmann		Yamamoto	Baylis	Kim	
11:51 AM	Munshi	<b>Morrison</b>	Bowen	Jung	<b>Savin</b>	Kim	<b>Tirrell</b>
12:03 PM	Dangi		Liman	Wheatle		Hashemnejad	
12:15 PM	Werner		Sunday	Dugger		Pesko	
12:27 PM	Sharma	Khorshid	Zhu	<b>Hickner</b>	Atkinson	Shelton	<b>Schroeder</b>
12:39 PM	Wang	Cheong	Chen		Shamana	Yuan	
12:51 PM	Sahu	Stabile	Mao		Grossutti	Zhang	
1:03 PM	Wang	Tang	Cordova	Molinari	Takahara	Zhang	<b>Larson</b>
1:15 PM	Casalis	Berard	Srivastava	Trigg	Cheng	Zhang	
1:27 PM	Wilts	Polson	Li	Keith	Keten		
1:39 PM	Matsui	Suvlu	Wu	Ganesan	Li		<b>Arratia</b>
1:51 PM	McCarthy	Xu	Prabhu	Patra	Gilman		
2:03 PM	Tian	Brown	He	Rukmani	Wei		

E5: Focus Session: Physics at Bio-Nano Interface I

E9: Focus Session: Glass Formation and Dynamics in Nanostructured Polymers and Glasses I

E10: Focus Session: Polymer Nanocomposites Related to Optical and Plasmonic Properties

E11: Focus Session: Organic Electronics - Applied Transport

E21: Invited Session: Polymer Physics Prize

F5: Focus Session: Physics at Bio-Nano Interface II

F6: The Structure and Dynamics of Confined Biopolymers

F9: Focus Session: Multimodal Characterization of Soft Materials in Complex Environments II

F10: Ion Containing Polymers - The Role of Structure and Dynamics I

F11: Focus Session: Physics of Natural Polymers, Polymer Hybrids, and Assemblies

F18: Padden Award Symposium

F21: Invited Session: Polymer Rheology - Flexibility, Charge and Extensibility

## Tuesday

Session	H6	H9	H10	H11	H18	H24
Room	265	268	269	270	277	<i>New Orleans Theater C</i>
Chair	<i>Agarwal</i>	<i>Chen</i>	<i>Albert</i>	<i>Collins</i>	<i>Brun</i>	<i>Lodge</i>
2:30 PM					<b>Aharoni</b>	<b>Park</b>
2:42 PM						
2:54 PM						
3:06 PM	Schoenhals	Buenning	Erbas	<b>Vandewal</b>	Madden	Balsara
3:18 PM	Chrissopoulou	Zhang	Parsi		Kowalski	Gomez
3:30 PM	Su	Poling-Skutvik	Schulze		Castle	Winey
3:42 PM	Valdez	Carroll	Yadav	Benduhn	Duque	Mahanthappa
3:54 PM	Magurudeniya	Li	Golovin	Ferron	Auguste	Lodge
4:06 PM	Suzuki	Guo	Melillo	Lee	Dimitriyev	Hayward
4:18 PM	Maia	Beaucage	<b>Tuteja</b>	<b>Banerji</b>	Shim	Osuji
4:30 PM	Cheng	Rai			Siefert	Tanaka
4:42 PM	Guerrero	Mulderig			Mosleh	Segalman
4:54 PM	Xu	Fan	Bekele	Yang	Bertoldi	Char
5:06 PM	Wei	Karim	Anastasiadis	Srivastava	Rocks	Cavicchi
5:18 PM	Wilson	Kim	Wei	Pickett	Wilken	Colby

H6: Polymer Nanocomposites with Crystallizable Components and Fiber Reinforcement

H9: Multimodal Characterization of Soft Materials in Complex Environments III

H10: Focus Session: Physics of Polymer Surfaces and Interfaces I

H11: Focus Session: Organic Electronics - Organic Photovoltaics

H18: Focus Session: Function from Geometry: 3D Printing to Programmable Matter I

H24: Focus Session: Dillon Medal Symposium

J21: DPOLY Business Meeting

J51: NSF Question and Answer Session on Polymers and Soft Matter

### Wednesday

Session	K6	K9	K10	K11	K18	K40
<i>Room</i>	265	268	269	270	277	387
<i>Chair</i>	<i>Hough</i>	<i>Simmons</i>	<i>Soles</i>	<i>DeLongchamp</i>	<i>Verduzco</i>	<i>Chatterjee</i>
8:00 AM	Hagner	Pallaka	<b>Stafford</b>	Gann	Phillip	<b>Shull</b>
8:12 AM	Mondal	Zhang		Qiu	Arges	
8:24 AM	Safari	Huang		Gu	Zhou	
8:36 AM	<b>Zhou</b>	Xie	Friberg	Perry	<b>Nunes</b>	<b>Segalman</b>
8:48 AM		Panagopoulou	Soles	Lim		
9:00 AM		Floudas	Iacob	O'Hara		
9:12 AM	Walter	Torkelson	Senanayake	DeCrescent	Boudouris	<b>Sonnenschein</b>
9:24 AM	Sarkar	Sharma	Ma	Litofsky	Sethuraman	
9:36 AM	Tlusty	Hsu	Dudenas	Xie	Asatekin	
9:48 AM	Wambo	Zhou	Lutkenhaus	Risteen	Jons	<b>Crosby</b>
10:00 AM	Baarda	Baglay	Perahia	Sezen	Culp	
10:12 AM	Scrimgeour	Christie	Kim	Barraza	Liu	
10:24 AM	Cao	<b>Schweizer</b>	Piedrahita	Valverde	Green	<b>Dhinojwala</b>
10:36 AM	Eliato		Kundagrami	Michels	Nguyen	
10:48 AM			Qin	Thurston		

Session	L6
<i>Room</i>	265
<i>Chair</i>	<i>Xie</i>
11:15 AM	Ilie
11:27 AM	Guo
11:39 AM	Hough
11:51 AM	<b>Dunker</b>
12:03 PM	
12:15 PM	
12:27 PM	Marciel
12:39 PM	Lin
12:51 PM	Xie
1:03 PM	<b>Bondos</b>
1:15 PM	
1:27 PM	
1:39 PM	Maguire
1:51 PM	Gu
2:03 PM	Zapperi

K6: Focus Session: Physics of Proteins Association and Recognition I

K9: Focus Session: Glass Formation and Dynamics in Nanostructured Polymers and Glasses II

K10: Focus Session: Ion Containing Polymers - The Role of Structure and Dynamics II

K11: Organic Electronics - Processing, Structure, Function

K18: Focus Session: Polymeric Membranes - Water Purification

K40: Invited Session: Designed Polymer Surfaces for Adhesion, Release, Self-Cleaning, Anti-Fouling, and other Applications

L6: Focus Session: Bring Order from Disorder with Intrinsically Disordered Proteins

## Wednesday

<b>M1: Poster Session II – 11:15 AM – 2:30 PM</b>					
<b>Exhibit Hall J, DPOLY Posters 2-147</b>					
2	Chang	50	Sinha	98	Paul
3	Yang	51	Truong	99	Pradhan
4	Devries	52	Almodovar	100	Kelly
5	Minkler Jr.	53	Gann	101	Bergeson
6	Lee	54	Wilcox	102	Staub
7	Wang	55	Risteen	103	Shibaev
8	Kim	56	Thompson	104	Tang
9	Shelton	57	Difer	105	Li
10	Dobyns	58	Andahazy	106	Liu
11	Kundu	59	Garcia	107	Ougizawa
12	Wolf	60	Chen	108	Arechederra
13	Wang	61	Perez	109	Sakib
14	Shi	62	Payne	110	Zhao
15	Ancipink	63	Henderson	111	Lee
16	Kannan	64	Mao	112	Lang
17	Qin	65	Zhang	113	Nguyen
18	Mah	66	Chen	114	Liang
19	Cheng	67	Ko	115	Sayko
20	Cooksey	68	Davis	116	Cao
21	Mulderig	69	Kinsella	117	Wang
22	Kinsey	70	Kim	118	Noro
23	Neto	71	Baiamonte	119	Ouchi
24	Dossi	72	Haque	120	Ding
25	Chang	73	Mavrantzas	121	Harris
26	Choi	74	Jaradat	122	Lin
27	Grant	75	Kim	123	Beyer
28	Cheung	76	Huang	124	Morris
29	Qiu	77	Thomas	125	Tanimoto
30	Kim	78	Song	126	Yamazaki
31	Evans	79	Song	127	Davidson
32	Kim	80	Vettleon	128	Kim
33	Bartels	81	Cisneros	129	Shen
34	Heres	82	Bailey	130	Ahn
35	Vicars	83	Legters	131	Chatterjee
36	Crosby	84	Gleeson	132	Qiu
37	Jang	85	Xiao	133	Goodson
38	Jung	86	Lee	134	Muhsen
39	Keith	87	Kim	135	Uddin
40	Michenfelder-Schauser	88	Sen	136	Peng
41	Cao	89	Hu	137	Kumar
42	Wei	90	Majumdar	138	Kurokawa
43	Tian	91	Sethuraman	139	Fitzpatrick
44	Caglayan	92	Luettmmer-Strathmann	140	Dannagoda
45	Chowdhury	93	Pan	141	Rangel
46	Li	94	Yamamoto	142	Gartner
47	Lang	95	Jiao	143	Lwoya
48	Melillo	96	Dinic	144	Gao
49	Xiao	97	Wang	145	

### Wednesday

<b>Session</b>	<b>P4</b>	<b>P9</b>	<b>P10</b>	<b>P11</b>	<b>P21</b>
<i>Room</i>	263	268	269	270	281-282
<i>Chair</i>	<i>Hickey</i>	<i>Stein</i>	<i>Mecca</i>	<i>Hall</i>	<i>Migler</i>
2:30 PM	Makowski	Beardsley	<b>Hillmyer</b>	Miranda	<b>Warren</b>
2:42 PM	Amarpuri	Hall		Zhang	
2:54 PM	Salunke	Lai		Ezquerria	
3:06 PM	Davis-Purcell	<b>Sheiko</b>	Zeng	<b>Verduzco</b>	<b>Cabral</b>
3:18 PM	O'Brien		Huang		
3:30 PM	Oda		Jones		
3:42 PM	<b>Alizadeh</b>	Gadelrab	<b>Mehta</b>	Hu	<b>Ungar</b>
3:54 PM		Yavitt		Kawashima	
4:06 PM		Carrillo		Patel	
4:18 PM	Wang	Gai	Choi	Muraoka	<b>Langer</b>
4:30 PM	Rozairo	Wickramasinghe	Jin	Thomas	
4:42 PM	Liu	Rahman	Liu	Zhang	
4:54 PM	Asai	Zhang	Ha	Pavlopoulou	<b>Han</b>
5:06 PM	Han	Ghasimakbari	Kim	Foreman	
5:18 PM	Heili	Tsai	Ramakrishnan	Zhu	

P4: Focus Session: Physics of Polymer Surfaces and Interfaces II

P9: Focus Session: Architectural Design of Polymers I

P10: Focus Session: Morphology Evolution and Structure-Property Relationship in Multicomponent Curing Systems

P11: Focus Session: Polymers for Energy Storage and Conversion II

P21: Invited Session: Soft Tribute to John Cahn



## Thursday

Session	R4	R6	R9	R10	R11	R18
<i>Room</i>	263	265	268	269	270	277
<i>Chair</i>	<i>Cheung</i>	<i>Kumaraswamy</i>	<i>Beckingham</i>	<i>Audus</i>	<i>Floudas</i>	<i>Akgun</i>
8:00 AM	Boonamnaj	Biswas	Spencer	Zhang	<b>Reiter</b>	Pressly
8:12 AM	Han	Yong	Khadilkar	Perry		Yang
8:24 AM	Kitjaruwankul	Li	Li	Sing		Madkour
8:36 AM	<b>Cheung</b>	Watanabe	<b>Wu</b>	Lytle	Lieberwirth	Voylov
8:48 AM		Liu		Shakya	Zhang	Meyers
9:00 AM		Wang		McGovern	Yao	Faraone
9:12 AM	Lammert	Wang	Lee	Qin	Suzuki	Giustiniani
9:24 AM	Schmidt	Mukherji	Hannon	Nakamura	Nogales	Sipes
9:36 AM	Parker	Grest	Kim	Selin	Ezquerra	McGraw
9:48 AM	Sayar	Zhang	Mulhearn	Zhang	Nogales	Vella
10:00 AM	Gaines	Hofmann	Lewis	Ali	Li	Frechette
10:12 AM	Dahal	Iwaoka	Wang	Danielsen	Jeong	Cheung
10:24 AM	Wang	Mecca	Rinehart	Jing	Wilhelm	Seery
10:36 AM	Alavi	Cheng	Dossi	Tang	Kelly	Wilson
10:48 AM	Solis Salas		Kim	Domanskyi	Burns	Mahmoudi

Session	R21	R49
<i>Room</i>	281-282	396
<i>Chair</i>	<i>Roth</i>	<i>Kosmrlj</i>
8:00 AM	<b>Baschnagel</b>	<b>Mani</b>
8:12 AM		
8:24 AM		
8:36 AM	<b>Simon</b>	<b>Boudaoud</b>
8:48 AM		
9:00 AM		
9:12 AM	<b>Starr</b>	<b>Sharon</b>
9:24 AM		
9:36 AM		
9:48 AM	<b>Rottler</b>	<b>Mahadevan</b>
10:00 AM		
10:12 AM		
10:24 AM	<b>Caruthers</b>	<b>Nelson</b>
10:36 AM		
10:48 AM		

R4: Focus Session: Physics of Proteins Association and Recognition II

R6: Polymer Melts and Solutions

R9: Focus Session: Architectural Design of Polymers II

R10: Polyelectrolyte Complexation

R11: Focus Session: Polymer Crystallization Under Confinement

R18: Polymers Adsorbed onto Solids - Interplay Among Structures, Dynamics, and Properties I

R21: Invited Session: Polymer Glasses in Confinement and Deformation

R49: Invited Session: Mechanics in Morphogenesis

## Thursday

Session	S4	S6	S7	S9	S10
<i>Room</i>	263	265	266	268	269
<i>Chair</i>	<i>Hoff</i>	<i>Chan</i>	<i>Jensen</i>	<i>Chung</i>	<i>Sing</i>
11:15 AM	Li	Geise	<b>Giessen</b>	Kannan	Loo
11:27 AM	Deng	Jain		Wang	Kwon
11:39 AM	Xu	Mauter		Nakajima	Seo
11:51 AM	<b>Yang</b>	<b>Paul</b>	<b>MacKintosh</b>	Vogt	Brown
12:03 PM				Chen	Zong
12:15 PM				Li	Aryal
12:27 PM	Clayton	Arsano	Olvera de la Cruz	<b>Creton</b>	Pryamitsyn
12:39 PM	Petrilli	Govinna	Hall		Sampath
12:51 PM	<b>Crane</b>	Whitmer	Lee		Kennemur
1:03 PM		Bilchak	Wang	Tabatabai	Wen
1:15 PM		Kyu	Muralidharan	Takahashi	Nwosu
1:27 PM	Hoff	Thornburg	Dumitrica	Chen	Cao
1:39 PM	Yan	Hallinan	Kim	Huang	Jiang
1:51 PM	Tsekouras	Meng	Jensen	Duan	Antila
2:03 PM	Li	Ignacio	Sengab	King	Shi

Session	S11	S40
<i>Room</i>	270	387
<i>Chair</i>	<i>Sharma</i>	<i>Wang</i>
11:15 AM	<b>Ellison</b>	<b>Vlassopoulos</b>
11:27 AM		
11:39 AM		
11:51 AM	Sharma	Wang
12:03 PM	Dinic	Srinin
12:15 PM	Hudson	Hore
12:27 PM	McIlroy	Rubinstein
12:39 PM	Seppala	Dell
12:51 PM	Galvani	Foster
1:03 PM	O'Connor	Pedro
1:15 PM	Levenhagen	Tress
1:27 PM	Zhao	Desai
1:39 PM	Sinha	Wang
1:51 PM	Tabiai	Grayson
2:03 PM	Bubeck	Zhu

S4: Focus Session: Photoreceptor and Signal Transduction

S6: Focus Session: Polymeric Membranes

S7: Focus Session: Theory and Simulation of Fiber-Based Materials

S9: Focus Session: Tough Hydrogels I

S10: Charged and Ion-Containing Polymers

S11: Focus Session: Tuning Polymer Rheology for Printing, Spinning, or Coating Applications

S40: Focus Session: Physics of Ring Polymers

## Thursday

<b>Session</b>	<b>V9</b>	<b>V10</b>	<b>V11</b>	<b>V18</b>
<i>Room</i>	268	269	270	277
<i>Chair</i>	<i>King</i>	<i>Koga</i>	<i>Albert</i>	<i>Matsumoto</i>
2:30 PM	Huq	<b>Napolitano</b>	Dong	<b>Inamura</b>
2:42 PM	Biswas		Kweon	
2:54 PM	Sun		Kotula	
3:06 PM	Nonoyama	Tsige	<b>Miyoshi</b>	Falcón
3:18 PM	Chung	Tanaka		Bauhofer
3:30 PM	La	Thees		Noel
3:42 PM	Wiener	Burroughs	Chen	Lechantre
3:54 PM	Beyer	Zhou	Schick	Kazem
4:06 PM	Matsuda	Sen	Wang	Zou
4:18 PM	<b>Zhao</b>	Kuppa	Van den Brande	Fiedler
4:30 PM		Uhrig	Kei	Lim
4:42 PM		Mani	Mao	Singer
4:54 PM	<b>Feinberg</b>	Romero	Chen	Gamboa
5:06 PM		Zhang	Thomas	
5:18 PM		Yang	Chai	

V9: Focus Session: Tough Hydrogels II

V10: Focus Session: Polymers Adsorbed onto Solids - Interplay Among Structures, Dynamics, and Properties II

V11: Focus Session: Polymer Crystallization

V18: Focus Session: Function from Geometry: 3D Printing to Programable Matter II

## Friday

Session	X9	X10	X11	X21
<i>Room</i>	268	269	270	281-282
<i>Chair</i>	<i>Verduzco</i>	<i>Chatterjee</i>	<i>Davis</i>	<i>Zhong</i>
8:00 AM	Wang	Zhu	Gersappe	<b>Engel</b>
8:12 AM	Madsen	Zhou	Li	
8:24 AM	Kalkowski	Niven	Molinari	
8:36 AM	Mysona	Aprelev	Cazzell	<b>Zou</b>
8:48 AM	Kim	Martin	Chan	
9:00 AM	Mohottalalage	Wang	Wang	
9:12 AM	Wijesinghe	Lim	Liang	<b>Li</b>
9:24 AM	Cho	Twohig	Ramirez	
9:36 AM	Morrison	Reiter	Rahalkar	
9:48 AM	Roth	Richter	Jin	<b>Collins</b>
10:00 AM	Martin	Wang	Tanimoto	
10:12 AM	Mahani	Guan	Wei	
10:24 AM		Che	Guo	<b>Hegemann</b>
10:36 AM		D'Imperio	Ghosh	
10:48 AM		Ryu	Nishi	

Session	Y9
<i>Room</i>	268
<i>Chair</i>	<i>Chowdhury</i>
11:15 AM	Steinberg
11:27 AM	Slater
11:39 AM	Domanskyi
11:51 AM	Smith
12:03 PM	Parg
12:15 PM	Gasser
12:27 PM	Yang
12:39 PM	Ulrich
12:51 PM	Misra
1:03 PM	Nogales
1:15 PM	Tretiak
1:27 PM	Cleave
1:39 PM	Sen
1:51 PM	
2:03 PM	

X9: Self Assembly of Polymers: Solutions, Confinement and External Fields

X10: Physics of Polymers and Polymer Thin Films

X11: Polymeric Elastomers and Gels

X21: Invited Session: Physics of Proteins: Novel Methods Revealing New Insights

Y9: Polymers for Biological and Energy Applications

Notes

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# DPOLY SPECIAL EVENTS

## **DPOLY Reception**

Sunday, March 12, 5-8pm  
Queen Anne Courtyard and Cardinal Room  
Hotel Mazarin  
730 Bienville Street, New Orleans

## **DPOLY Award Lectures**

### **Polymer Physics Prize**

Monica Olvera de la Cruz  
“Polymer Physics Prize Talk”  
Tuesday, March 14, 8am – 8:36am (Session E21)  
Hall I-1

### **Dillon Medal**

Moon Jeong Park  
“Interplay of Transport and Morphology in Nanostructured  
Ion-Containing Polymers”  
Tuesday, March 14, 2:30pm – 3:06pm (Session H24)  
New Orleans Theater C

### **DPOLY/PPG Lecturer**

Andrew Parnell  
“Self-assembled structural color in nature”  
Monday, March 13, 1:39pm-2:15pm (Session B21)  
Room 281-282

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

Tuesday March 14, 11:15am – 1:27pm (Session F18)  
Room 277

## **DPOLY Business Meeting**

Session J21: Tuesday, March 14, 5:45pm – 6:45pm  
Room 281-282

## **NSF Question and Answer Session on Polymers and Soft Matter**

Session J51: Tuesday, March 14, 6:45pm – 7:45pm (after business meeting)  
Room 281-282

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The information provided in this booklet is unofficial and is accurate as of 1/30/2017. For official information, please refer to the APS March Meeting Program online (<http://meetings.aps.org/Meeting/MAR17>). The online program takes precedence in case of any conflicts with printed materials.