DPOLY Short Course

Membranes for Clean Energy and Water

Saturday, March 16, 1:00 pm - 5:30 pm
Sunday, March 17, 9:00 am – 5:00 pm
Baltimore Convention Center

Course Description:
The understanding of the underlying physics of the transport through polymeric membranes will enable improved performance of membranes for clean energy and water purification applications. The objective of this short course is to provide background and cover recent developments for the synthesis, fabrication, modification and characterization of the polymeric membranes for these applications. We will cover both theoretical and experimental aspects of selective transport through polymers. The permeants of interest include lithium ions, protons, ethanol, butanol, carbon dioxide, water, hydrogen, etc. A common framework for describing the transport of these diverse species will be developed and the instructors will provide facts on various aspects of membranes technology.

Program Topics and Speakers:
Volker Abetz, University of Hamburg, Germany
Pervaporation
Nitash P. Balsara, University of California at Berkeley
Unified description of Ion and Mass Transport Through Polymer Membranes
Georges Belfort, Rensselaer Polytechnic Institute
Membrane Material Advancements in the Biotechnology and Bioenergy Field
Joe Elabd, Drexel University
Fuel cell membranes
William J. Koros, Georgia Institute of Technology
Polymer-derived hollow fiber gas separation membranes: a winning combination
Jeffrey R. McCutcheon, University of Connecticut
Engineering Osmosis for Desalination, Separations and Power Generation
Richard D. Noble, University of Colorado at Boulder
Ionic liquid membranes for separations
Donald R. Paul, University of Texas at Austin
Evolution of Commercial Membrane Technology for Water and Gas Separations
Berend Smit, University of California at Berkeley
Theory: How should a membrane look like for flue gas separation?
Andrew L. Zydney, Pennsylvania State University
High Performance Ultrafiltration Membranes: Pore Size, Geometry, and Charge Effects

Course Organizers:
Prof. Nitash P. Balsara, UC Berkeley, Dept. of Chemical & Biomolecular Engineering (nbalsara@berkeley.edu)
Dr. A. Evren Ozcam, 3M Company (aeozcam@gmail.com)

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Cover image: optical micrograph of the spherulitic superstructures of contorted hexabenzocoronene, courtesy of Anna Hiszpanski, Princeton University.

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Thursday sessions

Friday sessions

Session A11. **Invited Session: Directed Assembly of Hybrid Materials**

Sponsoring Units: DPOLY
Chair: Richard Vaia, Air Force Research Laboratory
Room: 310

8:00AM - 8:36AM	A11.00001: Engineered Self-Assembly of Plasmonic Nanomaterials Invited Speaker: Andrea Tao
8:36AM - 9:12AM	A11.00002: Polymer Functionalized Nanoparticles in Polymer Nanocomposites Invited Speaker: Arthi Jayaraman
9:12AM - 9:48AM	A11.00003: Gels from soft hairy nanoparticles in polymeric matrices Invited Speaker: Dimitris Vlassopoulos
9:48AM - 10:24AM	A11.00004: Canopy Dynamics in Nanoscale Ionic Materials Probed by NMR Invited Speaker: Peter Mirau
10:24AM - 11:00AM	A11.00005: Colloidal Crystallization in Confinement: Icosahedral Symmetry {\&} Plastic-Crystal Transitions Invited Speaker: Alfons van Blaaderen

Session A31. **Polymer Membranes for Clean Energy and Water I**

Sponsoring Units: DPOLY GERA
Chair: Xinran Zhang, NIST
Room: Baltimore Convention Center 339

8:00AM - 8:12AM	A31.00001: Conductivity Scaling Relationships for Nanostructured Block Copolymer/Ionic Liquid Membranes Megan Hoarfrost , Rachel Segalman
8:12AM - 8:24AM	A31.00002: Ionic Block Copolymers for Anion Exchange Membranes Tsung-Han Tsai , Dan Herbst , Guinevere A. Giffin , Vito Di Noto , Tom Witten , E. Bryan Coughlin
8:24AM - 8:36AM	A31.00003: Anion Exchange Membranes Based on Reactive Block Copolymers Rick Beyer , Samuel Price , Aaron Jackson , Xiaoming Ren , Deryn Chu , Yuesheng Ye , Yossef Elabd
8:36AM - 8:48AM	A31.00004: Morphology and Proton Transport in Sulfonated Block Copolymer and Mesoporous Polymer Electrolyte Membranes Chelsea Chen , David Wong , Keith Beers , Nitash Balsara
8:48AM - 9:00AM	A31.00005: Characterization of Hybrid Polyhedral Oligomeric Silsesquioxane (POSS)-Polybenzimidazole (PBI)-Phosphoric Acid (PA) Materials Intended for Proton Exchange Membranes (PEM) Robert Bubeck , Edmund Stark , Berryinne Decker , Claire Hartmann-Thompson
9:00AM - 9:12AM	A31.00006: Molecular Dynamics Simulation of Polysulfone-Based Anion Exchange Membrane Fuel Cell Seung Soon Jang , Kyung Won Han , Ji Il Choi
9:12AM - 9:24AM	A31.00007: Predicting inhomogeneous water absorption in an ionic diblock polymer membrane Daniel Herbst , Thomas Witten
9:24AM - 9:36AM	A31.00008: Swelling of ultrathin crosslinked polyamide water purification membranes Edwin Chan , Christopher Stafford
9:36AM - 9:48AM	A31.00009: Molecular Dynamics Simulations of a Single Chain Pentablock Ionomer in Dilute Solutions Dipak Aryal , Dvora Perahia , Gary S. Grest
9:48AM - 10:00AM	A31.00010: Gas Permeation through Polystyrene-Poly(ethylene oxide) Block Copolymers Daniel Hallinan Jr. , Matteo Minelli , Marco Giacinti-Baschetti , Nitash Balsara
10:00AM - 10:12AM	A31.00011: Nanoporous thin films from nanophase-separated hybrids of block copolymer/metal salt Yoshio Sageshima , Atsushi Noro , Yushu Matsushita
10:12AM - 10:24AM	A31.00012: Highly-Ordered Thin Films from Photocleavable Block Copolymers Weiyin Gu , Hui Zhao , E. Bryan Coughlin , Patrick Theato , Thomas Russell
10:24AM - 10:36AM	A31.00013: Understanding the Internal Structure of Layered Organic Compounds deposited on mineral surface using Neutron Reflectivity Haile Ambaye , Sindhu Jagadamma , Loukas Petridis , Melanie Mayes , Valeria Lauter

Session A32. **Focus Session: Crystallization and Directed Assembly of Multicomponent Systems**

Sponsoring Units: DPOLY
Chair: Christopher Li, Drexel University
Room: 340

8:00AM - 8:36AM	A32.00001: Kinetically Trapped Morphologies in Organic Photovoltaics Invited Speaker: Thomas Russell
8:36AM - 8:48AM	A32.00002: Microphase Separation and Crystallization of All-Conjugated Poly(3-alkylthiophene) Block Copolymers Jing Ge , Ming He , Feng Qiu
8:48AM - 9:00AM	A32.00003: Polythiophene-CdSe Nanorod Assembly Using Electric Field Sirinya Chantarak , Todd Emrick , Thomas P. Russell
9:00AM - 9:12AM	A32.00004: SANS and SAXS Studies of DNA-Templated Silver Nanoclusters Hongyu Guo , Sunil K. Sinha , Jaswinder Sharma , Jennifer S. Martinez , Andrew P. Shreve
9:12AM - 9:24AM	A32.00005: Polymer Crystallization at Curved Liquid-Liquid Interface Christopher Li , Wenda Wang , Hao Qi , Ziyin Huang
9:24AM - 9:36AM	A32.00006: Dynamic Temperature Gradient Effects on Directed Self Assembly of Thin Films of Block Copolymer/Au Nanoparticle Multicomponent Systems Ren Zhang , Gurpreet Singh , Alei Dang , Michael Bockstaller , Alamgir Karim
9:36AM - 9:48AM	A32.00007: A Study on the Packing and Phase Separation of Dissimilar Nanoparticles Xiaobo Shen , Dong Wang , Dhandapani Venkataraman , Tadafumi Adschiri , Ken Nakajima , Thomas Russell
9:48AM - 10:00AM	A32.00008: Self-Assembly of Giant Molecular Shape Amphiphiles based on Polystyrene Tethered Hydrophilic POSS/C$_{60}$ Nanoparticles Xinfei Yu , I-Fan Hsieh , Kan Yue , Wen-Bin Zhang , Stephen Cheng
10:00AM - 10:12AM	A32.00009: Self-assembly of ABA amphiphilic block copolymers and its metastable behavior Wei Jiang
10:12AM - 10:24AM	A32.00010: Self-assembly of multicomponent structures in and out of equilibrium Steve Whitelam , Rebecca Schulman , Lester Hedges
10:24AM - 10:36AM	A32.00011: Phase Separation in a Dynamically Asymmetric Polymer Blend: a Stepwise Growth Mechanism Charles Han , Weichao Shi
10:36AM - 10:48AM	A32.00012: Rigid Amorphous Fraction in PLA Electrospun Fibers Peggy Cebe , Qian Ma , Erika Simona Cozza , Marek Pyda , Bin Mao , Yazhe Zhu , Orietta Monticelli
10:48AM - 11:00AM	A32.00013: Diameter-Dependent Modulus and Melting Behavior in Electrospun Semicrystalline Polymer Fibers Ying Liu , Shuang Chen , Eyal Zussman , Chad Korach , Wei Zhao , Yichen Guo , Miriam Rafailovich

Session A33. **Focus Session: Dielectric and Ferroelectric Polymers for Electrical Applications: Dielectrics**

Sponsoring Units: DPOLY DMP
Chair: Lei Zhu, Case Western Reserve University
Room: 341

8:00AM - 8:36AM	A33.00001: Imaging the Effect of Electrical Breakdown in Multilayer Polymer Capacitor Films Invited Speaker: Mason Wolak
8:36AM - 9:12AM	A33.00002: Accelerating Dielectrics Design Using Thinking Machines Invited Speaker: R. Ramprasad
9:12AM - 9:24AM	A33.00003: Dielectric Properties of Poly(carbonate) Containing Oxide Nanoparticles Steve Greenbaum , John Fontanella , John Bendler , Charles Edmondson , Mary Wintersgill , David Boyles , Tsvetanka Filipova , Mark Westgate , Armando Rua , Xavier Bogle
9:24AM - 9:36AM	A33.00004: Theoretical considerations in the design of polymer dielectrics Philip Taylor , Gavin Brown , Jiayuan Miao , Elshad Allahyarov
9:36AM - 9:48AM	A33.00005: Properties of Poly(carbonate) Containing Oxide Nanoparticles Joseph Lomax , John Bendler , John Fontanella , Charles Edmondson , Mary Wintersgill , Mark Westgate
9:48AM - 10:00AM	A33.00006: Morphology of candidate high dielectric constant polymers Daniel W. Sinkovits , Manish Agarwal , Mayank Misra , Sanat Kumar
10:00AM - 10:12AM	A33.00007: Aromatic Polythiourea Dielectrics with High Energy Density, High Breakdown Strength, and Low Dielectric Loss Shan Wu , Quinn Burlingame , Minren Lin , Qiming Zhang
10:12AM - 10:24AM	A33.00008: Exploration of the Chemical Space of Group 4 Polymer Dielectrics Chenchen Wang , Ghanshyam Pilania , Rampi Ramprasad
10:24AM - 10:36AM	A33.00009: General methodology for creating improved polymeric dielectrics Mayank Misra , Manish Agarwal , Daniel Sinkovits , Sanat Kumar
10:36AM - 10:48AM	A33.00010: Large, Uni-directional Actuation In Dielectric Elastomers Achieved By Fiber Stiffening Jiangshui Huang , David Clarke , Zhigang Suo
10:48AM - 11:00AM	A33.00011: Dielectric Performance of Matrix Free, Hairy Nanoparticle Films Christopher Grabowski , Elizabeth Opsitnick , Hilmar Koerner , Michael Durstock , Richard Vaia

Session A34. **Focus Session: Dynamics of Glassy Polymers Under Nanoscale Confinment: Glass Transition**

Sponsoring Units: DPOLY
Chair: Robert Riggleman, University of Pennsylvania
Room: 342

8:00AM - 8:36AM	A34.00001: Calorimetry of Polymer Nanoparticles Invited Speaker: Rodney Priestley
8:36AM - 8:48AM	A34.00002: Viscoelasticity of Ultra Thin Films Probed via Temperature-Controlled Quartz Crystal Microbalance With Dissipation Jodie Lutkenhaus , Joe Puhr , Ajay Vidyasagar
8:48AM - 9:00AM	A34.00003: Making the Tg-Confinement Effect Disappear in Thin Polystyrene Films: Good Physics vs. Inappropriate Analysis John Torkelson , Lawrence Chen
9:00AM - 9:12AM	A34.00004: Reduced Calorimetric Tg in Confined Thin Polymer Films with Controlled Interface Gi Xue , Jiao Chen , Dongshan Zhou
9:12AM - 9:24AM	A34.00005: The Calorimetric Glass Transition of Polystyrene Ultrathin Films Siyang Gao , Yung P. Koh , Sindee S. Simon
9:24AM - 9:36AM	A34.00006: Local Variation of Fragility and Glass Transition Temperature of Ultra-thin Supported Polymer Films Paul Hanakata , Jack Douglas , Francis Starr
9:36AM - 9:48AM	A34.00007: Fragility of an Isochorically Confined Polymer Glass Chuan Zhang , Yunlong Guo , Rodney Priestley
9:48AM - 10:00AM	A34.00008: Effects of aging on glass-forming polymers Amit Shavit , Robert Riggleman
10:00AM - 10:12AM	A34.00009: Physical Aging of Thin Polystyrene Films Quenched and Measured Free-Standing Justin Pye , Connie Roth
10:12AM - 10:24AM	A34.00010: Glass transition temperatures in nanoscale equilibrated polystyrene droplets Chad Daley , James Forrest
10:24AM - 10:36AM	A34.00011: Confinement effects on the glass transition of nanolayered polymers David Simmons , Ryan Lang , Mark Mackura
10:36AM - 10:48AM	A34.00012: Dynamic Cluster Size Effects on the Glass Transition of Thin Films Richard Wool
10:48AM - 11:00AM	A34.00013: How does Tg reduction affect the chain mobility in confined PS films? Bulent Akgun , Michael Dimitriou , Sushil K. Satija

Session A45. **Focus Session: Structure and Dynamics of Biomembranes I**

Sponsoring Units: DBIO DPOLY
Chair: Fredrick Heberle, Oak Ridge National Lab
Room: Hilton Baltimore Holiday Ballroom 4

8:00AM - 8:36AM	A45.00001: Molecular simulation studies of edges in bilayers and bicelles Invited Speaker: James Kindt
8:36AM - 8:48AM	A45.00002: Shear-induced alignment of ``bicellar'' phospholipid membranes Mu-Ping Nieh , Ming Li , Norbert Kucerka
8:48AM - 9:00AM	A45.00003: Estimation of Structural Properties Of The Thermally Fluctuated Membrane Based on The Small-Angle Neutron Scattering Data Takumi Hawa , Victor Lee
9:00AM - 9:12AM	A45.00004: Lipid bilayer dynamics: Effects of segregation between DMPC and DSPC Michihiro Nagao , Paul Butler , Andrea Woodka , Rana Ashkar
9:12AM - 9:24AM	A45.00005: X-ray reflectivity study of a DPPC floating bilayer: Effect of Ca^{2+} ions and temperature Sambhunath Bera , Sajal Ghosh , Yicong Ma , Curt DeCaro , Zhang Jiang , Laurence Lurio , Sunil Sinha
9:24AM - 9:36AM	A45.00006: Deposition of Homogeneous Single-supported DMPG Lipid Membranes onto a Silica Substrate for Quasielastic Neutron Scattering Experiments Andrew Miskowiec , Mia Brown , Jason Cooley , Renee Jiji , Haskell Taub , Justin Grayer , Gavin King , Helmut Kaiser , Flemming Hansen , Madhusudan Tyagi
9:36AM - 9:48AM	A45.00007: Mobility of water and selected atoms in DMPG lipid bilayer membranes F.Y. Hansen , A. Roennest , G.H. Peters , H. Taub , A. Miskowiec
9:48AM - 10:00AM	A45.00008: High-speed Membrane Imaging with Digital Holography Thomas Dimiduk , Amy Chen , Laura Arriaga , Vinothan Manoharan
10:00AM - 10:12AM	A45.00009: Compositional interface dynamics within symmetric and asymmetric planar lipid bilayer membranes Tao Han , Mikko Haataja
10:12AM - 10:24AM	A45.00010: The effects of cholesterol concentration in lipid packing and domain registration in ternary mixture lipid multilayer Yicong Ma , Sajal Ghosh , Laura Connelly , Ratneshwar Lal , Sunil Sinha
10:24AM - 10:36AM	A45.00011: Small molecule interactions with lipid bilayers: a molecular dynamics study of chlorhexidine Brad Van Oosten , Drew Marquardt , Edward Sternin , Thad Harroun
10:36AM - 10:48AM	A45.00012: The Effects of Ca^{2+} on the Dynamics of PIP$_2$ containing Lipid Bilayers Ian McCabe , Martin Forstner

Session B11. **Invited Session: Polymer Membranes for Clean Energy and Water II**

Sponsoring Units: DPOLY GERA
Chair: Ali Evern Ozcam, University of California, Berkeley
Room: 310

11:15AM - 11:51AM	B11.00001: Polymer-Derived Membranes for Large Scale Energy-Efficient Separations Invited Speaker: William Koros
11:51AM - 12:27PM	B11.00002: Dramatic nano-fluidic properties of carbon nanotube membranes as a platform for protein channel mimetics Invited Speaker: Bruce Hinds
12:27PM - 1:03PM	B11.00003: Structure Formation of Block Copolymer Membranes Invited Speaker: Volker Abetz
1:03PM - 1:39PM	B11.00004: Scalable Directed Self-Assembly and Anisotropic Transport Properties of Soft Mesophases for Membrane Applications Invited Speaker: Chinedum Osuji
1:39PM - 2:15PM	B11.00005: Understanding the Permeation of Solutes in Water Treatment Membranes Invited Speaker: William Phillip

Session B31. **Focus Session: Nano to Meso-Scale Structure in Ordered Soft Matter: Liquid Crystal Structure, Dynamics and Function I**

Sponsoring Units: DPOLY
Chair: Alberto Fernandez de las Nieves, Georgia Institute of Technology
Room: 339

11:15AM - 11:27AM	B31.00001: Self-Assembly of Polyhedral Oligomeric Silsesquioxane-Based Giant Molecular Shape Amphiphiles Yiwen Li , Stephen Cheng
11:27AM - 11:39AM	B31.00002: Nanoparticle Solubility in Liquid Crystalline Defects Jonathan K. Whitmer , Julio C. Armas-Perez , Abhijeet A. Joshi , Tyler F. Roberts , Juan J. de Pablo
11:39AM - 11:51AM	B31.00003: Liquid Crystal Phase Transition driven three-dimensional Quantum Dot Organization Andrea L. Rodarte , R.J. Pandolfi , S. Ghosh , L.S. Hirst
11:51AM - 12:03PM	B31.00004: Ordering of Lyotropic Chromonic Liquid Crystal Films In Cylindrical Micropost Arrays Marcello Cavallaro , Matthew Lohr , Daniel Beller , Laura Laderman , Kathleen Stebe , Randall Kamien , Peter Collings , Arjun Yodh
12:03PM - 12:39PM	B31.00005: Modelling liquid crystal elastomers and potential application as a reversibly switchable adhesive Invited Speaker: James Adams
12:39PM - 12:51PM	B31.00006: Compliant random fields in gels formed from side-chain liquid crystalline polymers Paul Goldbart , Fangfu Ye , Bing Lu , Xiangjun Xing
12:51PM - 1:03PM	B31.00007: Phase Behavior of Semi-flexible-Coil Block Copolymers Studied by Monte Carlo Simulations Tao We , Robert Riggleman
1:03PM - 1:15PM	B31.00008: Competition of Elasticity and Flexoelectricity for bistable alignment of nematics on patterned substrates Timothy Atherton , James Adler
1:15PM - 1:27PM	B31.00009: Effect of ionic additives on elasticity of lyotropic chromonic liquid crystal Shuang Zhou , Adam J. Cervenka , Yogesh Singh , Luana T. Tortora , Carmen C. Almasan , Oleg D. Lavrentovich
1:27PM - 1:39PM	B31.00010: Tactoids and Defects in Nematic-Isotropic Phase Transition in Lyotropic Chromonic Liquid Crystal Young-Ki Kim , Oleg D. Lavrentovich
1:39PM - 1:51PM	B31.00011: Liquid Crystal Switching Response by Localized Surface Plasmon Induced Electric Fields Zachary Nuno , Linda Hirst , Sayantani Ghosh
1:51PM - 2:03PM	B31.00012: Tunable lithography masks using chiral nematic fluids Hyeon Su Jeong , Mohan Srinivasarao , Hee-Tae Jung
2:03PM - 2:15PM	B31.00013: Light sensitive liquid crystals: Focusing on surface and bulk transitions Petr Shibaev , Seth Bourg , Shannon Rosario , Daniel Bateman , Andrey Iljin

Session B32. **Focus Session: Polymer Crystallization and Morphology**

Sponsoring Units: DPOLY
Chair: Xinfei Yu, NIST
Room: 340

11:15AM - 11:51AM	B32.00001: Disentangled solid state and metastable polymer melt; a solvent free route to high-modulus high-strength tapes and films of UHMWPE Invited Speaker: Sanjay Rastogi
11:51AM - 12:03PM	B32.00002: A simple model for heterogeneous nucleation of isotactic polypropylene Michael Howard , Scott Milner
12:03PM - 12:15PM	B32.00003: Monte Carlo Simulations of Strain-induced Polymer Crystal Nucleation Wenbing Hu , Yijing Nie , Huanhuan Gao
12:15PM - 12:27PM	B32.00004: Solid to solid beta to alpha form transition in crystalline structures of syndiotactic polystyrene (sPS) Tetsu Ouchi , Suguru Nagasaka , Atsushi Hotta
12:27PM - 12:39PM	B32.00005: Molecular Structure of Semicrystalline Polyethylene Blends Studied by Broadband Coherent Anti-Stokes Raman Scattering Microscopy Young Jong Lee , Chad Snyder , Aaron Forster , Marcus Cicerone , Wen-li Wu
12:39PM - 12:51PM	B32.00006: Enhanced segmental mobility of Poly(lactic acid) in presence of water Omkar Vyavahare , Shaw Hsu
12:51PM - 1:03PM	B32.00007: Molecular engineering of high-performance elastomeric materials Shengwei Deng , Michael Falk
1:03PM - 1:15PM	B32.00008: Tuning Properties of Semi-Crystalline Polymers at Constant Crystallinity: Adjusting Rigid Amorphous Fraction and Crystallization Conditions by Solid-State Shear Pulverization Philip Brunner , John Torkelson
1:15PM - 1:27PM	B32.00009: Determining the Heat of Fusion and Crystallization Kinetics of Trogamid Bin Mao , Peggy Cebe
1:27PM - 1:39PM	B32.00010: Unusual Temperature Dependence of the Growth Rate of a Bromine Substituted Polyethylene Rufina G. Alamo , Wei Zhang , Laura Santonja , Emine Boz , Kenneth B. Wagener
1:39PM - 1:51PM	B32.00011: A Fast Scanning Calorimetric Comparison Study of Crystallization Behavior between Semi-crystalline Polymers and Liquid Crystals Dongshan Zhou , Jing Jiang , Lai Wei , Zhijie Huang , Gi Xue
1:51PM - 2:03PM	B32.00012: Unusual ``Twisting" Morphology in Poly(3-hydroxybutyrate-co 3-hydroxyhexanoate) and Poly(bisphenol A hexane ether) Spherulites Jerold Schultz
2:03PM - 2:15PM	B32.00013: Crystal Pattern and Orientation Structure of Poly Ethlyene Oxide at Surface Qi Liao

Session B33. **Focus Session: Dielectric and Ferroelectric Polymers for Electrical Applications: Ferroelectrics**

Sponsoring Units: DPOLY DMP
Chair: Philip Taylor, Case Western Reserve University
Room: 341

11:15AM - 11:51AM	B33.00001: Phase Transitions as a Novel Mechanism for High-Speed Energy Storage Invited Speaker: Jerry Bernholc
11:51AM - 12:03PM	B33.00002: Constrained Molecular Dynamics Modeling of Dielectric Response in Polar Polyethylene Analogs and Poly(vinylidene flouride) Jeffrey Calame
12:03PM - 12:15PM	B33.00003: Crystal Orientation and Temperature Effects on the Double Hysteresis Loop Behavior of a PVDF-g-PS Graft Copolymer Lei Zhu , Lianyun Yang , Fangxiao Guan
12:15PM - 12:27PM	B33.00004: Polarization Mapping in Ferroelectric Polymer Thin Films by Pyroelectric Scanning Microscopy Jingfeng Song , Stephen Ducharme
12:27PM - 12:39PM	B33.00005: Interfacial polarization and internal electron tunneling effect on dielectric properties of multilayer polymer films Jung-Kai Tseng , Zheng Zhou , Matt Mackey , Joel Carr , Eric Baer , Lei Zhu
12:39PM - 12:51PM	B33.00006: Ab-initio study of high energy storage in polymers: PVDF-BTFE Rui Dong , V. Ranjan , M. Buongiorno-Nardelli , J. Bernholc
12:51PM - 1:03PM	B33.00007: Effect of crystal isomorphism on novel ferroelectric behaviors of P(VDF-TrFE)-based copolymers Lianyun Yang , Xinyu Li , Qiming Zhang , Lei Zhu
1:03PM - 1:15PM	B33.00008: Ferroelectric Polymer Composite with Enhanced Breakdown Strength Kuo Han , Matthew Gadinski , Qing Wang
1:15PM - 1:27PM	B33.00009: Effect of Polymer Blocking Layer and Processing Method on the Breakdown Strength and the Extractable Energy Density of Barium Titanate/poly(vinylidene fluoride-co-hexafluoropropylene) Nanocomposite Thin Film Capacitors Yunsang Kim , Mohanalingam Kathaperumal , O'Neil Smith , Ming-Jen Pan , Joseph Perry
1:27PM - 1:39PM	B33.00010: Relaxor Ferroelectric Behavior in Poly(vinylidene fluoride-co-bromotrifluoroethyene) Matthew Gadinski , Qing Wang
1:39PM - 1:51PM	B33.00011: BaTiO3 and polypropylene nanocomposites for capacitor applications Daxuan Dong , Longxiang Tang , Lei Zhu , Je Kyun Lee
1:51PM - 2:03PM	B33.00012: Dielectric Bilayer Films Comprising Polar Cyanolated Silica Sol-Gel and Nanoscale Blocking Layer for Energy Storage Applications Mohanalingam Kathaperumal , Yunsang Kim , O'Neil Smith , Amir Dindar , Canek Fuentes-Hernandez , Do-Kyung Hwang , Ming-Jen Pan , Bernard Kippelen , Joseph Perry
2:03PM - 2:15PM	B33.00013: A variational formulation of electrostatics for heterogeneous dielectric media Francisco Solis , Vikram Jadhao , Monica Olvera de la Cruz

Session B34. **Focus Session: Dynamics of Glassy Polymers Under Nanoscale Confinement**

Sponsoring Units: DPOLY
Chair: Zahra Fakhraai, University of Pennsylvania
Room: 342

11:15AM - 11:27AM	B34.00001: Self-Diffusion of Poly(isobutyl methacrylate) in Thin Films Joshua Katzenstein , Dustin Janes , Haley Hocker , Justin Chandler , Christopher Ellison
11:27AM - 11:39AM	B34.00002: Viscosity of poly(methylmethacrylate) films on silicon Ophelia K. Tsui , Ranxing N. Li , Dongdong Peng
11:39AM - 11:51AM	B34.00003: Relaxation of wrinkles: A new viscoelastic metrology Kamil Toga , Narayanan Menon , Thomas Russell
11:51AM - 12:27PM	B34.00004: Probing nano-rheology in thin polymer films Invited Speaker: Kari Dalnoki-Veress
12:27PM - 12:39PM	B34.00005: Structural relaxation of thin polymer films Bradley Frieberg , Emmanouil Glynos , Georgios Sakellariou , Peter Green
12:39PM - 12:51PM	B34.00006: Capillary-driven flow as a probe of enhanced surface mobility in glassy polymer films Yu Chai , Thomas Salez , Joshua D. McGraw , Elie Raphael , James A. Forrest
12:51PM - 1:03PM	B34.00007: Convergence to Self-Similar Regimes in Thin Polymer Films Michael Benzaquen , Thomas Salez , Elie Rapha\"el
1:03PM - 1:15PM	B34.00008: The Onset of Plasticity in thin Polymer Films Bekele J. Gurmessa , Andrew B. Croll
1:15PM - 1:27PM	B34.00009: Competitive effects in the dynamics of confined ultra-thin polymer films Chrysostomos Batistakis , Alexey Lyulin , Thijs Michels
1:27PM - 1:39PM	B34.00010: Insight into Polymer De-wetting: A Neutron Reflectivity Study of Three-Arm Polystyrene Stars in Polystyrene Thin films Thusitha Etampawala , Nampueng Pangpaiboon , Dvora Perahia , Candice Halbert , Jim Browning , Nisanart Traiphol , Rakchart Traiphol
1:39PM - 1:51PM	B34.00011: Effects of Solvents on Confinement of Conjugated Polymer into Soft Nanoparticle Naresh Osti , Thusitha Etampawala , Umesh Shrestha , Sidath Wijesinghe , Dvora Perahia
1:51PM - 2:03PM	B34.00012: Probe of Dynamic Heterogeneity in Freeze-dried Polymer with similarities to thin film Jie Xu , Chao Teng , Gi Xue
2:03PM - 2:15PM	B34.00013: Entanglement Density Changes in Free-Standing Thin Polymer Films Joseph Stanzione , Richard Wool

Session C29. **Flow in Confinement and Porous Media**

Sponsoring Units: DPOLY
Chair: Howard Stone, Princeton University
Room: 337

2:30PM - 2:42PM	C29.00001: Colloidal jamming in nano-confinements observed with SESANS Rana Ashkar , Roger Pynn
2:42PM - 2:54PM	C29.00002: Numerical Studies into Flow Profiles in Confined Lubricant Luca di Mare , Aleks Ponjavic , Janet Wong
2:54PM - 3:06PM	C29.00003: Through-Thickness Flow Profile Determination of Confined Lubricant Janet Wong , Aleks Ponjavic
3:06PM - 3:18PM	C29.00004: The Electrophoretic Mobility of a Polyelectrolyte within a Radially Confining Potential Well Tyler Shendruk , Martin Bertrand , Gary W. Slater
3:18PM - 3:30PM	C29.00005: Specific Heat Capacity of Physically Confined Ethylene glycol in Nano Pores Samuel Amanuel , Will Linthicum
3:30PM - 3:42PM	C29.00006: Diffusion in a soft confining environment: Dynamic effects of thermal fluctuations Benoit Palmieri , Samuel Safran
3:42PM - 3:54PM	C29.00007: Probing The Dynamics Of Flow Within A 3D Porous Medium, From The Pore Scale Up Sujit Datta , Harry Chiang , T.S. Ramakrishnan , David Weitz
3:54PM - 4:06PM	C29.00008: Forced drainage and imbibition in microfluidic porous media Hokchhay Tann , Emilie Dressaire , Jinkee Lee , Howard Stone
4:06PM - 4:18PM	C29.00009: Unusual Properties of Water Confined in Nanoporous Silica Glasses Camilla Kirkemo , Adarsh Shekhar , Anders Malthe-Sorenssen , Rajiv Kalia , Aiichiro Nakano , Priya Vashishta
4:18PM - 4:30PM	C29.00010: Analysis of gas transport in polymer electrolyte fuel cells using porous structure constructed from X-ray nano CT Ikuya Kinefuchi , Junpei Oyama , Koji Yokoyama , Norio Kubo , Takashi Tokumasu , Yoichiro Matsumoto
4:30PM - 4:42PM	C29.00011: Microfluidics of ordered fluids Anupam Sengupta
4:42PM - 4:54PM	C29.00012: The Casimir effect in microfluidics Alejandro Rodriguez-Wong , Alexander Woolf , Lulu Liu , David Woolf , Steven Johnson , Federico Capasso
4:54PM - 5:06PM	C29.00013: Molecular dynamics simulation for vapor-liquid coexistence of water in nanocylinder Toshiki Mima , Ikuya Kinefuchi , Yuta Yoshimoto , Nobuya Miyoshi , Akinori Fukushima , Takashi Tokumasu , Shu Takagi , Yoichiro Matsumoto
5:06PM - 5:18PM	C29.00014: On-demand generation of aqueous two-phase microdroplets with reversible phase transitions Charles Collier
5:18PM - 5:30PM	C29.00015: H2O and CO2 confined in cement based materials: an ab initio molecular dynamics study with van der Waals interactions James Moraes de Almeida , Caetano Rodrigues Miranda , Adalberto Fazzio

Session C30. **Polymers and Organic Systems**

Sponsoring Units: DPOLY
Chair: John Cressman, George Mason University
Room: 338

2:30PM - 2:42PM	C30.00001: Immobilization of polymer microgels containing metal nanocatalysts onto inorganic surfaces L. Papoutsakis , M.A. Frysali , M. Kaliva , M. Vamvakaki , S.H. Anastasiadis
2:42PM - 2:54PM	C30.00002: Predicting Universal Pattern Formation on Spheres with Application to Self-Assembly of Patchy Colloids Erik Edlund , Oskar Lindgren , Martin Nilsson Jacobi
2:54PM - 3:06PM	C30.00003: Temperature dependent depletion interaction from PEO and other polymers Bezia Laderman , Lang Feng , Stefano Sacana , Paul Chaikin
3:06PM - 3:18PM	C30.00004: Modeling two-dimensional materials self-assembly: from Honeycomb to Kagome lattices Simiso K. Mkhonta , Ken R. Elder , Zhi-Feng Huang
3:18PM - 3:30PM	C30.00005: Stochastic self-assembly of incommensurate clusters Maria D'Orsogna , Greg Lakatos , Tom Chou
3:30PM - 3:42PM	C30.00006: Ultra-soft 100 nm thick zero Poisson's ratio film with 60{\%} reversible compressibility Chieu Nguyen , Steve Szalewski , Ravi Saraf
3:42PM - 3:54PM	C30.00007: Inferring elastic properties of an fcc crystal from displacement correlations: sub-space projection and statistical artifacts Asad Hasan , Craig Maloney
3:54PM - 4:06PM	C30.00008: Measuring colloidal osmotic compressibility of a polymer-crowded colloidal suspension by optical trapping Jinxin Fu , Vural Kara , H. Daniel Ou-Yang
4:06PM - 4:18PM	C30.00009: The impact of surface properties on particle-interface interactions Anna Wang , David Kaz , Ryan McGorty , Vinothan N. Manoharan
4:18PM - 4:30PM	C30.00010: Wavefront Kinetics of Plamsa Oxidation of Polydimethylsiloxane: Implications for Micropatterning Size Limits by Wrinkling Angus Bayley , Joao Cabral , Joanne Lingling Liao , Arnaud Chiche , Paul Stavrinou
4:30PM - 4:42PM	C30.00011: Novel low temperature phase transitions in short grafted chains as a model for monolayers of amphiphile molecules with ionic heads Carlos Gonzalez-Castro , Guillermo Ramirez-Santiago
4:42PM - 4:54PM	C30.00012: Optical conveyors: Active tractor beams for colloids, emulsions and aerosols David Ruffner , David Grier
4:54PM - 5:06PM	C30.00013: Robust thermosensitive colloidal photonic crystals Jin-Gyu Park , William Rogers , Sofia Magkiriadou , Young-Seok Kim , Vinothan Manoharan
5:06PM - 5:18PM	C30.00014: The shape--memory effect in trans--polyisoprene Douglas Safarik , Krystof Gofryk , Anna Llobet , Jason Lashley
5:18PM - 5:30PM	C30.00015: On Ulam's packing conjecture: is the ball the worst shape for packing? Yoav Kallus

Session C31. **Polymeric Elastomers and Gels**

Sponsoring Units: DPOLY
Chair: Jens Glaser, University of Minnesota
Room: 339

2:30PM - 2:42PM	C31.00001: How water content determines small-molecule mobility in hydrogels Sung Chul Bae , Ah-Young Jee , Steve Granick
2:42PM - 2:54PM	C31.00002: Unexpected water screening in gel-encapsulated terbium systems Tetyana Ignatova , Juan G. Duque , Stephen K. Doorn , Slava V. Rotkin
2:54PM - 3:06PM	C31.00003: Molecular origins of reinforcement in responsively nanostructured, shear thinning double network hydrogels Matthew Glassman , Jacqueline Chan , Bradley Olsen
3:06PM - 3:18PM	C31.00004: Physical properties of artificial extracellular matrix protein hydrogels prepared by thiol-maleimide chemistry Wenbin Zhang , David Tirrell
3:18PM - 3:30PM	C31.00005: Large-amplitude oscillatory shear of methylcellulose solutions through the sol-gel transition John W. McAllister , Joseph R. Lott , Frank S. Bates , Tim P. Lodge
3:30PM - 3:42PM	C31.00006: Analysis of the biaxial stretching of Tetra-PEG gel Takuya Katashima , Ung-il Chung , Takamasa Sakai , Kenji Urayama
3:42PM - 3:54PM	C31.00007: Low Modulus Silicone Elastomer Networks with Desirable Viscoelastic Properties for Cell Mobility Studies Julie N. L. Albert , Jan Genzer
3:54PM - 4:06PM	C31.00008: Coarse grain modeling of imperfect networks and gels Yelena Sliozberg , Tanya Chantawansri , Timothy Sirk , Jan Andzelm , Randy Mrozek , Joseph Lenhart
4:06PM - 4:18PM	C31.00009: The Interesting Influence of Nanosprings on the Viscoelasticity of Elastomeric Polymer Materials: Simulation and Experiment Jun Liu , Liqun Zhang , Dapeng Cao
4:18PM - 4:30PM	C31.00010: High-Strain Rate Mechanical Response of Cured Epoxy Networks Timothy Sirk , Ketan Khare , Mir Karim , Joseph Lenhart , Rajesh Khare , Jan Andzelm
4:30PM - 4:42PM	C31.00011: Mechanical and Thermal Properties of Cross-Linked Phenolic Resins Using Molecular Dynamics John Lawson , Joshua Monk , Justin Haskins , Charles Bauschlicher
4:42PM - 4:54PM	C31.00012: Investigation of the Melting Point Depression of 12-Hydroxystearic Acid Organogels Using the Flory Diluent Model Kevin Cavicchi , Brian Lipowski
4:54PM - 5:06PM	C31.00013: Structural analysis and mechanical properties of syndiotactic polypropylene (sPP) gels formed at different cooling temperatures Keita Takaesu , Atsushi Hotta
5:06PM - 5:18PM	C31.00014: Mechanical Measurement of Gels: Pre-stress and Failure Sami Fakhouri , Shelby Hutchens , Alfred Crosby
5:18PM - 5:30PM	C31.00015: First and second order volume-phase transitions in photo-cross-linked poly(cyclopropylacrylamide) and poly(N-vinylisobutyramide) coatings Ryan Toomey , Leena Patra

Session C32. **Polymer Nanocomposites I**

Sponsoring Units: DPOLY
Chair: Venkat Ganesan, University of Texas at Austin
Room: 340

2:30PM - 2:42PM	C32.00001: Mechanical Properties of Cross-linked Epoxy - Carbon Nanotube Nanocomposites: Effect of Interfacial Interactions and Nanoconfinement Ketan Khare , Rajesh Khare
2:42PM - 2:54PM	C32.00002: Effect of Grafting Density and Curvature of Nanoparticle on Mechanical Properties of Polymer Nanocomposite Huikuan Chao , Robert Riggleman
2:54PM - 3:06PM	C32.00003: Mechanical properties of homogeneous nanofiber composites fabricated by electrospinning Kentaro Watanabe , Atsushi Hotta
3:06PM - 3:18PM	C32.00004: Nanoparticle synergies in modifying thermal conductivity for heat exchanger in condensing boilers Kai Yang , Shan He , Thomas Butcher , Rebecca Trojanowski , Ning Sun , Dilip Gersappe , Miriam Rafailovich
3:18PM - 3:30PM	C32.00005: Molecular Dynamics Simulations on the Mechanical Properties of Blend of Polymer and Polymer Grafted Nanoparticles Dong Meng , Sanat Kumar , Gary Grest , Ting Ge , Mark Robbins
3:30PM - 3:42PM	C32.00006: Revealed nano-architecture and dynamics of bound polymer layers on nanofillers Tadanori Koga , Naisheng Jiang , Maya Endoh , Tomomi Masui , Hiroyuki Kishimoto , Takashi Taniguchi , Hiroshi Watanabe , Michihiro Nagao
3:42PM - 3:54PM	C32.00007: Studying the effect of the curvature of a polymer-grafted nanoparticle surface on equilibrium brush dimensions via small-angle neutron scattering (SANS) and polymer field theory Michael J. A. Hore , Boualem Hammouda
3:54PM - 4:06PM	C32.00008: An interface controlled dynamic stiffening in polymer nanocomposites Erkan Senses , Pinar Akcora

Session C33. **Focus Session: Organic Electronics and Photonics - Interfaces and Contacts**

Sponsoring Units: FIAP
Chair: Xinran Zhang, Georgetown University
Room: 341

2:30PM - 3:06PM	C33.00001: Interface Charge Transport in Organic Transistors as Investigated by Field-Induced Electron Spin Resonance Invited Speaker: Tatsuo Hasegawa
3:06PM - 3:18PM	C33.00002: Gold contacts for rubrene SC–FETs: the older, the better Tino Zimmerling , Bertram Batlogg
3:18PM - 3:30PM	C33.00003: Indium Free Transparent Electrodes with a Tungsten Oxide Hole Blocking Layer for Organic Photovoltaic Devices Roy Murray , Patrick Reinecke , Nopporn Rujisamphan , Uli W\"urfel , S. Ismat Shah
3:30PM - 3:42PM	C33.00004: Poly(3-hexylthiophene) Band Alignment With SiO2 Determined By Internal Photoemission Wei Li , Xuelei Liang , James Basham , Kun Xu , Qin Zhang , Oleg Kirillov , Rusen Yan , Curt Richter , Thomas Jackson , N.V. Nguyen , David Gundlach
3:42PM - 3:54PM	C33.00005: Electron Injection to Control Self-Assembly and Disassembly of Phenylacetylene on Gold Arthur P. Baddorf , Qing Li , Chengbo Han , J. Bernholc , Humberto Terrones , Bobby Sumpter , Miguel Fuentes-Cabrera , Jieyu Yi , Zheng Gai , Peter Maksymovych , Minghu Pan
3:54PM - 4:06PM	C33.00006: Scanning Tunneling Microscopy and Spectroscopy of Thin Films of the Organic Semiconductor Picene Simon Kelly , Geoffrey Rojas , Petro Maksymovych
4:06PM - 4:18PM	C33.00007: Structures and electronic properties of pristine and potassium doped coronene films studied by STM Xuefeng Wu , Kedong Wang , Xudong Xiao
4:18PM - 4:30PM	C33.00008: Computational Study of Phenylacetylene Self-Assembly on Au(111) Surface Chengbo Han , Wenchang Lu , Jerry Bernholc , Qing Li , Miguel Fuentes-Cabrera , Humberto Terrones , Bobby Sumpter , Jieyu Yi , Zheng Gai , Arthur Baddorf , Petro Maksymovych , Minghu Pan
4:30PM - 4:42PM	C33.00009: Electronic Structure of CoPc Adsorbed onto Ag(100): Evidence for Molecule-Substrate Interaction Mediated by Co-3d Orbitals Eric Salomon , Patrick Amsalem , Noa Marom , Martin Vondracek , Leeor Kronik , Norbert Koch , Thierry Angot
4:42PM - 4:54PM	C33.00010: The role of micro-shorts and electrode-film interface in the electrical transport of ultra-thin metallophthalocyanine capacitive devices Carlos Monton , Ilya Valmianski , Ivan K. Schuller
4:54PM - 5:06PM	C33.00011: Correlations of vertical phase separation and energy level shift in bulk heterojunction solar cells Mei-Hsin Chen , Wei-Hsuang Tseng , I-Hsiu Liu , Chih-I Wu
5:06PM - 5:18PM	C33.00012: Phase separation-driven stratification in conventional and inverted P3HT:PCBM organic solar cells Eleni Pavlopoulou , Guillaume Fleury , Dargie Deribew , Fabrice Cousin , Mark Geoghegan , Georges Hadziioannou
5:18PM - 5:30PM	C33.00013: Atomic and Electronic Structure of the P3HT/PCBM Interface From First-Principle Calculations Longhua Li , Oleg Kontsevoi , Arthur J. Freeman

Session C34. **Thin Films of Block Copolymers and Hybrid Materials: Mechanics and Dynamics**

Sponsoring Units: DPOLY
Chair: Alamgir Karim, University of Akron
Room: 342

2:30PM - 2:42PM	C34.00001: Structural response of a pre-aligned cylindrical block copolymer to uniaxial extensional flow Erica McCready , Wesley Burghardt
2:42PM - 2:54PM	C34.00002: Imaging surface mechanical properties of complex polymer thin films using Intermodulation Atomic Force microscopy Daniel Forchheimer , Daniel Platz , David B. Haviland , Erik A. Thol\'en
2:54PM - 3:06PM	C34.00003: Morphology and Surface Energy of a Si Containing Semifluorinated Di-block Copolymer Thin Films. Umesh Shrestha , Stephen Clarson , Dvora Perahia
3:06PM - 3:18PM	C34.00004: Elastic Properties of Bilayer Membranes Self-Assembled from Diblock Copolymers Kyle Pastor , Jianfeng Li , An-Chang Shi
3:18PM - 3:30PM	C34.00005: Exploring the atom-resolution properties of peptoid nanosheets Ranjan Mannige , Ronald Zuckermann , Stephen Whitelam
3:30PM - 3:42PM	C34.00006: 3D TEM Tomography of Bilayer Diblock Copolymer Thin Films Kevin Gotrik , Thomas Lam , Adam Hannon , J. Alexander Liddle , Caroline Ross
3:42PM - 3:54PM	C34.00007: High Resolution Imaging of Polymers Using Stochastic Optical Reconstruction Microscopy (STORM) M.W. Gramlich , J. Bae , R. Hayward , J.L. Ross
3:54PM - 4:06PM	C34.00008: Nano-spectroscopic vibrational chemical imaging of block-copolymer phase behavior Benjamin Pollard , Markus B. Raschke
4:06PM - 4:18PM	C34.00009: Tuning the lateral mobility of thin block copolymer films Harry Bermudez , Andreas Kourouklis
	C34.00010: Autophobic dewetting of symmetric diblock copolymer films on ordered lamellae Mark Ilton , Pawel Stasiak , Mark W. Matsen , Kari Dalnoki-Veress
4:30PM - 4:42PM	C34.00011: Experimental diffusion measurements of entangled rod-coil block copolymers Muzhou Wang , Ksenia Timachova , Alfredo Alexander-Katz , Bradley Olsen
4:42PM - 4:54PM	C34.00012: Dynamic Processes in Diblock Copolymer Micelles Megan Robertson , Avantika Singh
4:54PM - 5:06PM	C34.00013: Molecular exchange in block copolymer micelles: when corona chains overlap Jie Lu , Timothy Lodge , Frank Bates , SooHyung Choi
5:06PM - 5:18PM	C34.00014: Direct solvent induced microphase separation, ordering and nano-particles infusion of block copolymer thin films Arvind Modi , Ashutosh Sharma , Alamgir Karim
5:18PM - 5:30PM	C34.00015: Synthesis of Well-Defined Miktoarm Star Copolymer composed of Poly(3-hexylthiophene) and Poly(methyl methacrylate) via combining anionic polymerization and click reaction Jicheol Park , Hong Chul Moon , Jin Kon Kim

Session F11. **Invited Session: Polymer Physics Prize Symposium**

Sponsoring Units: DPOLY
Chair: John Torkelson, Northwestern University
Room: 310

8:00AM - 8:36AM	F11.00001: Polymer Physics Prize Lecture: Self-assemblies of Giant Molecular Shape Amphiphiles as a New Platform for Engineering Structures with Sub-Nanometer Feature Sizes Invited Speaker: Stephen Z.D. Cheng
8:36AM - 9:12AM	F11.00002: Polymer Spheulites Invited Speaker: Bernard Lotz
9:12AM - 9:48AM	F11.00003: Cellulose as Sustainable Materials for Separation Membranes Invited Speaker: Benjamin Chu
9:48AM - 10:24AM	F11.00004: Computational Modeling Studies of Peptides and Proteins on Inorganic Surfaces Invited Speaker: Barry Farmer
10:24AM - 11:00AM	F11.00005: Periodic Polymers Invited Speaker: Edwin Thomas

Session F30. **Membranes, Micelles, Vesicles, Gels and Complex Fluids**

Sponsoring Units: DCMP
Chair: Elizabeth Mann, Kent State University
Room: 338

8:00AM - 8:12AM	F30.00001: For a Safe Diamide Extraction Process, Elucidated by Atomistic Simulations Baofu Qiao , Ross J. Ellis , Monica Olvera de la Cruz
8:12AM - 8:24AM	F30.00002: Stochastic nature of clathrin-coated pit assembly Anand Banerjee , Alexander Berezhkovskii , Ralph Nossal
8:24AM - 8:36AM	F30.00003: Budding transition of a self-avoiding polymer confined by a soft membrane adhering onto a flat wall Yu-Cheng Su , Jeff Z. Y. Chen
8:36AM - 8:48AM	F30.00004: Why square lattices are not seen on curved ionic membranes Creighton Thomas , Monica Olvera de la Cruz
8:48AM - 9:00AM	F30.00005: Amphiphilic lipids in solution: a simulational study of lipid bilayer formation Thomas Vogel , David P. Landau , Lili Gai , Katie A. Maerzke , Christopher R. Iacovella , Clare M. McCabe , Peter T. Cummings
9:00AM - 9:12AM	F30.00006: Study of vesicle size distribution dependence on pH value based on nanopore resistive pulse method Yuqing Lin , Yauheni Rudzevich , Adam Wearne , Daniel Lumpkin , Joselyn Morales , Kathleen Nemec , Suren Tatulian , Oleg Lupan , Lee Chow
9:12AM - 9:24AM	F30.00007: Spontaneous Thermoreversible Formation of Cationic Vesicles in a Protic Ionic Liquid Dongcui Li , Carlos Lopez-Barron , Leo DeRita , Madivala Basavaraj , Norman Wagner
9:24AM - 9:36AM	F30.00008: Phase separation in a DMPC/Dchol mixed Langmuir Film: A combined Brewster Angle, Fluorescence and Light Scattering Microscopy study Pritam Mandal , Fanindra Bhatta , Arne Gericke , Edgar Kooijman , David Allender , Elizabeth Mann
9:36AM - 9:48AM	F30.00009: Mesoscopic Membrane Morphology Regulated by Molecular Crystallization Cheuk-Yui Leung , Liam Palmer , Bao Fu Qiao , Sumit Kewalramani , Rastko Sknepnek , Christina Newcomb , Megan Greenfield , Graziano Vernizzi , Samuel Stupp , Michael Bedzyk , Monica Olvera de la Cruz
9:48AM - 10:00AM	F30.00010: Thermodynamics of protein driven self assembly in membranes Ramakrishnan Natesan , Richard Tourdot , Ryan Bradley , Ravi Radhakrishnan
10:00AM - 10:12AM	F30.00011: Morphology and Performance of PLLA Based Porous Membranes by Phase Separation Control Qian Xing , Xia Dong , Rongbo Li , Charles C. Han , Dujin Wang
10:12AM - 10:24AM	F30.00012: Correlating bulk properties and nanoscale rearrangement during UV-initiated gelation of hybrid nanoparticle/ block copolymer systems K. Anne Juggernauth , Soenke Seifert , Brian Love
10:24AM - 10:36AM	F30.00013: Cooperative Processes in Restructuring Gel Networks Jader Colombo , Asaph Widmer-Cooper , Emanuela Del Gado
10:36AM - 10:48AM	F30.00014: Elimination of branching in self assembled beta-hairpin based peptide hydrogels Sameer Sathaye , Darrin Pochan
10:48AM - 11:00AM	F30.00015: Microstructure and rheology of a thermoreversible gel under large amplitude oscillatory shear (LAOS) deformation using time-resolved oscillatory rheo-small-angle neutron scattering (tOr-SANS) Jung Min Kim , A. Kate Gurnon , Norman Wagner , Aaron Eberle

Session F31. **Focus Session: Nano to Meso-Scale Structure in Ordered Soft Matter: Liquid Crystal Structure, Dynamics and Function II**

Sponsoring Units: DPOLY
Chair: Chinedum Osuji, Yale University
Room: 339

8:00AM - 8:36AM	F31.00001: POLYMER PHYSICS PRIZE BREAK
8:36AM - 8:48AM	F31.00002: Liquid Crystals of Disks of Controlled Aspect Ratios Zhengdong Cheng , Min Shuai , Andres F. Mejia
8:48AM - 9:00AM	F31.00003: Synthesis and Self-Assembly Behaviors of Polyhedral Oligomeric Silsesquioxane Based Giant Molecular Shape Amphiphiles Kan Yue , Xinfei Yu , Chang Liu , Wen-Bin Zhang , Stephen Cheng
9:00AM - 9:12AM	F31.00004: 2D Smectic of a T-shaped Liquid Crystal Mesogen D. Chen , D.A. Coleman , C. Zhu , N. Chattham , X. Cheng , C. Tschierske , J.E. Maclennan , M.A. Glaser , N.A. Clark
9:12AM - 9:48AM	F31.00005: Hierarchical Structure in Liquid Crystalline Polymers and Block Copolymers Invited Speaker: Rajeswari Kasi
9:48AM - 10:00AM	F31.00006: Triply Periodic Multiply Continuous Lyotropic Liquid Crystals Derived from Gemini Dicarboxylate Surfactants Gregory Sorenson , Mahesh Mahanthappa
10:00AM - 10:12AM	F31.00007: Alignment and Stiffening of Liquid Crystal Elastomers under Dynamic Compression Aditya Agrawal , Prabir Patra , Pulickel Ajayan , Walter Chapman , Rafael Verduzco
10:12AM - 10:24AM	F31.00008: Large area Magnetic alignment of a Cylindrical liquid crystalline Brush Block Copolymer for Generating Nanoporous Templates Manesh Gopinadhan , Prashant Deshmukh , Pawel Majewski , Rajeswari Kasi , Chinedum Osuji
10:24AM - 10:36AM	F31.00009: Observations of phase behavior of chiral mesogens in diastereomeric domains of bent-core helical nanofilament networks B. Horanyi , D. Chen , E. Korblova , D.M. Walba , J.E. Maclennan , M.A. Glaser , N.A. Clark
10:36AM - 10:48AM	F31.00010: The Role of Confinement on Biologically Derived Liquid Crystals Marguerite Brown , Daniel Blair
10:48AM - 11:00AM	F31.00011: Bio-based liquid crystalline polyesters Carolus Wilsens , Sanjay Rastogi

Session F32. **Polymer Nanocomposites II**

Sponsoring Units: DPOLY
Chair: Nigel Clarke, University of Sheffield
Room: 340

8:00AM - 8:36AM	F32.00001: POLYMER PHYSICS PRIZE BREAK
8:36AM - 8:48AM	F32.00002: Polystyrene Nanocomposites: Shear and Bulk Rheology and PVT Behavior Ran Tao , Sindee Simon
8:48AM - 9:00AM	F32.00003: Simulating Fiber Aggregation in Shear Flow with Dissipative Particle Dynamics Justin Stimatze , David Egolf , Jeffrey Urbach
9:00AM - 9:12AM	F32.00004: Effects of functional groups and ionization on the structure of alkanethiol coated gold nanoparticles Dan S. Bolintineanu , J. Matthew D. Lane , Gary S. Grest
9:12AM - 9:24AM	F32.00005: Shear and Extensional Flow-Induced Particle Orientation in Polypropylene/Clay Nanocomposites Wesley Burghardt , Erica McCready
9:24AM - 9:36AM	F32.00006: Effect of Ionic Groups on the Assembly of Polymer-Grafted Magnetic Nanoparticles Yang Jiao , Pinar Akcora
9:36AM - 9:48AM	F32.00007: Synthesis and Assembly of Janus Gold Nanorods in Polymer Matrices Robert C. Ferrier , Hyun-Su Lee , Michael J.A. Hore , Matthew Caporizzo , David M. Eckmann , Russell J. Composto
9:48AM - 10:00AM	F32.00008: Dispersion of Polymer-Grafted Nanorods in Polymer Films Amalie L. Frischknecht , Michael J. A. Hore , Russell J. Composto
10:00AM - 10:12AM	F32.00009: Dispersion of small nanoparticles in random copolymer melts Debapriya Banerjee , Kenneth S. Schweizer , Bobby Sumpter , Mark D. Dadmun
10:12AM - 10:24AM	F32.00010: Dispersion of Soft Nanoparticles in a Chemically Identical Polymer Matrix Dilru Ratnaweera , D. Baskaran , D. Holley , M. Ruppel , J. Mays , V. Urban , Mark Dadmun
10:24AM - 10:36AM	F32.00011: Using Polydispersity in Polymer Grafted Nanoparticles for Tuning Morphology in Polymer Nanocomposites Tyler Martin , Arthi Jayaraman
10:36AM - 10:48AM	F32.00012: Synchrotron radiation studies of the evolution dynamics of self-assembled nanoparticle Langmuir films Yeling Dai , Oleg Shpyrko , Binhua Lin , Mati Meron , Kyungil Kim , Brian Leahy

Session F33. **Focus Session: Organic Electronics and Photonics - Light Emission and Management**

Sponsoring Units: DMP
Chair: Russell Holmes, University of Minnesota
Room: 341

8:00AM - 8:36AM	F33.00001: POLYMER PHYSICS PRIZE BREAK
8:36AM - 8:48AM	F33.00002: Pure Bending Loss in Nanowire Waveguides Jaeyeon Pyo , Ji Tae Kim , Jewon Yoo , Jung Ho Je
8:48AM - 9:00AM	F33.00003: Molecular shear and the induced massive enhancement of conjugated polymer MEH-PPV photoluminescence by solvent-dewetting Chi-Ching Liu , Tsang-Lang Lin , Gunter Reiter , Arnold C.-M. Yang
9:00AM - 9:12AM	F33.00004: Multilayer polymer light emitting devices Zachary Barcikowski , Adam Thomas , Marian Tzolov
9:12AM - 9:24AM	F33.00005: Color change in organic light-emitting diodes using the magnetic field effect Tek Basel , Dali Sun , Bhoj Gautam , Eitan Ehrenfreund , Z. Valy Vardeny
9:24AM - 10:00AM	F33.00006: Highly efficient organic light-emitting diodes by delayed fluorescence Invited Speaker: Chihaya Adachi
10:00AM - 10:12AM	F33.00007: Kinetic Monte Carlo simulation of organic devices Alison Walker , Edward Wright
10:12AM - 10:24AM	F33.00008: Carrier Conduction and Light Emission by Modification of Poly(alkylfluorene) Interface under Vacuum Ultraviolet Light Irradiation Yutaka Ohmori , Hirotake Kajii , Daiki Terashima , Yusuke Kusumoto

Session F34. **Focus Session: Charged Colloids with Short-Range Attractions I**

Sponsoring Units: DPOLY DCMP DBIO
Chair: Yun Liu, University of Delaware/NIST
Room: 342

8:00AM - 8:36AM	F34.00001: POLYMER PHYSICS PRIZE BREAK
8:36AM - 9:12AM	F34.00002: A colloidal perspective of protein solutions manipulated by multivalent ions: Phase behavior and associated dynamics Invited Speaker: Frank Schreiber
9:12AM - 9:24AM	F34.00003: Electrostatics of colloids in mixtures Sela Samin , Yoav Tsori
9:24AM - 9:36AM	F34.00004: Protein clusters in biomembranes Nicolas Destainville
9:36AM - 9:48AM	F34.00005: Assembly of Spherical Colloids by Short-range Out-of-plane Attraction and Long-range In-plane Repulsion Fuduo Ma , David T. Wu , Ning Wu
9:48AM - 10:00AM	F34.00006: Colloidal stability in concentrated electrolyte solutions using large counterions Guillermo Guerrero Garcia , Pedro Gonzalez Mozuelos , Monica Olvera de la Cruz
10:00AM - 10:12AM	F34.00007: Size and interaction-strength effects on the phase behavior of colloidal particle assemblies Ray Sehgal , David Ford , Dimitrios Maroudas
10:12AM - 10:24AM	F34.00008: Distinguishing cluster phases as a unique scenario of intermediate range order in colloidal suspensions and protein solutions Paul Douglas Godfrin , Ramon Casta\~neda-Priego , Yun Liu , Norman J. Wagner
10:24AM - 10:36AM	F34.00009: Clustering and state diagram of charged colloids with short-range attraction in shear flows Alessio Zaccone , Massimo Morbidelli
10:36AM - 10:48AM	F34.00010: Percolation and local density fluctuations for a Colloidal System with competing interactions Nestor Valadez-Perez , Yun Liu , Ramon Castaneda-Priego
10:48AM - 11:00AM	F34.00011: Drag coefficient of an electrophoretic colloidal particle Kathryn Reddy , Ming-Tzo Wei , Joel A. Cohen , H. Daniel Ou-Yang

Session F45. **Focus Session: Physics of Proteins I**

Sponsoring Units: DBIO DPOLY
Chair: Aihua Xie, Oklahoma State
Room: Hilton Baltimore Holiday Ballroom 4

8:00AM - 8:36AM	F45.00001: Exploring the landscape for protein folding: from function to molecular machines Invited Speaker: Jose Onuchic
8:36AM - 8:48AM	F45.00002: Predicting folding-unfolding transitions in proteins without a priori knowledge of the folded state Osman Okan , Deniz Turgut , Angel Garcia , Rahmi Ozisik
8:48AM - 9:00AM	F45.00003: Exploring Beta-Amyloid Protein Transmembrane Insertion Behavior and Residue-Specific Lipid Interactions in Lipid Bilayers Using Multiscale MD Simulations Liming Qiu , Mark Vaughn , Kelvin Cheng
9:00AM - 9:12AM	F45.00004: Combined copper/zinc attachment to prion protein Miroslav Hodak , Jerry Bemholc
9:12AM - 9:24AM	F45.00005: Direct observation of apolipoprotein B refolding at single molecule level by ultra sensitive fluorescence microscopy and solution transmission electron microscopy Chia-Ching Chang , Hsueh-Liang Chu , Hsing-Yuan Lee , Tsai-Mu Cheng , Gong-Shen Chen , Fu-Rong Chen
9:24AM - 9:36AM	F45.00006: The strength of side chain hydrogen bonds in the plasma membrane Kalina Hristova , Sarvenaz Sarabipour
9:36AM - 9:48AM	F45.00007: Molecular Dynamics Simulations of Hydrophobic Residues Diego Caballero , Alice Zhou , Lynne Regan , Corey O'Hern
9:48AM - 10:00AM	F45.00008: Solvation Free Energy and Classical Density Functional Theory Eric Mills , Steven Plotkin
10:00AM - 10:12AM	F45.00009: Hydrogen Bonding in the Electronic Excited State Guang-Jiu Zhao , Ke-Li Han
10:12AM - 10:24AM	F45.00010: Intermediate Resolution Models and Protein Folding and Allostery Abhijeet Kapoor , Alex Travesset
10:24AM - 10:36AM	F45.00011: Using extremely halophilic bacteria to understand the role of surface charge and surface hydration in protein evolution, folding, and function Wouter Hoff , Ratnakar Deole
10:36AM - 10:48AM	F45.00012: Infrared Structural Biology of Proteins: Development of Vibrational Structural Markers for Probing the Structural Dynamics of COO- of Asp/Glu in Proteins Zhouyang Kang , Aihua Xie
10:48AM - 11:00AM	F45.00013: Controlling allosteric networks in proteins Nikolay Dokholyan

Session F47. **Invited Session: Solid-State Nanopores: Translocation and Applications**

Sponsoring Units: DBIO DCMP
Chair: Gustavo Stolovitzky, IBM Research
Room: Hilton Baltimore Holiday Ballroom 6

8:00AM - 8:36AM	F47.00001: The time distribution of charged biopolymers translocation through voltage-biased solid-state nanopores Invited Speaker: Jiali Li
8:36AM - 9:12AM	F47.00002: Controlling DNA Translocation Speed through Solid-State Nanopores by Surface Charge Modulation Invited Speaker: Amit Meller
9:12AM - 9:48AM	F47.00003: Advanced Solid State Nanopores Architectures: From Early Cancer Detection to Nano-electrochemistry Invited Speaker: Rashid Bashir
9:48AM - 10:24AM	F47.00004: Nonlinear transport of fd virus particles through a solid-state nanopore Invited Speaker: Xinsheng Ling
10:24AM - 11:00AM	F47.00005: Nanopore Graphene-based Electronic Devices Invited Speaker: Marija Drndic

Session G3. **Invited Session: Progress in the New Energy Frontier**

Sponsoring Units: GERA
Chair: George Crabtree, Argonne National Laboratory
Room: *Ballroom III*

11:15AM - 11:51AM	G3.00001: Nanoscience by the megaton: Scalable technologies for a sustainable future Invited Speaker: Peter Littlewood
11:51AM - 12:27PM	G3.00002: Thermoelectric Phenomena, Materials, Devices, and Applications Invited Speaker: Eric Toberer
12:27PM - 1:03PM	G3.00003: When is a polymer conjugated? Invited Speaker: John Lupton
1:03PM - 1:39PM	G3.00004: Materials for Electrochemical Energy Storage Invited Speaker: Michelle Johannes
1:39PM - 2:15PM	G3.00005: Interfacial Effects in Polymer Membranes for Clean Energy Invited Speaker: Christopher Soles

Session G30. **Self-Assembly**

Sponsoring Units: DCMP
Room: Baltimore Convention Center 338

11:15AM - 11:27AM	G30.00001: Is a hierarchical dynamics the best route to the self-assembly of a hierarchical structure? Thomas Haxton , Stephen Whitelam
11:27AM - 11:39AM	G30.00002: Optimized assembly and steady-state length-scale control in dissipative systems of photo-switchable colloids Antonio Osorio-Vivanco , Monica Olvera de la Cruz , Sharon Glotzer
11:39AM - 11:51AM	G30.00003: Self organization of exotic oil-in-oil phases driven by tunable electrohydrodynamics Anand Yethiraj , Atul Varshney , Shankar Ghosh , S. Bhattacharya
11:51AM - 12:03PM	G30.00004: Novel Behavior in Self-Assembled Superparamagnetic Nanoparticle Monolayers at the Air-Water Interface Jacob Stanley , Leandra Boucheron , Yeling Dai , Binhua Lin , Mati Meron , Oleg Shpyrko
12:03PM - 12:15PM	G30.00005: Structure and dynamics of self-assembly Henrik van Lengerich , Richard James
12:15PM - 12:27PM	G30.00006: How to Maximize Self-Assembly in Free Surface Films by Resonant Wavelength Excitations Sandra Troian , Nan Liu
12:27PM - 12:39PM	G30.00007: Analysis of pattern formation in systems with competing range interactions Vyacheslav R. Misko , Haijun Zhao , Francois M. Peeters
12:39PM - 12:51PM	G30.00008: Crystallographic Tailoring: Self-Assembling Complex Crystals Through Building Block Design Pablo F. Damasceno , Michael Engel , Sharon C. Glotzer
12:51PM - 1:03PM	G30.00009: Design Rules for the Self-Assembly of Voronoi Particles Benjamin Schultz , Pablo Damasceno , Michael Engel , Sharon Glotzer
1:03PM - 1:15PM	G30.00010: Self-assembly of binary space-tessellating compounds Mihir Khadilkar , Umang Agarwal , Fernando Escobedo
1:15PM - 1:27PM	G30.00011: Targeted self-assembly of complex lattices and meta materials from isotropic interactions Oskar Lindgren , Erik Edlund , Martin Nilsson Jacobi
1:27PM - 1:39PM	G30.00012: Rheology of Self-Assembling Colloidal Chains Kazem V. Edmond , Stefano Sacanna , Zachary D. Forbes , Andrew D. Hollingsworth , David J. Pine
1:39PM - 1:51PM	G30.00013: Shaping Colloids for Self-Assembly Stefano Sacanna , Gi-Ra Yi , David Pine
1:51PM - 2:03PM	G30.00014: Probing transition pathways of self-assembled colloidal clusters Rebecca W. Perry , Miranda Holmes-Cerfon , Michael P. Brenner , Vinothan N. Manoharan
2:03PM - 2:15PM	G30.00015: Optical assembly of thermodynamically stable colloidal clusters mediated by depletion Bhaskar Jyoti Krishnatreya , Stefano Sacanna , Kazem Edmond , David Pine , David G. Grier

Session G31. **Padden Award Symposium**

Sponsoring Units: DPOLY
Chair: Nitash Balsara, University of California at Berkeley
Room: 339

11:15AM - 11:27AM	G31.00001: Scaling Reversible Adhesion in Synthetic and Biological Systems Michael Bartlett , Duncan Irschick , Alfred Crosby
11:27AM - 11:39AM	G31.00002: Cavitation in block copolymer modified epoxy Carmelo Declet-Perez , Lorraine Francis , Frank Bates
11:39AM - 11:51AM	G31.00003: Polymer Welding and Self-healing: Strength Through Entanglements Ting Ge , Mark O. Robbins , Dvora Perahia , Gary S. Grest
11:51AM - 12:03PM	G31.00004: Magnetically aligned polymer-nanowire composites for solar energy harvesting Pawel Majewski , Candice Pelligra , Chinedum Osuji
12:03PM - 12:15PM	G31.00005: Self-similarity and energy dissipation in stepped polymer films Joshua McGraw , Thomas Salez , Oliver Baeumchen , Elie Raphael , Kari Dalnoki-Veress
12:15PM - 12:27PM	G31.00006: The Consequence of Donor-acceptor Miscibility on Charge Transport and Photovoltaic Device Performance Kiarash Vakhshouri , Derek Kozub , Chenchen Wang , Alberto Salleo , Enrique Gomez
12:27PM - 12:39PM	G31.00007: Theory of Polymers in Poor Solvent: Phase Equilibrium, Nucleation Behavior and Globule-to-Coil Transition Rui Wang , Zhen-Gang Wang
12:39PM - 12:51PM	G31.00008: Dramatic role of fragility in determining the magnitude of T$_{\mathrm{g}}$ perturbations to ultrathin film layers and near-infinitely dilute blend components Christopher Evans , John Torkelson
12:51PM - 1:03PM	G31.00009: Confined Crystallization in Poly(3-alkylthiophene)-containing Diblock Copolymers Victor Ho , Rachel Segalman

Session G32. **Focus Session: Polymer Nanocomposites: Active Particles**

Sponsoring Units: DPOLY
Chair: Russell Gorga, North Carolina State University
Room: 340

11:15AM - 11:27AM	G32.00001: Magnetic Field Driven Alignment of Cobalt Nanoparticles and Directional Strengthening Effect in Polystyrene Matrix Nanocomposites Hongyi Yuan , Jeffrey Pyun , Alamgir Karim
11:27AM - 11:39AM	G32.00002: Magnetic field gradient driven self-assembly of superparamagnetic nanoparticles using programmable magnetically-recorded templates L. Ye , B. Qi , T.G. Lawton , O.T. Mefford , C. Rinaldi , S. Garzon , T.M. Crawford
11:39AM - 11:51AM	G32.00003: Self-assembly and Photo-patterning in Polymer-fullerene Nanocomposite Thin Films Him Cheng Wong , Anthony Higgins , Andrew Wildes , Jack Douglas , Joao Cabral
11:51AM - 12:03PM	G32.00004: Co-assembly of Nanorods and Photosensitive Polymer Blends Ya Liu , Olga Kuksenok , Anna Balazs
12:03PM - 12:15PM	G32.00005: Anisotropic Thermal Processing of Polymer Nanocomposites via the Photothermal Effect of Gold Nanorods J.R. Bochinski , S. Maity , L.I. Clarke , K.A. Kozek , W. Wu , J.B. Tracy
12:15PM - 12:27PM	G32.00006: Responsive and Hybrid Nanostructures through Self-Assembly of Polymeric Macroions, Inorganic Nanoclusters and Dyes Franziska Groehn , Jasmin Duering , Daniel Moldenhauer
12:27PM - 12:39PM	G32.00007: Utilizing Matrix-Filler Interactions in the Design of Stimuli-Responsive, Mechanically-Adaptive Electrospun Composites Nandula Wanasekara , David Stone , Gary Wnek , LaShanda Korley
12:39PM - 12:51PM	G32.00008: Structure and Transport Anomalies in Soft Colloids Samanvaya Srivastava , Lynden Archer
12:51PM - 1:03PM	G32.00009: Simulations of Nanoparticle Ordering in Polymer Brush/Solvent Mixtures Gary S. Grest , Shengfeng Cheng , Mark J. Stevens
1:03PM - 1:15PM	G32.00010: Tailoring Surface Roughness by Grafting Nanoparticles to Random Copolymer Films Matthew Caporizzo , Rami Ezzibdeh , Russell Composto
1:15PM - 1:27PM	G32.00011: Photothermally-induced rotation of gold nanorods within a polymer matrix to probe local nanocomposite properties Somsubhra Maity , Laura Clarke , Jason Bochinski
1:27PM - 2:03PM	G32.00012: Polymer Nanocomposite Films: Dispersion of Polymer Grafted Nanorods and Optical Properties Invited Speaker: Russell Composto
2:03PM - 2:15PM	G32.00013: Self-assembly of defect-free particle monolayers on flexible films Md.Shahadat Hossain , Bhavin Dalal , Sathishkumar Gurupatham , Ian Fischer , Pushpendra Singh , Nadine Aubry

Session G33. **Focus Session: Organic Electronics and Photonics - Theoretical Photophysics and Excited State Dynamics**

Sponsoring Units: DMP
Chair: Richard Lunt, Michigan State University
Room: 341

11:15AM - 11:27AM	G33.00001: Polaritons in Organic Microcavities: The Effect of Phonons on the Dicke Model Justyna Cwik , Jonathan Keeling
11:27AM - 11:39AM	G33.00002: Estimating the Magnitude of Exciton Delocalization in Regioregular P3HT through Computational Modeling and Transient Absorption Spectroscopy Michael Heiber , Ali Dhinojwala
11:39AM - 11:51AM	G33.00003: Influence of \textit{trans} and \textit{cis } defects on the localization of charged excitations in $\pi $-conjugated organic polymers Iffat Nayyar , Enrique Batista , Sergei Tretiak , Avadh Saxena , Darryl Smith , Richard Martin
11:51AM - 12:03PM	G33.00004: The role of exciton diffusion in the Forster-type energy transfer in hybrid organic-inorganic nanocomposites Burak Guzelturk , Pedro Ludwig Hernandez Martinez , Donus Tuncel , Hilmi Volkan Demir
12:03PM - 12:15PM	G33.00005: First-principles simulations of exciton diffusion in organic semiconductors Xu Zhang , Zi Li , Gang Lu
12:15PM - 12:27PM	G33.00006: Relating Crystal Structure and the Charge-Transfer Nature of Excitons in Pentacene from First Principles Sahar Sharifzadeh , Pierre Darancet , Leeor Kronik , Jeffrey Neaton
12:27PM - 12:39PM	G33.00007: Exploring the correlation between molecular conformation and optoelectronic properties of conjugated polymers : side-chain versus main-chain electron acceptors Yu-Chen Huang , Ching-I Huang
12:39PM - 12:51PM	G33.00008: Band structure of polyethylene from many-body perturbation theory Ariel Biller , Sahar Sharifzadeh , Lior Segev , Sohrab Ismail-Beigi , Jeffrey B. Neaton , Leeor Kronik
12:51PM - 1:03PM	G33.00009: Ideal Energy-Level Alignment at the ZnO/P3HT Photovoltaic Interface Keian Noori , Feliciano Giustino
1:03PM - 1:15PM	G33.00010: Interactions between linear organic chromophores: an improved line-dipole approximation Jean-Christophe Denis , Stefan Schumacher , Ian Galbraith
1:15PM - 1:27PM	G33.00011: Identifying molecular features that maximize the second hyperpolarizability Christopher Burke , Timothy Atherton , Joseph Lesnefsky , Rolfe Petschek
1:27PM - 1:39PM	G33.00012: Photoexcitation and Photochemical Stability of Organic Photovoltaic Materials from First Principles Na Sai , Kevin Leung
1:39PM - 1:51PM	G33.00013: Understanding the influence of solvent field and fluctuations on the stability of photo-induced charge-separated state in molecular triad D. Balamurugan , Adelia Aquino , Hans Lischka , Francis Dios , Lionel Flores , Margaret Cheung

1:51PM - 2:03PM	G33.00014: Quantum dynamics simulations of interfacial charge-transfer in organic dye-sensitized solar cells Luis G.C. Rego , R. da Silva , D.A. Hoff
2:03PM - 2:15PM	G33.00015: First principles modeling of panchromatic dyes for solar cells applications. Rosa Di Felice , Arrigo Calzolari , Rui Dong , Marco Buongiorno Nardelli

Session G34. **Polymer Blends**

Sponsoring Units: DPOLY
Chair: Julie Albert, North Carolina State University
Room: 342

11:15AM - 11:27AM	G34.00001: An unusual route to develop poly(lactic acid) based materials with deformation-recovery properties Sahas Rathi , David Ng , E. Bryan Coughlin , Shaw Hsu , Charles Golub , Gerald Ling , Mike Tzivanis
11:27AM - 11:39AM	G34.00002: Nanoporous polystyrene samples through the selective removal of low-Mw component in PS/PS blend samples James Forrest , Chad Daley , Sonia Zhang , Sharon Yang , Stefan Idziak
11:39AM - 11:51AM	G34.00003: Effect of critical molecular weight of PEO in epoxy/EPO blends as characterized by advanced DSC and solid-state NMR Xiaoliang Wang , Shoudong Lu , Pingchuan Sun , Gi Xue
11:51AM - 12:03PM	G34.00004: Effect of Supercritical Carbon Dioxide on Polymer Blend Miscibility Nicholas Young , Sebnem Inceoglu , Andrew Jackson , Stephane Costeaux , Nitash Balsara
12:03PM - 12:15PM	G34.00005: Microphase-Separated Structures of Gold Nanoparticle Grafted with Two Immiscible Polymers Daisuke Kawaguchi , Tatsuhiro Nakano , Yushu Matsushita
12:15PM - 12:27PM	G34.00006: Improving the Compatibility between Polystyrene and Polybutadiene by Adding Silica Nanoparticles Yuping Xie , Damien Maillard , Sanat Kumar , Brandon Cash , Brian Benicewicz
12:27PM - 12:39PM	G34.00007: Application of Self-consistent Field Theory to Compressible Polymer Blends: $\chi $, interfacial tension, and anomaly Junhan Cho
12:39PM - 12:51PM	G34.00008: Morphology and Rheology of the Phase-separating Polybutadiene /Polyisoprene Blend under Small Amplitude Oscillatory Shear Xia Dong , fasheng Zou , Dujin Wang , Charles C. Han
12:51PM - 1:03PM	G34.00009: Effective Mixing of UHMWPE with Polyethylene: Rheological, Mechanical and Crystallization Behavior of Novel Blends Made by Solid-State Shear Pulverization Mirian Diop , John Torkelson
1:03PM - 1:15PM	G34.00010: Assessing the Strength Enhancement of Heterogeneous Networks of Miscible Polymer Blends Carl Giller , Mike Roland
1:15PM - 1:27PM	G34.00011: Investigation of Flame Retardancy, Mechanical Properties, and Bicompatibility of Polystyrene Blends Liudi Zhang , Seongchan Pack , Miriam Rafailovich
1:27PM - 1:39PM	G34.00012: Avalanches of dewetting holes in viscoelastic phase separation Changqian Yu , Sung Chul Bae , Steve Granick
1:39PM - 1:51PM	G34.00013: Coalescence of Pickering emulsion droplets induced by electric-field Guo Chen , Peng Tan , Shuyu Chen , Jiping Huang , Weijia Wen , Lei Xu
1:51PM - 2:03PM	G34.00014: Arrested of coalescence of emulsion droplets of arbitrary size Badel L. Mbanga , Christopher Burke , Donald W. Blair , Timothy J. Atherton

Session G45. **Focus Session: Physics of Protein Aggregation**

Sponsoring Units: DBIO DPOLY DCP
Chair: Daniel Cox, UC Davis
Room: *Hilton Baltimore Holiday Ballroom 4*

11:15AM - 11:51AM	G45.00001: Single Molecule Visualization of Protein-DNA Complexes: Watching Machines at Work Invited Speaker: Stephen Kowalczykowski
11:51AM - 12:03PM	G45.00002: Hydrogen Bonding Motifs in MutSaphla and their response to binding damaged DNA Lacra Negureanu , Freddie Salsbury
12:03PM - 12:15PM	G45.00003: Parallel Verlet Neighbor List Algorithm for GPU-Optimized MD Simulations Samuel Cho
12:15PM - 12:27PM	G45.00004: Coarse-grained Simulations of Protein-Protein Association: Energy Landscape on a Globe Sichun Yang
12:27PM - 12:39PM	G45.00005: Snyder-Robinson Syndrome: Rescuing the Disease-Causing Effect of G56S mutant by Small Molecule Binding Zhe Zhang , Virginie Martiny , David Lagorce , Emil Alexov , Maria Miteva
12:39PM - 12:51PM	G45.00006: Aggregation of concentrated monoclonal antibody solutions studied by rheology and neutron scattering Maria Monica Castellanos , Jai Pathak , Ralph Colby
12:51PM - 1:03PM	G45.00007: Enhancing Nucleation rates using Porous Silica Sathish Akella , Seth Fraden
1:03PM - 1:15PM	G45.00008: Solvent-induced size reduction of self-assembled siRNA/copolymer nanoparticles Wei Qu , Juan Wu , Hai-Quan Mao , Erik Luijten
1:15PM - 1:27PM	G45.00009: Using Nanoscale Substrate Curvature to Control the Dimerization of Surface-Bound Proteins Hilary Paulin , Martin Kurylowicz , Josh Mogyoros , Maximiliano Giuliani , John Dutcher
1:27PM - 1:39PM	G45.00010: Coarse-grained Molecular Dynamics Simulation of Calmodulin-target Interactions Pengzhi Zhang , Qian Wang , Swarnendu Tripathi , Margaret Cheung
1:39PM - 1:51PM	G45.00011: Linear and Nonlinear Microrheology of Interfacial Protein Layers Daniel Allan , Daniel Firester , Victor Allard , Daniel Reich , Robert Leheny
1:51PM - 2:03PM	G45.00012: Contributions of equilibrium and non-equilibrium clusters to viscosity in concentrated protein solutions Prasad Sarangapani , Steven Hudson , Jai Pathak , Kalman Migler

Session J11. **Dillon Medal Symposium**

Sponsoring Units: DPOLY
Chair: Arun Yethiraj, University of Wisconsin
Room: 310

2:30PM - 3:06PM	J11.00001: John H. Dillon Medal Lecture: Molecular Heterogeneity in Block Copolymer Self-Assembly Invited Speaker: Mahesh Mahanthappa
3:06PM - 3:18PM	J11.00002: Sphere Forming SISO Tetrablock Terpolymers Frank Bates , Jingwen Zhang , Sangwoo Lee
3:18PM - 3:30PM	J11.00003: What do we understand about equilibrium in block polymer micelles? Timothy Lodge
3:30PM - 3:42PM	J11.00004: Melt and Solid-State Structures of Polydisperse Polyolefin Block Copolymers Richard Register , Sheng Li
3:42PM - 3:54PM	J11.00005: Effects of molecular architecture and degree of hydration on the structure and properties of electrostatically self-assembled block copolymers Matthew Tirrell , Daniel Krogstad , Nathaniel Lynd , Jason Spruell , Soo-Hyung Choi , Craig Hawker , Edward Kramer
3:54PM - 4:06PM	J11.00006: Probing Nanoparticle Correlations in Filled Elastomers during Tensile Deformation by SAXS Edward J. Kramer , Arthur K. Scholz , Alexander Hexemer , Huan Zhang , Costantino Creton
4:06PM - 4:18PM	J11.00007: Do thermally activated transitions influence the deformation of polymer glasses? Mark Ediger , Hau-Nan Lee , Benjamin Bending
4:18PM - 4:30PM	J11.00008: Self-Assembly of Gemini Surfactants Arun Yethiraj , Jagannath Mondal , Mahesh Mahanthappa
4:30PM - 4:42PM	J11.00009: Exotic nanoparticles with block copolymer design and solution construction with kinetic control Darrin Pochan
4:42PM - 4:54PM	J11.00010: Polymer Solar Cell Device Characteristics Are Independent of Vertical Phase Separation in Active Layers Yueh-Lin Loo
4:54PM - 5:06PM	J11.00011: Dynamics of Magnetic Field Alignment of Block Copolymers by In-Situ SAXS Chinedum Osuji , Manesh Gopinadhan , Pawel Majewski
5:06PM - 5:18PM	J11.00012: Anion Transport in Hydrated Block Copolymers Nitash Balsara , Guillaume Sudre , Sebnem Inceoglu

Session J31. **Focus Session: Dynamics of Glassy Polymers Under Nanoscale Confinement: Friction and Adhesion**

Sponsoring Units: DPOLY
Chair: Connie Roth, University of Emory
Room: 339

2:30PM - 3:06PM	J31.00001: DILLON MEDAL BREAK
3:06PM - 3:18PM	J31.00002: Viscous Friction of Polymer Brushes Aykut Erbas , Michael Rubinstein
3:18PM - 3:30PM	J31.00003: Stick-Slip Dynamics Using Velcro as Model System Lisa Mariani , Cara Esposito , Paul Angiolillo
3:30PM - 3:42PM	J31.00004: Pressure and Sample Size Dependences of Static Friction Coefficient and Precursor Slips in Sheared Elastic Object Hiroshi Matsukawa , Michio Otsuki
3:42PM - 3:54PM	J31.00005: Structure and dynamics of hyperbranched polymers in bulk and under nanoscopic confinement S. H. Anastasiadis , K. Chrissopoulou , K. Karatasos , S. Fotiadou , C. Karageorgaki , I. Tanis , D. Tragoudaras , B. Frick
3:54PM - 4:06PM	J31.00006: Contact Mechanics of Nanoparticles J.-M.Y. Carrillo , A.V. Dobrynin
4:06PM - 4:18PM	J31.00007: Probing gradient of dynamics in confined polymers with nanoparticles Sivasurender Chandran , Nafisa Begam , Jaydeep Basu , Mrinmay Mukhopadhyay
4:18PM - 4:30PM	J31.00008: Confinement of conjugated polymers into soft nanoparticles: molecular dynamics simulations Sidath Wijesinghe , Dvora Perahia , Gary S. Grest
4:30PM - 4:42PM	J31.00009: Forces between nanoparticles grafted with rigid polymers: a pathway for tunable hybrids Sabina Maskey , Dvora Perahia , J. Matthew D. Lane , Gary S. Grest
4:42PM - 4:54PM	J31.00010: Polymer Film Surface Fluctuation Dynamics in the Limit of Very Dense Branching Mark Foster , Boxi Liu , Suresh Narayanan , David T. Wu
4:54PM - 5:06PM	J31.00011: Axial and radial nanostructures in electrospun polymer fibers Israel Greenfeld , Andrea Camposeo , Francesco Tantussi , Stefano Pagliara , Francesco Fuso , Maria Allegrini , Dario Pisignano , Eyal Zussman
5:06PM - 5:18PM	J31.00012: Correlation between the interfacial bond orientational order and the shift in T$_{g}$ upon confinement Simone Napolitano
5:18PM - 5:30PM	J31.00013: Conformational Relaxation of Polystyrene at Substrate Interface Hirofumi Tsuruta , Yoshihisa Fujii , Hiroshi Morita , Keiji Tanaka

Session J32. **Focus Session: Assembly & Function of Biomimetic & Bioinspired Materials I**

Sponsoring Units: DMP DPOLY DBIO
Chair: Jim de Yoreo, Lawrence Berkeley Labs
Room: 340

2:30PM - 3:06PM	J32.00001: DILLON MEDAL BREAK
3:06PM - 3:18PM	J32.00002: Designing “catch and release" systems by utilizing functionalized oscillating fins Yongting Ma , Amitabh Bhattacharya , Olga Kuksenok , Ximin He , Joanna Aizenberg , Anna C. Balazs
3:18PM - 3:30PM	J32.00003: The Study of Lipid-Based Nanodis as a Novel Carrier for Hydrophobic Cargo Ying Liu , Mu-Ping Nieh , Hyunsook Jang , Yike Huang , Yong Wang
3:30PM - 3:42PM	J32.00004: Harnessing Fluid-Driven Vesicles to Pick Up and Drop Off Janus Particles Xin Yong , Isaac Salib , Emily Crabb , Nicholas Moellers , Gerald McFarlin , Olga Kuksenok , Anna Balazs
3:42PM - 3:54PM	J32.00005: Cob-Weaving Spiders Design Attachment Discs Differently for Locomotion and Prey Capture Vasav Sahni , Jared Harris , Todd Blackledge , Ali Dhinojwala
3:54PM - 4:06PM	J32.00006: 2D Fluidization of Nanomaterials by Biomimetic Membranes Kathleen Kelly , Martin Forstner
4:06PM - 4:18PM	J32.00007: Self-Tailoring of Amphiphilic Block Copolymer Assemblies by Osmotic Pressure Jinhye Bae , Ryan Hayward
4:18PM - 4:30PM	J32.00008: Effect of Intrinsic Twist on Length of Crystalline and Disordered Regions in Cellulose Microfibrils Abdolmadjid Nili , Oleg Shklyaev , Zhen Zhao , Linghao Zhong , Vincent Crespi
4:30PM - 4:42PM	J32.00009: The Effect of Small Molecule Additives on the Self-Assembly and Functionality of Protein-Polymer Diblock Copolymers Carla Thomas , Liza Xu , Bradley Olsen
4:42PM - 4:54PM	J32.00010: Material Structure of a Graded Refractive Index Lens in Decapod Squid Jing Cai , Paul Heiney , Alison Sweeney
4:54PM - 5:06PM	J32.00011: Phase Transitions in Concentrated Solution Self-Assembly of Globular Protein-Polymer Block Copolymers Christopher Lam , Bradley Olsen
5:06PM - 5:18PM	J32.00012: Interfacial curvature effects in the self-assembly and responsiveness in polypeptide-based triblock copolymers Daniel Savin , Jacob Ray , Ashley Johnson , Jack Ly , Charles Easterling
5:18PM - 5:30PM	J32.00013: Amphiphilic Spider Silk-Like Block Copolymers with Tunable Physical Properties and Morphology for Biomedical Applications Wenwen Huang , Sreevidhya Krishnaji , David Kaplan , Peggy Cebe

Session J33. **Focus Session: Organic Electronics and Photonics - Photophysics and Charge Transfer**

Sponsoring Units: DMP
Chair: Seth Darling, Argonne National Laboratory
Room: 341

2:30PM - 3:06PM	J33.00001: DILLON MEDAL BREAK
3:06PM - 3:18PM	J33.00002: Single nanowire photodetector array for spectral discrimination Jewon Yoo , Jaeyeon Pyo , Jung Ho Je
3:18PM - 3:30PM	J33.00003: Investigation of Pyrene Excimer formation in various manufacturing processes and ionic structures Hyun-Sook Jang , Mu-Ping Nieh
3:30PM - 3:42PM	J33.00004: Photoisomerization dynamics of azobenzene materials for solar thermal fuels David A. Strubbe , Jeffrey C. Grossman
3:42PM - 3:54PM	J33.00005: Optical absorption in fluorenone-based push-pull molecules Eduardo Cruz-Silva , Paul J. Homnick , Paul M. Lahti , Vincent Meunier
3:54PM - 4:06PM	J33.00006: Exciton-Plasmon Interaction Effects in Individual Carbon Nanotubes Igor Bondarev , Areg Meliksetyan
4:06PM - 4:18PM	J33.00007: Quantitative analysis of valence photoemission spectra and quasiparticle excitations at chromophore-semiconductor interfaces Christopher Patrick , Feliciano Giustino
4:18PM - 4:30PM	J33.00008: Two-dimensional Fourier transform spectroscopy of primary excitations, in conjugated polymers Kenan Gundogdu , Cong Mai , Andrew Barrette , Robert Younts , Terry McAfee , Harald Ade
4:30PM - 4:42PM	J33.00009: Revealing photoinduced charge transfer mechanism across $\pi $-conjugated heterojunctions Yongwoo Shin , Xi Lin
4:42PM - 4:54PM	J33.00010: Charge transfer excitations in water-soluble sulfonated zinc-phthalocyanine (ZnPcS) donor molecules coupled to C$_{60}$ Rajendra Zope , Luis Basurto , Marco Olguin , Tunna Baruah
4:54PM - 5:06PM	J33.00011: Packing effects in charge transfer dynamics in organic molecular heterojunctions consisting of TFB and F8BT Mikiya Fujii , Koichi Yamashita
5:06PM - 5:18PM	J33.00012: Charge-Transfer Complexation Mechanism of Poly (4-Vinyl Pyridine)/[6,6] - Phenyl-C$_{61}$-Butyric Acid Methyl Ester in DMF Solution He Cheng , Guangmin Wei , Charles Han
5:18PM - 5:30PM	J33.00013: Probing charge transfer complex states in organic solar cells using photocurrent spectroscopy Dhanashree Moghe , Danish Adil , Catherine Kanimozhi , Gitesh Dutta , Satish Patil , Suchismita Guha

Session J34. **Focus Session: Charged Colloids with Short-Range Attractions II**

Sponsoring Units: DPOLY DCMP DBIO
Chair: Frank Schreiber, Institut fuer Angewandte Physik, Universitaet Tuebingen
Room: 342

2:30PM - 3:06PM	J34.00001: DILLON MEDAL BREAK
3:06PM - 3:42PM	J34.00002: Concentrated dispersions of therapeutic proteins Invited Speaker: Thomas Truskett
3:42PM - 3:54PM	J34.00003: Transition from monomeric phase to dynamic cluster phase in lysozyme protein solutions Yun Liu , Peter Falus , Lionel Porcar , Emiliano Fratini , Wei-Ren Chen , Antonio Faraone , Kunlun Hong , Piero Baglioni
3:54PM - 4:06PM	J34.00004: Langevin Dynamics Simulation of DNA Condensation Induced by Nanoparticles in Confinement Guo-Jun Liao , Yeng-Long Chen
4:06PM - 4:18PM	J34.00005: Small-Angle Neutron Scattering and Neutron Spin Echo Characterization of Monoclonal Antibody Self-Associations at High Concentrations Eric Yearley , Isidro (Dan) Zarraga , Paul (Doug) Godfrin , Tatiana Perevozchikova , Norman Wagner , Yun Liu
4:18PM - 4:30PM	J34.00006: The Structural Properties and Stability of Monoclonal Antibodies at Freezing Conditions Tatiana Perevozchikova , Isidro Zarraga , Thomas Scherer , Norman Wagner , Yun Liu
4:30PM - 4:42PM	J34.00007: Shear-Dependent Interactions in Rheology Modifier (RM)-Latex Suspensions Tirtha Chatterjee , Alan I. Nakatani , Antony K. VanDyk
4:42PM - 4:54PM	J34.00008: Multi-body effects in Charged Colloids - Polyelectrolyte systems Victor Pryamitsyn , Venkat Ganesan
4:54PM - 5:06PM	J34.00009: A density functional approach to model highly charged spherical colloids in electrolyte mixtures Bharat Medasani , Zaven Ovanesyan , Marcelo Marucho
5:06PM - 5:18PM	J34.00010: Measuring inter-nucleosome interactions and the roles of histone tails Steven Howell , Kurt Andresen , Isabel Jimenez-Useche , Chongli Yuan , Xiangyun Qiu
5:18PM - 5:30PM	J34.00011: Multivalent Colloids through DNA Patchy Particles Yufeng Wang , Yu Wang , Dana Breed , Vinothan Manoharan , Lang Feng , Andrew Hollingsworth , Marcus Weck , David Pine

Session J43. **Focus Session: Protein Misfolding and Aggregation I**

Sponsoring Units: DCP DBIO
Chair: Elsa Yan, Yale University
Room: Hilton Baltimore Holiday Ballroom 2

2:30PM - 3:06PM	J43.00001: Role of sequence and membrane composition in structure of transmembrane domain of Amyloid Precursor Protein Invited Speaker: John Straub
3:06PM - 3:42PM	J43.00002: Spontaneous Formation of Oligomers and Fibrils in Large-Scale Molecular Dynamics Simulations of A-beta Peptides Invited Speaker: Carol Hall
3:42PM - 4:18PM	J43.00003: Exploring the Free Energy and Conformational Landscape of Peptides Upon Aggregation and Amyloid Formation Invited Speaker: Roland Winter
4:18PM - 4:54PM	J43.00004: Chaotic (``Non-Pathway") Aggregation of $\beta $-Amyloid Congener Peptides Invited Speaker: Stephen C. Meredith
4:54PM - 5:30PM	J43.00005: Challenges for understanding protein aggregation through computer simulations Invited Speaker: Normand Mousseau

Session M11. **Invited Session: Polymer Electrolytes for Energy Storage**

Sponsoring Units: DPOLY
Chair: Enrique Gomez, Pennsylvania State University
Room: 310

8:00AM - 8:36AM	*M11.00001: Effect of Ion Clusters on Transport in Hydrated Block Copolymers* *Invited Speaker: Nitash Balsara*
8:36AM - 9:12AM	*M11.00002: New Approaches to Conjugated Polymer Electrodes for Organic Energy Storage* *Invited Speaker: Jodie Lutkenhaus*
9:12AM - 9:48AM	*M11.00003: Ionomer Design, Synthesis and Characterization for Ion-Conducting Energy Materials* *Invited Speaker: Ralph H. Colby*
9:48AM - 10:24AM	*M11.00004: Thermodynamics of salt-doped polymers* *Invited Speaker: Zhen-Gang Wang*
10:24AM - 11:00AM	*M11.00005: Polymer Electrolytes* *Invited Speaker: Michel Armand*

Session M30. **Self-Assembly: Janus and other Colloids**

Sponsoring Units: DCMP
Chair: Stefano Sacana, New York University
Room: Baltimore Convention Center 338

8:00AM - 8:12AM	M30.00001: Directed Self-Assembly of Colloidal Janus Matchsticks Kundan Chaudhary , Qian Chen , Jaime Juarez , Steve Granick , Jennifer Lewis
8:12AM - 8:24AM	M30.00002: Theory of crystallization and orientational ordering of spherical Janus colloids Homin Shin , Kenneth Schweizer
8:24AM - 8:36AM	M30.00003: Modeling of tunable structural re-configuration of Janus colloidal particles Daniel Beltran , Ronald Larson
8:36AM - 8:48AM	M30.00004: Janus Magnetic Rods, Ribbons, and Rings Jing Yan , Kundan Chaudhary , Sung Chul Bae , Jennifer Lewis , Steve Granick
8:48AM - 9:00AM	M30.00005: Study of Aggregation of Janus Ellipsoids Donovan Ruth , Wei Li , Shreeya Khadka , Jeffrey Rickman , James Gunton
9:00AM - 9:12AM	M30.00006: Amphiphilic Janus cylinders at fluid-fluid interfaces Daeyeon Lee , Bum Jun Park , Chang-Hyung Choi , Chang-Soo Lee
9:12AM - 9:24AM	M30.00007: Thermodynamically Stable Pickering Emulsions Stabilized by Janus Dumbbells Fuquan Tu , Bum Jun Park , Daeyeon Lee
9:24AM - 9:36AM	M30.00008: Analytic Solutions and Numerical Simulation of Self-Assemble Magnetic Colloidal Structures David Piet , Igor Aronson , Alex Snezhko , Athur Straube
9:36AM - 9:48AM	M30.00009: Dynamic phases in non-equilibrium magnetic colloids at liquid interfaces under in-plane magnetic field driving Alexey Snezhko , Gasper Kokot , David Piet , Igor Aranson
9:48AM - 10:00AM	M30.00010: Strictly Polyhedral Colloids Challenged by Electric Field Nobuhiro Yanai , Melinda Sindoro , Jing Yan , Steve Granick
10:00AM - 10:12AM	M30.00011: Crystalline aggregates of magnetic colloidal particles Joshua E.S. Socolar , Catherine C. Marcoux , Lin Fu , Patrick Charbonneau , Ye Yang , Benjamin B. Yellen
10:12AM - 10:24AM	M30.00012: Using chaotic Faraday waves to create a two-dimensional pseudo-thermal bath for floating particles with tunable interaction potentials Kyle Welch , Isaac Hastings-Hauss , Raghuveer Parthasarathy , Eric Corwin
10:24AM - 10:36AM	M30.00013: Twisted results on interior packing and surface energy for filament bundles Isaac Bruss , Gregory Grason
10:36AM - 10:48AM	M30.00014: Kinetics of Phase Separation in Binary Mixtures Shaista Ahmad , Subir K. Das , Sanjay Puri
10:48AM - 11:00AM	M30.00015: Cooperative Symmetry Breaking from One to Three Dimensions in Multi-Component Double Emulsions Laura Adams , Jacy Bird , Jaiwei Yang , Thomas Franke , Vinothan Manoharan , David Weitz

Session M31. **Polymer Melts and Solutions**

Sponsoring Units: DPOLY
Chair: Megan Robertson, University of Houston
Room: 339

8:00AM - 8:12AM	M31.00001: Uniaxial Extension of Entangled Polymer Melts close to T$_{\mathrm{g}}$ Hao Sun , Shi-Qing Wang
8:12AM - 8:24AM	M31.00002: Non-Gaussian chain stretching in simple shear of branched polystyrene solutions Gengxin Liu , Hyojoon Lee , Hongwei Ma , Shiwang Cheng , Roderic Quirk , Taihyun Chang , Shi-Qing Wang
8:24AM - 8:36AM	M31.00003: Tube diameter of oriented polymer melts Jian Qin , Scott Milner
8:36AM - 8:48AM	M31.00004: An Intriguing Empirical Rule for Estimating the First Normal Stress Difference from Steady Shear Viscosity Data for Concentrated Polymer Solutions and Melts Vivek Sharma , Gareth McKinley
8:48AM - 9:00AM	M31.00005: Assumptions in Entanglement models and Their Effect on Non-Linear Rheology Predictions Marat Andreev , Rudi Steenbakkers , Jay Schieber
9:00AM - 9:12AM	M31.00006: Microscopic Theory of Entangled Polymer Melt Dynamics: Flexible Chains as Primitive-Path Random Walks and Super Coarse-Grained Needles Ken Schweizer , Daniel Sussman
9:12AM - 9:24AM	M31.00007: Entanglement elasticity in polymer chain melts: microscopic calculation of the rubbery plateau modulus via intermolecular correlations Daniel Sussman , Ken Schweizer
9:24AM - 9:36AM	M31.00008: Influence of Reversibly Associating Side Group Bond Strength on Viscoelastic Properties of Polymer Melts Christopher Lewis , Kathleen Stewart , Mitchell Anthamatten
9:36AM - 9:48AM	M31.00009: Correction of Doi-Edwards' Green function in harmonic potential and its implication for stress-optical rule Tsutomu Indei , Jay Schieber
9:48AM - 10:00AM	M31.00010: Explaining the absence of high-frequency relaxation modes of polymers in dilute solutions Indranil Saha Dalal , Ronald Larson
10:00AM - 10:12AM	M31.00011: Simultaneous determination of the interaction parameter and topological scaling features of polymers in dilute solutions Durgesh Rai , Gregory Beaucage , Ratkanthwar Kedar , Nikos Hadjichristidis , Hong Kunlun , David Uhrig , Andy Tsou
10:12AM - 10:24AM	M31.00012: Anisotropic Thermal Conduction in Polymers and its Molecular Origins Jay Schieber , David Venerus , Sahil Gupta
10:24AM - 10:36AM	M31.00013: Molecular modeling simulations in phase stability of polyethylene solutions at elevated pressures Moeed Shahamat , Alejandro D. Rey
10:36AM - 10:48AM	M31.00014: Miscibility of Polymers in Supercritical Solvents Jeffrey DeFelice , Jane Lipson
10:48AM - 11:00AM	M31.00015: The effect of topology on the conformations of cyclic polymers in melts Michael Lang , Jakob Fischer , Jens-Uwe Sommer

Session M32. **Focus Session: Polymer Nanocomposites: Dynamics**

Sponsoring Units: DPOLY
Chair: Laura Clarke, North Carolina State University
Room: 340

8:00AM - 8:36AM	M32.00001: Polymer Dynamics in Nanocomposites and under Confinement Invited Speaker: Dieter Richter
8:36AM - 8:48AM	M32.00002: Universal Scaling of Polymer Diffusion in Nanocomposites Jihoon Choi , Michael J.A. Hore , Jeffrey S. Meth , Nigel Clarke , Karen I. Winey , Russell J. Composto
8:48AM - 9:00AM	M32.00003: Hopping Diffusion of Nanoparticles Subjected to Topological Constraints Li-Heng Cai , Sergey Panyukov , Michael Rubinstein
9:00AM - 9:12AM	M32.00004: The Role of Excluded Volume on the Reduction of Polymer Diffusion into Nanocomposites Jeff Meth , Sangah Gam , Russell Composto , Karen Winey
9:12AM - 9:24AM	M32.00005: Diffusivity and Transient Localization of Filler Particles in Polymer Melts and Crosslinked Systems Zachary E. Dell , Kenneth S. Schweizer
9:24AM - 9:36AM	M32.00006: Nanoparticle diffusion in dense polymer melts Jagannathan T. Kalathi , Sanat K. Kumar , Gary S. Grest
9:36AM - 9:48AM	M32.00007: Entanglement-Controlled Subdiffusion of Nanoparticles within Concentrated Polymer Solutions R.L. Leheny , H. Guo , G. Bourret , R.B. Lennox , M. Sutton , J.L. Harden
9:48AM - 10:00AM	M32.00008: Segmental Dynamics of Polymer Nanocomposites by Dielectric Relaxation Spectroscopy Shushan Gong , Quan Chen , Ralph Colby , Joseph Moll , Sanat Kumar
10:00AM - 10:12AM	M32.00009: Dissipative Particle Dynamics Simulations of Polymer Nanocomposites Nigel Clarke , Argyrios Karatrantos , Russell Composto , Karen Winey
10:12AM - 10:24AM	M32.00010: Polymer Chain Conformation in CNT/Polystyrene Nanocomposites by SANS Wei-Shao Tung , Vikki J. Bird , Nigel Clarke , Russell J. Composto , Karen I. Winey
10:24AM - 10:36AM	M32.00011: Microscopic theory for tube confinement and self-diffusivity of entangled needle liquids in presence of hard spherical obstacles Umi Yamamoto , Kenneth Schweizer
10:36AM - 10:48AM	M32.00012: Dynamics of nanoparticles in non-Newtonian aqueous dispersions Jacinta Conrad , Firoozeh Babaye Khorasani , Ramanan Krishnamoorti
10:48AM - 11:00AM	M32.00013: The impact of fragility on the properties of the glass formation of polymer nanoparticle composites Beatriz A. Pazmino Betancourt , Jack F. Douglas , Francis W. Starr

Session M33. **Focus Session: Organic Electronics and Photonics - Excited State Dynamics for Photovoltaics**

Sponsoring Units: DMP
Chair: Mike Arnold, University of Wisconsin-Madison
Room: 341

8:00AM - 8:12AM	M33.00001: Time resolved energy transfer in polymers doped with heavy atom molecule Ella Olejnik , Yaxin Zhai , Zeev Vardeny
8:12AM - 8:24AM	M33.00002: Femtosecond optical study of chemically induced polaron states in polythiophene films Hideo Kishida , Takaki Fujii , Tomoya Uchida , Takeshi Koyama , Arao Nakamura
8:24AM - 8:36AM	M33.00003: Transient picosecond studies of pristine and DIO doped PTB7/PC71BM blend for photovoltaic applications Uyen Huynh , Tek Basel , Valy Vardeny
8:36AM - 8:48AM	M33.00004: Tuning of Ultrafast Charge Transfer Dynamics in Tetracene/LiF/C60 Nanocomposites Dmitry Yarotski , Siddharth Sampat , Brian Crone , Antoinette Taylor , Anton Malko , Sergei Tretiak
8:48AM - 9:00AM	M33.00005: Managing thermal effects in z-scan measurements on PTCDA films Niranjala Wickremasinghe , Xiaosheng Wang , Heidrun Schmitzer , Hans Peter Wagner
9:00AM - 9:12AM	M33.00006: Excitonic Properties of Novel $\pi $-conjugated Polymers for Organic Electronics Evan Lafalce , Xiaomei Jiang , Cheng Zhang
9:12AM - 9:48AM	M33.00007: External quantum efficiency exceeding 100{\%} in a singlet-exciton-fission-based solar cell Invited Speaker: Marc Baldo
9:48AM - 10:00AM	M33.00008: An Electric Field Stimulated Spin Crossover Transition in a Molecular Adsorbate Xin Zhang , Tatiana Palamarciuc , Patrick Rosa , Jean-Fran\c{c}ois L\'etard , Eduardo V. Lozada , Fernand Torres , L.G. Rosa , Bernard Doudin , Peter A. Dowben
10:00AM - 10:12AM	M33.00009: Exploration of Excitonic States in Dilute Magnetic Organic Semiconductors Lane Manning , Naveen Rawat , Cody Lamarche , Lauren Paladino , Ishviene Cour , Randall Headrick , Madalina Furis
10:12AM - 10:24AM	M33.00010: Harvesting singlet fission for solar energy conversion: one versus two-electron transfer electron transfer from the quantum superposition state Wai-Lun Chan , John Tritsch , Xiaoyang Zhu
10:24AM - 11:00AM	M33.00011: Charge Transfer and Triplet States in High Efficiency OPV Materials and Devices Invited Speaker: Vladimir Dyakonov

Session M34. **Thin Films of Block Copolymers and Hybrid Materials: Directed Assembly I**

Sponsoring Units: DPOLY
Chair: Bradley Olsen, MIT
Room: Baltimore Convention Center 342

8:00AM - 8:12AM	M34.00001: Inverse Solution for Directed Self-Assembly of Thin Film Cylindrical Morphology Block Copolymers Adam Hannon , Kevin Gotrik , Alfredo Alexander-Katz , Caroline Ross
8:12AM - 8:24AM	M34.00002: Directed Assembly of Block Copolymer Ordering on Rough and Patterned Flexible Substrates Arzu Hayirlioglu , Manish Kulkarni , Alamgir Karim
8:24AM - 8:36AM	M34.00003: Consequences of Surface Neutralization in Thin Film Block Copolymers Sangwon Kim , Paul Nealey , Frank Bates
8:36AM - 9:12AM	M34.00004: Block Copolymer Directed Assembly for Nanomaterials and Nanodevices Invited Speaker: Sang Ouk Kim
9:12AM - 9:24AM	M34.00005: Self-annihilation of defects in block-copolymer thin films induced by corrugated substrates Georges Hadziioannou , Guillaume Fleury , Karim Aissou , Jonah Saver , Giles Pecastaings , Cyril Brochon , Christophe Navarro , Stephane Grauby , Jean-Michel Rampnoux , Stefane Dilhaire
9:24AM - 9:36AM	M34.00006: Directed Self-assembly of High-Molecular-Weight Block Copolymer Films Du Yeol Ryu , Eunhye Kim , Hyungju Ahn , Sungmin Park , June Huh , Joona Bang , Byeongdu Lee
9:36AM - 9:48AM	M34.00007: Directed Assembly of block copolymers on topologically complex surfaces: A self-consistent field theoretic study Xianggui Ye , Bamin Khomami
9:48AM - 10:00AM	M34.00008: Topcoat approaches for directed-assembly of copolymer films with blocks exhibiting differences in surface energy Hyo Seon Suh , Jeong In Lee , Abelardo Ramirez-Hernandez , Yasuhiko Tada , Hiroshi Yoshida , Lei Wan , Ricardo Ruiz , Juan de Pablo , Paul Nealey
10:00AM - 10:12AM	M34.00009: Bad-solvent Induced Tunable Nanoscale Roughness in Polymer, Block Co-polymer and Carbon Thin Films Manish Kulkarni , Chandrashekhar Sharma , Alamgir Karim
10:12AM - 10:24AM	M34.00010: Orientation of Microdomains in Cylinder-Forming PS-PHMA Thin Films Raleigh Davis , Richard Register , Paul Chaikin
10:24AM - 10:36AM	M34.00011: Tunable-Morphology Block Copolymer Thin Films with Controlled Solvent Vapor Annealing for Lithographic Applications Brian Stahl , Nathaniel Lynd , Edward Kramer , Craig Hawker
10:36AM - 10:48AM	M34.00012: Ultrathin block copolymer films under shear Marco Pinna , Roberta Dessi , Andrei Zvelindovsky
10:48AM - 11:00AM	M34.00013: Continuity and Network Morphologies of Lamellar Nanostructures Self-assembled in Block Copolymer Thin Films: Comparison of Processing by Thermal and Solvent Annealing Ian Campbell , Chunlin He , Mark Stoykovich

Session M43. **Focus Session: Protein Misfolding and Aggregation II**

Sponsoring Units: DCP DBIO
Chair: Joan Shea, UCSB
Room: Hilton Baltimore Holiday Ballroom 2

8:00AM - 8:12AM	M43.00001: In-Vivo Like Studies of the hIAPP Amyloid Precursors Using Dielectric Relaxation Spectroscopy Yusuke Hirai , Reem Mahommed Assiri , Donal Barry , Florin Despa , Izabela Stroe
8:12AM - 8:24AM	M43.00002: Structure and Thermodynamic Stability of Islet Amyloid Polypeptide Monomers and Small Aggregates Chi-cheng Chiu , Sadanand Singh , Juan de Pablo
8:24AM - 8:36AM	M43.00003: Control the aggregation of model amyloid insulin protein under ac-electric fields Zhongli Zheng , Benxin Jing , Y. Elaine Zhu
8:36AM - 9:12AM	M43.00004: A physical chemical approach to understanding cellular dysfunction in type II diabetes Invited Speaker: Andrew Miranker
9:12AM - 9:48AM	M43.00005: Amyloid Aggregation and Membrane Disruption by Amyloid Proteins Invited Speaker: Ayyalusamy Ramamoorthy
9:48AM - 10:24AM	M43.00006: New technology for 2D IR spectroscopy and its application to protein aggregation and drug binding Invited Speaker: Martin Zanni
10:24AM - 10:36AM	M43.00007: Early-Stage Aggregation of Islet Amyloid Polypeptide on Membrane Surfaces Probed by Label-Free Chiral Sum Frequency Generation Spectroscopy Zhuguang Wang , Li Fu , Elsa Yan
10:36AM - 10:48AM	M43.00008: Achiral and Chiral Sum Frequency Generation Spectroscopy of Peptides Joshua Carr , Lu Wang , James Skinner

Session M44. **Focus Session: Translocation through Nanopores I**

Sponsoring Units: DBIO
Chair: Aniket Battacharya, University of Central Florida
Room: Hilton Baltimore Holiday Ballroom 1

8:00AM - 8:12AM	M44.00001: Stiff Filamentous Virus Translocations through Solid-State Nanopores Angus McMullen , Derek Stein , Jay Tang
8:12AM - 8:24AM	M44.00002: Biomolecular translocation through nanopores: from an anonymous polymer to realistic DNA Maria Fyta , Simone Melchionna , Sauro Succi , Efthimios Kaxiras
8:24AM - 8:36AM	M44.00003: Effect of charge patterns along nanopores on the translocation kinetics of flexible polyelectrolytes Harsh Katkar , Murugappan Muthukumar
8:36AM - 8:48AM	M44.00004: Nanopore Translocation Dynamics of star polymers Rong Wang , Zhu Liu
8:48AM - 9:00AM	M44.00005: DNA Translocation through a Peridically Patterned Pyramidal Probe Seong Soo Choi , Myoung Jin Park , Nam Kyoo Park , Seung Min Park , Luke Lee
9:00AM - 9:12AM	M44.00006: A Fluid Channel Coincident With Graphene Tunneling Leads for DNA sequencing Luke Somers , Manuel Schottdorf , Chris Farina , Meni Wanunu , Eva Andrei
9:12AM - 9:48AM	M44.00007: Dynamics of polymer translocation through a nanopore under an applied external field Invited Speaker: Kaifu Luo
9:48AM - 10:00AM	M44.00008: Polymer Translocation Through a Nanopore from a Crosslinked Gel to Free Solution David Sean , Hendrick W. de Haan , Gary W. Slater
10:00AM - 10:12AM	M44.00009: Statistical Inference of DNA Translocation using Parallel Expectation Maximization Kevin Emmett , Jacob Rosenstein , David Pfau , Akiva Bamberger , Ken Shepard , Chris Wiggins
10:12AM - 10:24AM	M44.00010: Thermophoretic Regulation of Molecular Flux through a Nanopore Maxim Belkin , Aleksei Aksimentiev
10:24AM - 10:36AM	M44.00011: The effects of diffusion on an exonuclease/nanopore-based DNA sequencing engine Joseph E. Reiner , Arvind Balijepalli , Joseph W.F. Robertson , Bryon S. Drown , Daniel L. Burden , John J. Kasianowicz
10:36AM - 10:48AM	M44.00012: DNA translocation through graphene nanopores Slaven Garaj
10:48AM - 11:00AM	M44.00013: Ionosphere perturbation of single DNA molecules in a.c. electric fields Zubair Azad , Robert Riehn

Session M45. **Focus Session: Physics of the Cytoskeleton I**

Sponsoring Units: DBIO
Chair: Ajay Gopinathan, UC Merced
Room: *Hilton Baltimore Holiday Ballroom 4*

8:00AM - 8:12AM	M45.00001: Filament turnover kinetics determine the mechanical relaxation of entangled F-actin solutions Patrick M. McCall , David R. Kovar , Margaret L. Gardel
8:12AM - 8:24AM	M45.00002: Measuring actin dynamics during phagocytosis using photo-switchable fluorescence Daniel T. Kovari , Jennifer E. Curtis
8:24AM - 8:36AM	M45.00003: Model of Yeast Actin Cable Distribution and Dynamics Haosu Tang , Dimitrios Vavylonis
8:36AM - 9:12AM	M45.00004: Myosin II Dynamics during Embryo Morphogenesis Invited Speaker: Karen Kasza
9:12AM - 9:24AM	M45.00005: Model of Capping Protein and Arp2/3 Complex Turnover in the Lamellipodium Based on Single Molecule Statistics Laura McMillen , Matthew Smith , Dimitrios Vavylonis
9:24AM - 9:36AM	M45.00006: Effect of surface topography on actin dynamics and receptor clustering in B cells Christina Ketchum , Xiaoyu Sun , Wenxia Song , John Fourkas , Arpita Upadhyaya
9:36AM - 9:48AM	M45.00007: Biomimetic active emulsions capture cell dynamics and direct bio-inspired materials Allen Ehrlicher , Esther Amstad , Jana Segmehl , Fumihiko Nakamura , Thomas Stossel , Martin Pollak , David Weitz
9:48AM - 10:24AM	M45.00008: Eukaryotic and Prokaryotic Cytoskeletons: Structure and Mechanics Invited Speaker: Ajay Gopinathan
10:24AM - 10:36AM	M45.00009: Cell shape can mediate the spatial organization of the bacterial cytoskeleton Siyuan Wang , Ned Wingreen
10:36AM - 10:48AM	M45.00010: Elastic behavior of vimentin intermediate filament networks Huayin Wu , Eliza Morris , David Weitz
10:48AM - 11:00AM	M45.00011: Biopolymer Networks: Simulations of Rigid Rods Connected by Wormlike Chains Knut M. Heidemann , Meenakshi M. Prabhune , Florian Rehfeldt , Max Wardetzky , Christoph F. Schmidt

Session N30. **Self-Assembly: Mostly Biopolymers, DNA and Nanoparticles**

Sponsoring Units: DCMP
Room: 338

11:15AM - 11:27AM	N30.00001: Formation of Heterogeneous Toroidal-Spiral Particles -- by Drop Sedimentation and Interaction Ying Liu , Ludwig Nitsche , Richard Gemeinhart , Vishal Sharma , Magdalena Szymusiak , Hao Shen
11:27AM - 11:39AM	N30.00002: ReaxFF Reactive Force Field Study of Oriented Attachment of TiO$_{2}$ Nanocrystals in Vacuum and Humid Environments Muralikrishna Raju , Kristen Fichthorn , Adri van Duin
11:39AM - 11:51AM	N30.00003: Improving reaction rates by confinement within biocompatible polymers Cecile Malardier-Jugroot , Xia Li , Michael N. Groves , Manish Jugroot
11:51AM - 12:03PM	N30.00004: Unraveling the Mechanism of Nanotube Formation by Chiral Self-Assembly of Amphiphiles Dganit Danino
12:03PM - 12:15PM	N30.00005: Programmable Mesoscopic Architecture using Directionally-Functionalized Nanoparticles Jonathan Halverson , Alexei Tkachenko
12:15PM - 12:27PM	N30.00006: Biomimetic DNA emulsions: specific, thermo-reversible and adjustable binding from a liquid-like DNA layer Lea-Laetitia Pontani , Lang Feng , Remi Dreyfus , Nadrian Seeman , Paul Chaikin , Jasna Brujic
12:27PM - 12:39PM	N30.00007: Hybridization dynamics to DNA guided crystallization Ting Li , Rastko Sknepnek , Monica Olvera de la Cruz
12:39PM - 12:51PM	N30.00008: When DNA Meets Depletion Kun-Ta Wu , Lang Feng , Paul Chaikin
12:51PM - 1:03PM	N30.00009: Template-mediated catalysis of DNA tiles Corinna Maass , Xiaojin He , Ruojie Sha , Yoel Ohayon , Nadrian Seeman , Paul Chaikin
1:03PM - 1:15PM	N30.00010: DNA Photo Lithography with Cinnamate-based Photo-Bio-Nano-Glue Lang Feng , Minfeng Li , Joy Romulus , Ruojie Sha , John Royer , Kun-Ta Wu , Qin Xu , Nadrian Seeman , Marcus Weck , Paul Chaikin
1:15PM - 1:27PM	N30.00011: Controlling the temperature-dependent assembly of DNA-coated colloids with toehold exchange William Rogers , Jesse Collins , Vinothan Manoharan
1:27PM - 1:39PM	N30.00012: Colloidal Clusters via Short, Specific, and Isotropic DNA Interactions Jesse W. Collins , Vinothan N. Manoharan
1:39PM - 1:51PM	N30.00013: Phases and Dynamics of Self-Assembled DNA Programmed Nanocubes Christopher Knorowski , Alex Travesset
1:51PM - 2:03PM	N30.00014: Assembly of tetrahedral gold nanoclusters from binary colloidal mixtures Nicholas B. Schade , Dazhi ``Peter'' Sun , Miranda C. Holmes-Cerfon , Elizabeth R. Chen , Emily W. Gehrels , Jonathan A. Fan , Oleg Gang , Vinothan N. Manoharan
2:03PM - 2:15PM	N30.00015: Field-directed assembly of colloidal ellipsoids Peter J. Beltramo , Eric M. Furst

Monday, March 18, 2013

Session	A11	A31	A32	A33	A34	A45
Room	*310*	*339*	*340*	*341*	*342*	*Hil Holiday 4*
Chair	*Vaia*	*X. Zhang*	*Li*	*Zhu*	*Riggleman*	*Heberle*
8:00 AM	**Tao**	Hoarfrost	**Russell**	**Wolak**	**Priestley**	Kindt
8:12 AM		Tsai				
8:24 AM		Beyer				
8:36 AM	**Jayaraman**	Chen	Ge	**Ramprasad**	Lutkenhaus	Nieh
8:48 AM		Bubeck	Chantarak		Torkelson	Hawa
9:00 AM		Jang	Guo		Xue	Nagao
9:12 AM	**Vlassopoulos**	Herbst	Li	Greenbaum	Gao	Bera
9:24 AM		Chan	Zhang	Taylor	Hanakata	Miskowiec
9:36 AM		Aryal	Shen	Lomax	Zhang	Hansen
9:48 AM	**Mirau**	Hallinan, Jr.	Yu	Sinkovits	Savit	Dimiduk
10:00 AM		Sageshima	Jiang	Wu	Pye	Han
10:12 AM		Gu	Whitelam	Wang	Daley	Ma
10:24 AM	**v. Blaaderen**	Ambaye	Han	Misra	Simmons	Oosten
10:36 AM			Cebe	Huang	Wool	McCabe
10:48 AM			Liu	Grabowski	Akgun	

Session	B11	B31	B32	B33	B34
Room	*310*	*339*	*340*	*341*	*342*
Chair	*Ozcam*	*de las Nieves*	*Yu*	*Taylor*	*Fakhraai*
11:15 AM	**Koros**	Li	**Rastogi**	**Bernhlc**	Katzenstein
11:27 AM		Whitmer			Tsui
11:39 AM		Rodarte			Toga
11:51 AM	**Hinds**	Cavallaro	Howard	Calame	**Dalnoki-Veress**
12:03 PM		**Adams**	Hu	Zhu	
12:15 PM			Ouchi	Song	
12:27 PM	**Abetz**		Lee	Tseng	Frieberg
12:39 PM		Goldbart	Vyavahare	Dong	Chai
12:51 PM		We	Deng	Yang	Benzaquen
1:03 PM	**Osuji**	Atherton	Brenner	Han	Gurmessa
1:15 PM		Zhou	Mao	Kim	Batistakis
1:27 PM		Kim	Alamo	Gadinski	Etampawala
1:39 PM	**Phillip**	Nuno	Zhou	Dong	Osti
1:51 PM		Jeong	Schultz	Kathaperumal	Xu
2:03 PM		Shibaev	Liao	Solis	Stanzione

Session	C29	C30	C31	C32	C33	C34
Room	*337*	*338*	*339*	*340*	*341*	*342*
Chair	*Stone*	*Cressman*	*Glaser*	*Ganesan*	*X. Zhang*	*Karim*
2:30 PM	Askar	Papoutsakis	Bae	Khare	**Hasegawa**	McCready
2:42 PM	di Mare	Edlund	Ignatova	Chao		Forchheimer
2:54 PM	Wong	Laderman	Glassman	Watanabe		Shrestha
3:06 PM	Shendruk	Mkhonta	Zhang	Yang	Zimmerling	Pastor
3:18 PM	Amanuel	D'Orsogna	McAllister	Meng	Murray	Mannige
3:30 PM	Palmieri	Nguyen	Katashima	Koga	Li	Gotrik
3:42 PM	Datta	Hasan	Albert	Hore	Baddorf	Gramlich
3:54 PM	Tann	Fu	Sliozberg	Senses	Kelly	Pollard
4:06 PM	Kirkemo	Wang	Liu	Kalluru	Wu	Bermudez
4:18 PM	Kinefuchi	Bayley	Sirk	Jouault	Han	Ilton
4:30 PM	Sengupta	G.-Castro	Lawson	Aoyama	Salomon	Wang
4:42 PM	R.-Wong	Ruffner	Cavicchi	Viswanath	Monton	Robertson
4:54 PM	Mima	Park	Takaesu	Chipara	Chen	Lu
5:06 PM	Collier	Safarik	Fakhouri	Imel	Pavlopoulou	Modi
5:18 PM	de Almeida	Kallus	Toomey	Dong	Li	Park

APS Prizes and Awards Ceremony; *Key Ballroom 7, 5:45 PM*

Tuesday, March 19, 2013

Session	**F11**	**F30**	**F31**	**F32**	**F33**	**F34**	**F45**
Room	*310*	*338*	*339*	*340*	*341*	*342*	*Hil Holiday 4*
Chair	*Torkelson*	*Mann*	*Osuji*	*N. Clarke*	*Holmes*	*Liu*	*Xie*
8:00 AM	**Cheng**	Qiao					**Onuchic**
8:12 AM		Banerjee					
8:24 AM		Su					
8:36 AM	**Lotz**	Thomas	Cheng	Tao	Pyo	**Schreiber**	Okan
8:48 AM		Vogel	Yue	Stimatze	Liu		Qiu
9:00 AM		Lin	Chen	Bolintineanu	Barcikowski		Hodak
9:12 AM	**Chu**	Li	**Kasi**	Burghardt	Basel	Samin	Chang
9:24 AM		Mandal		Jiao	**Adachi**	Ma	Hristova
9:36 AM		Leung		Ferrier		Destainville	Caballero
9:48 AM	**Farmer**	Natesan	Sorenson	Frischknecht		Garcia	Mills
10:00 AM		Xing	Agrawal	Banerjee	Walker	Sehgal	Zhao
10:12 AM		Juggernauth	Gopinadhan	Ratnaweera	Ohmori	Godfrin	Kappor
10:24 AM	**Thomas**	Colombo	Horanyi	Martin		Zaccone	Hoff
10:36 AM		Sathaye	Brown	Dai		Valadez-Perez	Kang
10:48 AM		Kim	Wilsens			Reddy	Dokholyan

Session	**F47**
Room	*Hil Holiday 6*
Chair	*Stolovitzky*
8:00 AM	**Li**
8:12 AM	
8:24 AM	
8:36 AM	**Meller**
8:48 AM	
9:00 AM	
9:12 AM	**Bashir**
9:24 AM	
9:36 AM	
9:48 AM	**Ling**
10:00 AM	
10:12 AM	
10:24 AM	**Drndic**
10:36 AM	
10:48 AM	

Session	**G3**	**G30**	**G31**	**G32**	**G33**	**G34**	**G45**
Room	*Ballroom III*	*338*	*339*	*340*	*341*	*342*	*Hil Holiday 4*
Chair	*Crabtree*		*Balsara*	*Gorga*	*Lunt*	*Albert*	*Cox*
11:15 AM	**Littlewood**	Haxton	Bartlett	Yuan	Cwik	Rathi	**Kowalczykowski**
11:27 AM		O.-Vivanco	Declet-Perez	Ye	Heiber	Forrest	
11:39 AM		Yethiraj	Ge	Wong	Nayyar	Wang	
11:51 AM	**Toberer**	Stanley	Majewski	Liu	Guzelturk	Young	Negureanu
12:03 PM		van Lengerich	McGraw	Bochinski	Zhang	Kawaguchi	Cho
12:15 PM		Troian	Vakhshouri	Groehn	Sharifzadeh	Xie	Yang
12:27 PM	**Lupton**	Misko	Wang	Wanasekara	Huang	Cho	Zhang
12:39 PM		Damasceno	Evans	Srivastava	Biller	Dong	Castellanos
12:51 PM		Schultz	Ho	Grest	Noori	Diop	Akella
1:03 PM	**Johannes**	Khadilkar		Caporizzo	Denis	Giller	Qu
1:15 PM		Lindgren		Maity	Burke	Zhang	Paulin
1:27 PM		Edmond		**Composto**	Sai	Yu	Zhang
1:39 PM	**Soles**	Sacanna			Balamurugan	Chen	Allan
1:51 PM		Perry			Rego	Mbanga	Sarangapani
2:03 PM		Krishnatreya		Hossain	di Felice		

Session	**J11**	**J31**	**J32**	**J33**	**J34**	**J43**
Room	*310*	*339*	*340*	*341*	*342*	*Hil Holiday 2*
Chair	*Yethiraj*	*Roth*	*de Yoreo*	*Darling*	*Schreiber*	*Yan*
2:30 PM	**Mahanthappa**					**Straub**
2:42 PM						
2:54 PM						
3:06 PM	Bates	Erbas	Ma	Yoo	**Truskett**	**Hall**
3:18 PM	Lodge	Mariani	Liu	Jang		
3:30 PM	Register	Matsukawa	Yong	Strubbe		
3:42 PM	Tirrell	Anastasiadis	Sahni	Cruz-Silva	Liu	**Winter**
3:54 PM	Kramer	Carrillo	Kelly	Bondarev	Liao	
4:06 PM	Ediger	Chandran	Bae	Patrick	Yearley	
4:18 PM	Yethiraj	Wijesinghe	Nili	Gundogdu	Perevozchikova	**Meredith**
4:30 PM	Pochan	Maskey	Thomas	Shin	Chatterjee	
4:42 PM	Loo	Foster	Cai	Zope	Pryamitsyn	
4:54 PM	Osuji	Greenfeld	Lam	Fujii	Medasani	**Mousseau**
5:06 PM	Balsara	Napolitano	Savin	Cheng	Howell	
5:18 PM		Tsuruta	Huang	Moghe	Wang	

DPOLY Business Meeting, *Room 310, 5:45 PM*

Wednesday, March 20, 2013

Session	M11	M30	M31	M32	M33	M34
Room	*310*	*338*	*339*	*340*	*341*	*342*
Chair	*Gomez*	*Sacana*	*Robertson*	*L. Clarke*	*Arnold*	*Olsen*
8:00 AM	**Balsara**	Chaudhary	Sun	**Richter**	Olejnik	Hannon
8:12 AM		Shin	Liu		Kishida	Hayirlioglu
8:24 AM		Beltran	Qin		Huynh	Kim
8:36 AM	**Lutkenhaus**	Yan	Sharma	Choi	Yarotski	**Kim**
8:48 AM		Ruth	Andreev	Cai	Wickremasinghe	
9:00 AM		Lee	Sussman	Meth	Lafalce	
9:12 AM	**Colby**	Tu	Schweizer	Dell	**Baldo**	Hadziioannou
9:24 AM		Piet	Lewis	Kalathi		Ryu
9:36 AM		Snezhko	Indei	Leheny		Ye
9:48 AM	**Wang**	Yanai	Dala	Gong	Zhang	Suh
10:00 AM		Socolar	Rai	Clarke	Manning	Kulkarni
10:12 AM		Welch	Schieber	Tung	Chan	Davis
10:24 AM	**Armand**	Bruss	Shahamat	Yamamoto	**Dyakonov**	Stahl
10:36 AM		Ahmad	DeFelice	Conrad		Pinna
10:48 AM		Adams	Lang	Betancourt		Campbell

Session	M43	M44	M45
Room	*Hil Holiday 2*	*Hil Holiday 1*	*Hil Holiday 4*
Chair	*Shea*	*Battacharya*	*Gopinathan*
8:00 AM	Hirai	McMullen	McCall
8:12 AM	Chiu	Fyta	Kovari
8:24 AM	Zheng	Katkar	Tang
8:36 AM	**Miranker**	Wang	**Kasza**
8:48 AM		Choi	
9:00 AM		Somers	
9:12 AM	**Ramamoorthy**	**Luo**	McMillen
9:24 AM			Ketchum
9:36 AM			Ehrlicher
9:48 AM	**Zanni**	Sean	**Gopinathan**
10:00 AM		Emmett	
10:12 AM		Belkin	
10:24 AM	Wang	Reiner	Wang
10:36 AM	Carr	Garaj	Wu
10:48 AM		Azad	Heidemann

Session	N30	N31	N33	N38	N43	N44
Room	*338*	*339*	*341*	*347*	*Hil Holiday 2*	*Hil Holiday 1*
Chair		*Elabd*	*Lutkenhaus*	*Shaheen*	*Yan*	*Slater*
11:15 AM	Liu	**Lorigan**	Yee	**Aspuru-Guzik**	Bhandari	Adhikari
11:27 AM	Raju		Patel		Mezzenga	Jeon
11:39 AM	M.-Jugroot		Barteau		Batzli	Cifra
11:51 AM	Danino	Marquardt	Masser	Nelson	**Tycko**	**de Haan**
12:03 PM	Halverson	Heller	Oleshko	Martinez		
12:15 PM	Pontani	Schmidt	Gurevitch	Nimmo		
12:27 PM	Li	Tekpinar	Ganapatibhotla	**Nazir**	**Wickner**	Tiwari
12:39 PM	Wu	Machta	Stevens			Miao
12:51 PM	Maass	Lee	Hall			Polson
1:03 PM	Feng	Zhang	Lu	Teichen	**Lashuel**	**Sakaue**
1:15 PM	Rogers	Ghosh	Bartels	Li		
1:27 PM	Collins	Mitchell	Smith	Collins		
1:39 PM	Knorowski		Kusoglu	Mahat	Bonacum	James
1:51 PM	Schade		Harry	van Schooten	Sayar	Kwok
2:03 PM	Beltramo		Shian	Tarafder		Liu

Session Q1: DPOLY Poster Session, *Exhibit Hall E-F, 11:30 AM*

Session	R3	R31	R32	R33	R34	R45
Room	*Ballroom III*	*339*	*340*	*341*	*342*	*Hil Holiday 4*
Chair	*Tauber*	*Stevens*	*Priestley*	*Zaumseil*	*Phelan, Jr.*	*Sanchez*
2:30 PM	**Popovic**	Hassouneh	McDermott	**Podzorov**	**Xu**	**Sanchez**
2:42 PM		Seekell	Gray			
2:54 PM		Deb	Rottler			
3:06 PM	**Amir**	Firestone	**Cangialosi**	Capozzi	Shenhar	Mizuno
3:18 PM		Li		Morf	Yao	Quint
3:30 PM		Hu		Pimcharoen	Chen	Ayade
3:42 PM	**Henkel**	Varongchayakul	Bending	Ishii	Dehghan	**Chen**
3:54 PM		**Weitz**	Lin	Vukmirovic	Zhu	
4:06 PM			Medvedev	Lee	Huq	
4:18 PM	**Binek**		**McKenna**	Nyman	Zvelindovsky	Sendek
4:30 PM		Tao		Hardigree	Wang	Korabel
4:42 PM		Yeh		Hiszpanski	Noro	Guo
4:54 PM	**Pleimling**	Tabatabai	Mirigian	Ireland	Kim	Valentine
5:06 PM		Montgomery	Starr	Paul	Thorkelsson	
5:18 PM		Palenik	Koh	Angiolillo	Char	

Thursday, March 21, 2013

Session	T11	T30	T31	T32	T33	T34	T44
Room	*310*	*338*	*339*	*340*	*341*	*342*	*Hil Holiday 1*
Chair	*Mezzenga*	*Giovambattista*	*Xu*	*He*	*Podzorov*	*Stein*	*Cox*
8:00 AM	**Dobson**	Cicerone	Guan	Dobrynin	Yun	Singh	**Pappu**
8:12 AM		Anghel	Strychalski	Shojaei	Knopfmacher	Schmitt	
8:24 AM		Buldyrev	Stavis	Lewis	Katib	Kim	
8:36 AM	**Gazit**	Iwashita	Tree	**Wu**	**Zaumseil**	Gu	Mate
8:48 AM		Wubbenhorst	Huang			Kiim	Ando
9:00 AM		Zhao	R.-Anderson			Zhang	Smith
9:12 AM	**Subramaniam**	Antonelli	Tsang	Chen	Wang	Kao	**Babu**
9:24 AM		Raty	Kachan	Teran	Kang	He	
9:36 AM		Ransom	Prabhune	Chen	Yang	Hu	
9:48 AM	**Knowles**	Boukahil	Schwarz	Buitrago	Nemzer	Lin	**Eliezer**
10:00 AM		Hamden	Lieou	O'Reilly	Zhong	Paradiso	
10:12 AM		Cohen	Huang	Ford	Boudaris	Khaira	
10:24 AM	**Saiani**	Richmond	Kim	Goswami	Coates	Peters	Hall
10:36 AM		Wisitsorasak	Sikora	Yao	Qi	Kim	Zilman
10:48 AM		Vosk	Oliveira	Shiau	Kim	M.-Tabari	

Session	U31	U32	U33	U34	U38
Room	*339*	*340*	*341*	*342*	*347*
Chair	*Cheng*	*Nieh*	*Chabinyc*	*Tsige*	*Wiener*
11:15 AM	Srivastava	Ovanesyan	**Bredas**	Ozisik	Thon
11:27 AM	Zhang	Wang		Li	Voznyy
11:39 AM	Neitzel	Kumar		Lee	Dodderi
11:51 AM	Wang	Luo	Gosselin	Ilie	Wippermann
12:03 PM	**Safinya**	Nakamura	Zhugayevych	Bekele	Kanai
12:15 PM		Seery	Kipp	Glynos	Voros
12:27 PM		Sing	Lin	Zhu	Padilla
12:39 PM	Chen	Masser	Berube	Levine	Marri
12:51 PM	Gunkel	Modestino	**Darling**	Tao	Carbone
1:03 PM	Cheng	Choi		Chen	Sergeev
1:15 PM	Pandey	Selin		Audus	Sullivan
1:27 PM	Bozorgui	Lipson	Collins	Kolb	Kechiantz
1:39 PM	Mutlugun	Wang	Amonoo	Baeumchen	Wu
1:51 PM	Santos	McIntosh	Liu	Fowler	Gohda
2:03 PM	Yoon	Sangoro	Basham	Hoagland	Dhomkar

Session	W9	W11	W28	W31	W32	W34	W38
Room	*308*	*310*	*336*	*339*	*340*	*342*	*347*
Chair	*Balatsky*	*Rafailovich*	*Majidi*	*Frischkenacht*	*Lee*	*Perahia*	*Wu*
2:30 PM	**Zwolak**	**Vaia**	Ponomarenko	**Fredrickson**	**Sohn**	Chiappelli	**Leger**
2:42 PM			Shan			Zhang	
2:54 PM			Lunghi			Leuty	
3:06 PM	**Taniguchi**	**Ginzburg**	Couturier	Zong	Alexeev	Zhang	Burns
3:18 PM			Chen	Delaney	Musunuri	Lee	Munday
3:30 PM			**Kuhl**	Plunk	Pan	Xu	Shi
3:42 PM	**Balatsky**	**Lee**		Kumar	Guo	van Zoelen	Hachtel
3:54 PM				Wang	Joly	Bain	Guan
4:06 PM			Coudrillier	Pandav	Lee	Tito	Govoni
4:18 PM	**Scheicher**	**Li**	Silverberg	Souslov	Riedo	Karacsony	Wippermann
4:30 PM			Fassler	Rocklin	Thompson	Gann	Cui
4:42 PM			Schillaci	Wang	Ota	Ellison	Dubois
4:54 PM	**Gundlach**	**Desikan**	Tepayotl-Ramirez	Yeh	Ballard	White	Jiang
5:06 PM				Spencer	Mueller	Dhinojwala	Regis
5:18 PM				Park	Striolo	Jha	Spalenka

Friday, March 22, 2013

Session	**Y31**	**Y32**	**Y33**	**Y34**	**Y42**	**Y44**	**Y46**
Room	*339*	*340*	*341*	*342*	*Hil Holiday 3*	*Hil Holiday 1*	*Hil Holiday 5*
Chair	*Ellison*	*Meth*	*P. Zhang*	*F.-Nieves*	*Neuman*	*Staii*	*O'Hern*
8:00 AM	Beckingham	Semler	Jankowski	**Lopez**	Kreysing	**Urbach**	Cheng
8:12 AM	Iwama	Runt	Dadmun		van de Meent		Rose
8:24 AM	Ganesan	Chantawansri	Broch		Randiom		Asta
8:36 AM	Onikoyi	Sarkar	Kesava	King	**Neuman**	Johnson	**Heberle**
8:48 AM	Medapuram	Vansickle	Ade	Kriske		Staii	
9:00 AM	Glaser	Zou	Su	Glawdel		Li	
9:12 AM	Trask	Migler	Kochemba	Gu	Chiu	Franz	Li
9:24 AM	Brown	Chipara	Balko	Risbud	Lee	Geisse	Sims
9:36 AM	Grason	Goswami	Yimer	Tripathi	Lin	**Sokolov**	Tlusty
9:48 AM	Rosales	Chipara	Perez	Sulchek	**Cieplak**		Grinter
10:00 AM	Mester	He	Kilbey	Randall			Zhang
10:12 AM	Jang	Saiani	Kim	Khorshid		Spendden	Pandey
10:24 AM	Moon	Hu	Olds	Wang	Lu	Adia-Nimuwa	Roosen-Runge
10:36 AM	Hsu	Neogi	Karim	Phelan, Jr.	Rempe	Ayers	Regmi
10:48 AM	Ryu			Klotz	Presse		Vinh

Session	**Z2**	**Z10**	**Z11**	**Z31**	**Z32**	**Z33**	**Z34**
Room	*Ballroom II*	*309*	*310*	*339*	*340*	*341*	*342*
Chair	*Chakraborty*	*Davidovitch*	*Hoy*	*Leuty*	*Drazer*	*Collins*	*Guo*
11:15 AM	**Waitukaitis**	**Hohlfeld**	**Govaert**	R.-Hernandez	Millan	Datani	Shepard
11:27 AM				Mendoza	Santiago	Koh	Patil
11:39 AM				Yang	Gundabala	Cezza	Burns
11:51 AM	**Bonn**	**Bico**	**Lacks**	Wang	Strey	Chen	Clarke
12:03 PM				Wang	Um	Ma	Davis
12:15 PM				Junghans	Rocca	Chepa	Novikov
12:27 PM	**O'Hern**	**Schroll**	**Wang**	Faller		Brady	McCoy
12:39 PM				Man		Nedoma	Smessaert
12:51 PM				Sides		Rujisamphan	Tsige
1:03 PM	**Dijksman**	**Stone**	**Larson**	Maniadis		Shih	Cheng
1:15 PM				Cheng		Sangal	Ougizawa
1:27 PM				Jadhao		Wu	Griffin
1:39 PM	**Bi**	**Suo**	**Roland**	Chubynsky		Yoon	Mavimbela
1:51 PM				Agapito		Wagner	Fontanella
2:03 PM				Chourou		Honda	Almudallal

Session	**Z42**	**Z44**
Room	*Hil Holiday 2*	*Hil Holiday 1*
Chair	*J. Xu*	*Dufresne*
11:15 AM	**Xu**	Bi
11:27 AM		Wang
11:39 AM		McCune
11:51 AM	Jacobson	Chen
12:03 PM	Kappiyoor	Utuje
12:15 PM	Yang	Kang
12:27 PM	**Blanpied**	**Dufresne**
12:39 PM		
12:51 PM		
1:03 PM	Martin	Bodenschatz
1:15 PM	Teeling-Smith	Massod
1:27 PM	Sykes	Zhao
1:39 PM	Dunn	Qin
1:51 PM		Funkhouser
2:03 PM		Westendorf

Session N31. **Membrane and Membrane Protein Interactions**

Sponsoring Units: DPOLY
Chair: Jenny Kim, NIST
Room: 339

11:15AM - 11:51AM	N31.00001: Investigating the Structural Properties of Integral Membrane Proteins with Pulsed EPR Spectroscopy Invited Speaker: Gary Lorigan
11:51AM - 12:03PM	N31.00002: Tocopherol activity correlates with its location in a membrane: A new perspective on the anti-oxidant Vitamin E Drew Marquardt , Justin Williams , Norbert Kucerka , Jeffrey Atkinson , John Katsaras , Stephen Wassall , Thad Harroun
12:03PM - 12:15PM	N31.00003: Redistribution of Cholesterol in Model Lipid Membranes in Response to the Membrane-Active Peptide Alamethicin William Heller , Shuo Qian
12:15PM - 12:27PM	N31.00004: Relationship between peptide membrane curvature generation and bactericidal activities Nathan Schmidt , Michelle Lee , David Kuo , Andre Ouellette , Gerard Wong
12:27PM - 12:39PM	N31.00005: Observing Stepwise Unzipping of Neuronal Snare Protein with Steered Molecular Dynamics Mustafa Tekpinar , Wenjun Zheng
12:39PM - 12:51PM	N31.00006: Information processing in the plasma membrane Benjamin Machta
12:51PM - 1:03PM	N31.00007: Yeast mitochondrial fission proteins induce antagonistic Gaussian membrane curvatures to regulate apoptosis Michelle Lee , Ghee Hwee Lai , Nathan Schmidt , Wujing Xian , Gerard C. L. Wong
1:03PM - 1:15PM	N31.00008: On the modeling of endocytosis Tao Zhang , Rastko Sknepnek , Jennifer Schwarz , Mark Bowick
1:15PM - 1:27PM	N31.00009: Structural studies of lipid-protein interactions on cushioned bilayers S.K. Ghosh , M.K. Mukhopadhyay , Y. Ma , I. Lopez , S. Bera , L.B. Lurio , A. Chakrabarti , J.E. Kim , M.K. Sanyal , S.K. Sinha
1:27PM - 1:39PM	N31.00010: Critical cell wall hole size for lysis in Gram-positive bacteria Gabriel Mitchell , Kurt Wiesenfeld , Daniel Nelson , Joshua Weitz

Session N33. **Focus Session: Polymers for Energy Storage and Conversion**

Sponsoring Units: DPOLY
Chair: Jodie Lutkenhaus, Texas A&M University
Room: 341

11:15AM - 11:27AM	N33.00001: Power Factor Improvements in PEDOT:PSS Tellurium Nanowire Composites Shannon Yee , Nelson Coates , Jeffrey Urban , Rachel Segalman
11:27AM - 11:39AM	N33.00002: Charge Transport Properties of P3HT-PEO block copolymers that are Electrochemically Oxidized in the Solid-State Shrayesh Patel , Anna Javier , Nitash Balsara
11:39AM - 11:51AM	N33.00003: Ion Transport in Amorphous Polymer Electrolytes Katherine P. Barteau , Nathaniel A. Lynd , Glenn H. Fredrickson , Craig J. Hawker , Edward J. Kramer
11:51AM - 12:03PM	N33.00004: Dynamics of a Novel Class of Polymers: Polymerized Sulfur Kevin Masser , Jenny Kim , Vladimir Oleshko , Jared Griebel , Woo Chung , Adam Simmons , Jeff Pyun , Christopher Soles
12:03PM - 12:15PM	N33.00005: Investigation of the capacity retention mechanisms in novel composite sulfur copolymer-base cathodes for high-energy density Li-S batteries Vladimir Oleshko , Jenny Kim , Kevin Masser , Steven Hudson , Christopher Soles , Jared Griebel , Woo Jin Chung , Adam Simmonds , Jeffrey Pyun
12:15PM - 12:27PM	N33.00006: TiO$_{2}$-SEO Block Copolymer Nanocomposites as Solid-State Electrolytes for Lithium Metal Batteries Inna Gurevitch , Raffaella Buonsanti , Alexander Teran , Jordi Cabana , Nitash Balsara
12:27PM - 12:39PM	N33.00007: High Aspect Ratio Nanofillers for Solid Polymer Electrolytes Lalitha Ganapatibhotla , Janna Maranas
12:39PM - 12:51PM	N33.00008: Atomistic Simulations Reveal a Surprising Variety of Morphologies in Precise Ionomers Mark Stevens , Dan Bolintineanu , Amalie Frischknecht
12:51PM - 1:03PM	N33.00009: Mechanism of Ion Diffusion in Coarse-Grained Ionomer Melts Lisa M. Hall , Mark J. Stevens , Amalie L. Frischknecht
1:03PM - 1:15PM	N33.00010: Coarse-Grained MD Simulation of String-like Aggregates in Single-Ion Conductors Keran Lu , Janna Maranas , Scott Milner
1:15PM - 1:27PM	N33.00011: Anion Conduction in PEO-Functionalized Polyphosphazene Ionomers Joshua Bartels , Andrew Hess , Harry Allcock , Ralph Colby , James Runt
1:27PM - 1:39PM	N33.00012: Decoupling ion flux and mechanical strength in polymer battery membranes Derrick Smith , Shan Cheng , Timothy Bunning , Christopher Li
1:39PM - 1:51PM	N33.00013: Structure-Property Relationship of Perfluorinated Sulfonic Acid (PFSA) Membranes Ahmet Kusoglu , Adam Weber
1:51PM - 2:03PM	N33.00014: Hard X-ray tomography as a non-destructive technique to study the growth of lithium dendrites in lithium polymer batteries Katherine Harry , Daniel Hallinan , Dilworth Parkinson , Alastair MacDowell , Nitash Balsara
2:03PM - 2:15PM	N33.00015: A New Mechanical Loading Configuration for Maximizing The Performance of Dielectric Elastomer Generators Samuel Shian , Jiangshui Huang , Zhigang Suo , David Clarke

Session N38. **Novel Photophysics and Transport in NanoPV I**

Sponsoring Units: GERA DPOLY DCOMP
Chair: Sean Shaheen, University of Denver
Room: 347

11:15AM - 11:51AM	N38.00001: Tuning charge transport in organic devices: From in silico to carbon to device Invited Speaker: Alan Aspuru-Guzik
11:51AM - 12:03PM	N38.00002: Conformational Disorder in Energy Transfer: Beyond Forster Theory Tammie Nelson , Sebastian Fernandez-Alberti , Adrian Roitberg , Sergei Tretiak
12:03PM - 12:15PM	N38.00003: Phonon-assisted nonradiative energy transfer in quantum dot-silicon nanostructures Pedro Ludwig Hernandez Martinez , Aydan Yeltik , Burak Guzelturk , Alexander O. Govorov , Hilmi Volkan Demir
12:15PM - 12:27PM	N38.00004: Directed Energy Transfer through Size-Gradient Nanocrystal Layers into Si Substrates Michael Nimmo , Louis Caillard , Will deBenedetti , Hue Nguyen , Yves Chabal , Yuri Gartstein , Anton Malko
12:27PM - 1:03PM	N38.00005: Quantum coherence and noise in open quantum systems Invited Speaker: Ahsan Nazir Preview Abstract
1:03PM - 1:15PM	N38.00006: Quantum Relaxation in Singlet Fission Paul Teichen , Joel Eaves
1:15PM - 1:27PM	N38.00007: Double Super-Exchange in Silicon Quantum Dots Connected by Short-Bridged Networks Huashan Li , Zhigang Wu , Mark Lusk
1:27PM - 1:39PM	N38.00008: Highly Efficient Charge Transfer in Nanocrystalline Si:H Reuben Collins , Matthew Bergren , Brian Simonds , Jeremy Fields , Craig Taylor , Thomas Furtak , Kristin Kiriluk , Guozhen Yue , Baojie Yan , Jeff Yang , Tining Su , Subhendu Guha , Matthew Beard
1:39PM - 1:51PM	N38.00009: Ultrafast carrier dynamics of CdSe quantum dots prepared by pulse laser deposition for photovoltaic applications Meg Mahat , Baichhabi Yakami , Qilin Qilin Dai , Jinke Tang , Jon Pikal
1:51PM - 2:03PM	N38.00010: Spin-Dependent Light-Harvesting in Colloidal Nanocrystals by Controlling Electronic Trap States with Optically Detected Magnetic Resonance K.J. van Schooten , J. Huang , D.V. Talapin , C. Boehme , J.M. Lupton
2:03PM - 2:15PM	N38.00011: Charge transfer between a CdSe/CdS quantum rod and an attached ferrocene molecule: a first principle study Kartick Tarafder , Lin-Wang Wang

Session N43. **Focus Session: Protein Misfolding and Aggregation III**

Sponsoring Units: DCP DBIO
Chair: Elsa Yan, Yale University
Room: Hilton Baltimore Holiday Ballroom 2

11:15AM - 11:27AM	N43.00001: Structural Transformation and Aggregation of cc-beta Peptides Into Amyloid Proto-fibrils Yuba Bhandari , Timothy Steckmann , Prem Chapagain , Bernard Gerstman
11:27AM - 11:39AM	N43.00002: Gelation, Phase Behavior and Dynamics of Beta-Lactoglobulin Amyloid Fibrils at Varying Concentrations and Ionic Strengths Raffaele Mezzenga , Sreenath Bolisetty , Ludger Harnau , Jin-Mi Jung
11:39AM - 11:51AM	N43.00003: Amyloid fibril networks nucleated under oscillatory shear Kiersten Batzli , Brian Love
11:51AM - 12:27PM	N43.00004: Amyloid Structure In Vitro and In Vivo Invited Speaker: Robert Tycko
12:27PM - 1:03PM	N43.00005: Yeast prion architecture explains how proteins can be genes Invited Speaker: Reed Wickner
1:03PM - 1:39PM	N43.00006: Molecular mechanisms for neurodegeneration Invited Speaker: Hilal Lashuel
1:39PM - 1:51PM	N43.00007: Using Electronic Properties of Adamantane Derivatives to Analyze their Ion Channel Interactions: Implications for Alzheimer's Disease Jason Bonacum
1:51PM - 2:03PM	N43.00008: Self-Assembly of Peptides at the Air/Water Interface Mehmet Sayar

Session N44. **Focus Session: Translocation through Nanopores II**

Sponsoring Units: DBIO
Chair: Gary Slater, University of Ottawa
Room: *Hilton Baltimore Holiday Ballroom 1*

11:15AM - 11:27AM	N44.00001: How tension propagates for a driven semi-flexible chain while translocating through a nano-pore Ramesh Adhikari , Aniket Bhattacharya
11:27AM - 11:39AM	N44.00002: Experimental measurements of the rate of capture of synthetic and natural polyelectrolytes by alpha-hemolysin under salt concentration gradients Byoung-jin Jeon , Murugappan Muthukumar
11:39AM - 11:51AM	N44.00003: Linear and ring DNA macromolecules moderately and strongly confined in nanochannels Peter Cifra , Zuzana Benkova , Tomas Bleha
11:51AM - 12:27PM	N44.00004: Polymer Translocation in a Crowded Environment: Effects due to Obstacle Density and Arrangement Invited Speaker: Hendrick W. de Haan
12:27PM - 12:39PM	N44.00005: Electric field controlled small molecule transport through vertically aligned large diameter multiwalled carbon nanotube forest membrane Purushottam Tiwari , Padmini Krishnakumar , Yesim Darici , Jin He
12:39PM - 12:51PM	N44.00006: Electric-field driven translocation of colloidal wild-type and mutant fd viruses through a solid-state nanopore Wang Miao , Liping Liu , Anna Lu , Prerna Sharma , Zvonimir Dogic , Chuong Huynh , Larry Scipioni , Xinsheng Ling
12:51PM - 1:03PM	N44.00007: Polymer Translocation Dynamics in the Quasi-Static Limit James Polson
1:03PM - 1:39PM	N44.00008: Nonequilibrium Dynamics of Polymer Translocation Invited Speaker: Takahiro Sakaue
1:39PM - 1:51PM	N44.00009: Active Control of Protein and Ionic Transport through Semiconducting Conical Nanopores Teena James , Yevgeniy Kalinin , Chih-Chieh Chan , Jatinder Randhawa , Mikhail Gaevski , David Gracias
1:51PM - 2:03PM	N44.00010: Rapid fabrication of sub-5nm solid-state nanopore for low cost biosensing Harold Kwok , Kyle Briggs , Vincent Tabard-Cossa
2:03PM - 2:15PM	N44.00011: Probing the Influence of Coil Configuration on DNA Translocation Dynamics in Solid-State Nanopores Xu Liu , Karri DiPetrillo , Jason Chan , Lucas Eggers , Angus McMullen , Derek Stein

Session Q1. **DPOLY Poster Session**

Room: Exhibit Hall E-F

Q1.00001: POLYMERS AND SOFT MATTER PHYSICS
Q1.00002: Phase Behavior of Miscible Block copolymer Blends Yonghoon Lee , Hyungju Ahn , Hoyeon Lee , Du Yeol Ryu
Q1.00003: Investigation of Ternary Multiblock Copolymer Melts using Self-consistent Field Theory Dachuan Sun , Junhan Cho
Q1.00004: Self-assembly of polymer systems in the presence of disorder David Tempel , Hsieh Chen , Alfredo Alexander-Katz
Q1.00005: Efficient Formation of Multicomponent Ion Gels by Stepwise Self-Assembly of Thermoresponsive ABC Triblock Terpolymers Scott Danielsen , Can Zhou , Timothy Lodge
Q1.00006: Design of Optimal Surface Topographies for Low Fouling Surfaces by Computer Simulation Phillip Schoch , Jan Genzer
Q1.00007: Template Polymerization using a controlled reaction scheme Preeta Datta , Jan Genzer
Q1.00008: The Co-axial Flow of Injectable Solid Hydrogels with Encapsulated Cells Brandon Stewart , Darrin Pochan , Sameer Sathaye
Q1.00009: Kinetic control of block copolymer self-assembly into novel multicompartment and multigeometry nanoparticles Yingchao Chen , Shiyi Zhang , Ang Li , Xiaojun Wang , Jiahua Zhu , Karen Wooley , Jimmy Mays , Darrin Pochan
Q1.00010: Printing Polymer Semiconductors with Controlled Crystal Orientations Nikhila Mahadevapuram , David Shakarisaz , Suchanun Moungthai , Paul Ruchhoeft , Gila Stein
Q1.00011: Investigation of phase coexistence in block copolymer/salt mixtures near order-disorder phase transitions Jacob Thelen , Nitash Balsara
Q1.00012: Self-assembled nanostructures in cross-linkable block copolymer/homopolymer blends Chunlin He , Ian Campbell , Mark Stoykovich
Q1.00013: Adjusting microstructure and properties of polypropylene nanocomposites through \textit{in situ} interfacial reaction Tao Tang , Yujie Wang , Dong Wan , Xin Wen
Q1.00014: Interfacial assembly of Graphene Oxide at oil/water and polymer/polymer interfaces Zhiwei Sun , Tao Feng , Thomas Russell
Q1.00015: Designing Reconfigurable Stimuli-Responsive Gel/Nanofibers Composites Xin Yong , Olga Kuksenok , Anna Balazs
Q1.00016: Interfacial activity of acid functionalized single-walled carbon nanotubes (SWCNTs) at the fluid-fluid interface Tao Feng , Thomas Russell , David Hoagland
Q1.00017: Plasmonic Coupling via Au@stimuli-responsive polymer Hybrid Core@shell Nanoparticles Monitored by Surface Plasmon Resonance Spectroscopy Ji-Eun Lee , Kyungwha Chung , Dong Ha Kim
Q1.00018: Supramolecular Nanocomposites: Effects of the Aspect Ratio of Nanorods Kari Thorkelsson , Ting Xu
Q1.00019: Multi-Color Emission of Hybrid Block Copolymer-Quantum Dot Microspheres by Controlled Quantum Dot Spatial Isolation Kang Hee Ku , Minsoo Kim , Kwanyeol Paek , Jae Man Shin , Sunhaeng Chung , Se Gyu Jang , Weon-Sik Chae , Gi-Ra Yi , Bumjoon Kim

Q1.00020: NIR fluorescent chitosan-based nanoparticles for tracking and delivery of cancer therapeutic molecule in living systems
Giulia Suarato , Amanda Chin , Yizhi Meng

Q1.00021: Do attractive interactions slow down diffusion in polymer nanocomposites?
Chia-Chun Lin , Sangah Gam , Jeffrey S. Meth , Nigel Clarke , Karen I. Winey , Russell J. Composto

Q1.00022: Confinement and Interfacial Effects in Polymer Nanocomposites
Adam Holt , Joshua Sangoro , Yangyang Wang , Alexander Agapov , Alexei Sokolov

Q1.00023: Thermally Switchable Aggregation of Gold Nanoparticles in Polymer Nanocomposites
Kyuyoung Heo , Caroline Miesch , Todd Emrick , Ryan Hayward

Q1.00024: Peptides (P1, P2 and its mutations) binding with a graphene sheet: an all-atom to all-residue hierarchical coarse-grained approach
Zhifeng Kuang , Barry Farmer , Ras Pandey

Q1.00025: Syntactomer Peptide Assembly on Deformable Silicone Elastomer Surfaces
Julie N. L. Albert , Jan Genzer

Q1.00026: Peptide Length Determines Equilibrium Secondary Structure in Protein-Analogous Micelles
Matthew Tirrell , Rachel Marullo , Mark Kastantin

Q1.00027: Using Lipid Vesicles to Achieve Selective Removal or Deposition of Janus Particles on Rough Surfaces
Emily Crabb , Nicholas Moellers , Xin Yong , Isaac Salib , Anna Balazs

Q1.00028: Target Diffusion and Concentration Control of Varying Hydrophobicity Drugs in an Injectable Solid Self-Assembling Peptide Hydrogel
Jessie E.P. Sun , Sigrid Langhans , Seung Joon Lee , Sameer Sathaye , Joel P. Schneider , Darrin J. Pochan

Q1.00029: Expanding Cancer Detection Using Molecular Imprinting for a Novel Point-of-Care Diagnostic Device
Yingjie Yu , Miriam Rafailovich , Yantian Wang , Yeona Kang , Lingxi Zhang , Basil Rigas

Q1.00030: Reconstruction of Bone Nanostructure using Hierarchically Ordered Polymer Nanofibers
Xi Chen , Wenda Wang , Shan Cheng , Bin Dong , Christopher Li

Q1.00031: Mechanics and geometry in the seashell-like (Turritella) surface
Qiaohang Guo , Zi Chen , Wei Li , Kun Ren , Junjie Lin , Larry A. Taber , Wenzhe Chen

Q1.00032: Bulk Heterojunction Polymer Solar Cells Based on Ternary Blend System
Yu Gu , Feng Liu , Cheng Wang , Thomas Russell

Q1.00033: Characterization of Nanostructure and Electrical Properties of Polymer-Fullerene Bulk Heterojunction Solar Cells
Dong Wang , Feng Liu , Xiaobo Shen , Ken Nakajima , Thomas Russell

Q1.00034: Processing Solvent Dependent Morphology of Diketopyrrolopyrrole (DPP) based Low Band Gap Polymer and PCBM Blends
Sunzida Ferdous , Feng Liu , Thomas Russell

Q1.00035: The Effect of Binding Groups on the Seebeck Coefficient of Phenyl Derivative Molecular Junctions
William Chang , Chengkang Mai , Michele Kotiuga , Jeffrey Urban , Jeffrey Neaton , Gui Bazan , Rachel Segalman

Q1.00036: A Facile Route to Large-Scale Hierarchically Structured Conjugated Polymer Assemblies with Enhanced Electrical Conductivity
Wei Han , Ming He , Myunghwan Byun , Bo Li , Zhiqun Lin

Q1.00037: Random Conjugated Copolymers with Panchromatic Absorption for High-Efficiency Polymer Solar Cells
Jae Woong Jung , Won Ho Jo

Q1.00038: Synthesis of Graphene Nanoribbons with Various Widths and Its Application to Thin-Film Transistor
Kyung Tae Kim , Won Ho Jo

Q1.00039: Tuning the crystal structure of contorted hexabenzocoronene thin films for transistors applications
Anna Hiszpanski , Matthew Bruzek , Arthur Woll , John Anthony , Yueh-Lin Loo

Q1.00040: Active layer morphologies for device simulations
Jutta Luettmer-Strathmann , Kiran Khanal

Q1.00041: Thermally-Induced Dewetting in Ultra-Thin C$_{60}$ films on Copper Phthalocyanine
Terry McAfee , Harald Ade , Daniel Dougherty

Q1.00042: Distinguishing excitonic from vibronic oscillations in ultrafast spectroscopy
Jacob Krich , Joel Yuen , Allan Johnson , Joseph Goodknight , Al\'an Aspuru-Guzik

Q1.00043: Structure development of bilayer PCDTBT and PCBM films
Hsin-Wei Wang , Thomas Russell , Todd Emrick

Q1.00044: Effects of supercritical carbon dioxide on immobile bound polymer chains on solid substrates
Mani Sen , Mitsunori Asada , Naisheng Jiang , Maya K. Endoh , Bulent Akgun , Sushil Satija , Tadanori Koga

Q1.00045: A Length Scale for the Free Surface of Polymer Films
Ethan Glor , Mary Kling , Nolan Averbuch , Zahra Fakhraai

Q1.00046: Effect of Adjacent Rubbery Layers on the Physical Aging Rate of Polymer Glasses
Phillip Rauscher , Connie Roth

Q1.00047: Oxidatively stable polyaniline derivatives for electrodes in energy storage
Jodie Lutkenhaus , Ju-Won Jeon

Q1.00048: Conjugated block copolymer photovoltaics with near 3\% efficiency
Changhe Guo , Yen-Hao Lin , Matthew Witman , Kendall Smith , Cheng Wang , Alexander Hexemer , Rafael Verduzco , Enrique Gomez

Q1.00049: Unconventional Routes for the Enhancement of the Efficiency of Dye-Sensitized Solar Cells (DSSCs) Based on Self-Assembled Block Copolymer Nanotemplates
Yoonhee Jang , Dongha Kim

Q1.00050: Microwave energy application on carbon cathode for high efficient microbial electrosynthesis
Huarong Nie , Mengmeng Cui , Tian Zhang , Derek Lovley , Thomas Russell

Q1.00051: Ordered Mesoporous Carbon/Iron Oxide Nanoparticle Composites for Supercapacitor Applications
Ying Lin , Xinyu Wang , James Watkins

Q1.00052: Control ion transport by tuning the crystalline morphology in polyethylene oxide-based solid electrolyte
Shan Cheng , Christopher Li , Derrick Smith

Q1.00053: Tunable morphology of P3HT: PCBM films by combinatorial methods for bulk heterojunction solar cells
Yan Sun , Gurpreet Singh , Alamgir Karim

Q1.00054: The influence of ion content on mobility and ion aggregation in PEO-based single-ion conductors
David Caldwell , Janna Maranas

Q1.00055: X-ray absorption spectroscopy of reaction intermediates of lithium-sulfur batteries dissolved in polymer electrolytes
Kevin Wujcik , Nitash Balsara

Q1.00056: Investigation of PVDF/TiO$_{2}$ Composite Films for Use in the Capacitive Storage of Energy
Joel Iwagoshi

Q1.00057: Rational Design of POSS-Based Janus Particles into Supramolecular Structures: Symmetry Breaking and Shape Commensuration
Zhao Wang , Yiwen Li , Wen-Bin Zhang , Stephen Z.D. Cheng

Q1.00058: Self-Assembly of Giant Gemini Surfactants Based on Polystyrene- Hydrophilic Polyhedral Oligomeric Silsesquioxane Shape Amphiphiles
Yiwen Li , Zhao Wang , Stephen Cheng

Q1.00059: Hierarchical Structure from the Self-Assembly of Giant Gemini Surfactants in Condensed State
Hao Su , Zhao Wang , Yiwen Li , Stephen Cheng

Q1.00060: Curvature-directed crystallization of isotactic poly(propylene) in nanopores
Dariya Reid , Bridget Ehlinger , Jodie Lutkenhaus

Q1.00061: Fabrication of Micropatterns using Salt Crystals from Solvent Evaporation

Dong-Eun Lee , Seung Jae Go , Dong Hyun Lee

Q1.00062: Small Molecule-Guided Thermoresponsive Supramolecular Assemblies
Benjamin J. Rancatore , Clayton E. Mauldin , Jean M.J. Fr\'{e}chet , Ting Xu

Q1.00063: Polymer single crystal membrane from liquid/liquid interface
Wenda Wang , Christopher Li

Q1.00064: Rate of Formation of Trigonal Phase in Blends of Homogeneous Propylene 1-Hexene Copolymers
Hamed Janani , Gabriel Trujillo , Rufina Alamo

Q1.00065: The Thickness And Stretch Dependence Of The Electrical Breakdown Strength Of An Acrylic Dielectric Elastomer
Jiangshui Huang , Zhigang Suo , David Clarke

Q1.00066: Crystal Engineering of Tetrahedral `Nano Molecules' Constructed by POSS Cages
Mingjun Huang , Shan Mei , Stephen Cheng

Q1.00067: Dielectric Characterization of Poly(styrene-b-methyl methacrylate) Block Copolymer Films
Christopher Grabowski , Michael Durstock , Richard Vaia

Q1.00068: High Temperature Dielectric Behavior of Polycarbonate/Poly(vinylidene fluoride) Multilayer Films
Craig Lewis , Jung-Kai Tseng , Mathew Mackey , Eric Baer , Lei Zhu

Q1.00069: Diffusion of gaseous and supercritical CO$_{2}$ through polycarbonate
Michael Goodman , Rahmi Ozisik

Q1.00070: Scaling of the strain hardening modulus with nanoparticle loading and the rejuvenated yield stress in polymer nanocomposites
Robert Hoy , Alan Lesser , Josef Jancar

Q1.00071: Physical Property Requirements of Ion-exchange Polymer Membranes for Acid-base Flow Batteries
Supacharee Roddecha , Peter Thayer , Jacob Jorne' , Mitchell Anthamatten

Q1.00072: Magnetic fields-directed self-assembly of soft nanomaterials for energy harvesting and storage
Pawel Majewski , Manesh Gopinadhan , Candice Pelligra , Chinedum Osuji

Q1.00073: Fluctuation Effects on Phase Behavior of Gradient Copolymer Systems
Gunja Pandav , Venkat Ganesan

Q1.00074: Influence of substrate confinement on the phase-correlation in the capillary breakup of lithographically patterned polymer stripes
Zheng Zhang , Yifu Ding

Q1.00075: The Structural Change Depending on the Buckling Direction and Alignment of Block Copolymer Thin Films
Dokyeong Kwon , Hyo Seon Suh , Kookheon Char

Q1.00076: The formation of standing cylinders in block copolymer films by irreversibly adsorbed polymer layers on substrates
Jun Shang , Naisheng Jiang , Maya Endoh , Tadanori Koga

Q1.00077: Sequences of Mixed Ions in Polypeptoid Surfaces
Hilda Buss , Wendy van Zoelen , Nathan Ellebracht , Ronald Zuckermann , Rachel Segalman

Q1.00078: Self-Consistent Field Simulation of Block Copolymer Thin Films Located on Topographic Pattern
Jung Gun Bae

Q1.00079: Sulfonated block copolymer thin films for fast responsive dual-mode humidity sensors
Eunyeong Kim , Moon Jeong Park

Q1.00080: Nanomanufacturing of Gold Nanoparticle Arrays Using Peptide-Derivatized Block Copolymer Templates
Tingling Rao , Gurpreet Singh , Sibai Xie , Alamgir Karim , Matthew Becker

Q1.00081: Three dimensional mesoporous silica strucutres with templated macropores
Rohit Kothari , Nicholas R. Hendricks , James J. Watkins

Q1.00082: Thickness and Confinement Effects on the Morphology of Gyroid PS-PDMS Thin Films
Wubin Bai , Kevin Gotrik , Adam Hannon , Alfredo Alexander-Katz , Apostolos Avgeropoulos , Caroline Ross

Q1.00083: Additive Driven Self Assembly and Photo-induced Ordering in Poly(ethylene glycol)monomethyl ether monomethacrylate-block-Poly(ethyl methacrylate) Copolymers
Cheng Li , James Watkins

Q1.00084: In-situ Grazing-incidence Small-angle X-ray Scattering Study of Diblock Copolymer Thin Films during Solvent Annealing
Xiaodan Gu , Ilja Gunkel , Alexender Hexemer , Thomas Russell

Q1.00085: Analysis of Crystallization on Polymeric Thin Films Deposited on Silicon Dioxide
Ethan Cummings

Q1.00086: Photo-Activated Replication of Thin Film Block Copolymer Patterns
Christopher Ellison , Dustin W. Janes , Christopher J. Thode , C. Grant Willson , Jeong In Lee , Paul F. Nealey

Q1.00087: An Automated System for GISAXS and GIWAXS Measurements
Jessica Jimenez , Eric Schaible , Matthew Church , Christina Yee , Alastair MacDowell , Dilworth Parkinson , Edward Domning , Brian Smith , Steven Alvarez , Alexander Hexemer

Q1.00088: Co-assembly of polymer covered cyclic peptide nanotubes and block copolymer in thin films
Chen Zhang , Thomas Lazzara , Changyi Li , Brett Helmes , Ting Xu

Q1.00089: sPP gel with high mechanical properties and high transparency by supercooling in mixed solvents
Keita Takaesu , Atsushi Hotta

Q1.00090: Polymer-induced depletion attraction between nanoparticles in confined conditions
Victor Pryamitsyn , Venkat Ganesan

Q1.00091: Application of near-field microwave microscopy in in-situ detection of microfluids under dielectric cover
Weiqiang Sun , Yong Yang , Tao Feng , Shengyong Xu

Q1.00092: Evaluating the Role of Interfacial Molecules in Cp Measurements using Differential Scanning Calorimeter
Will Linthicum , Samuel Amanuel

Q1.00093: Analysis of Fluid Dynamics and Reactant Consumption in Microchannel Based Fuel Cells
Joseph Dalessandro , Petru Fodor

Q1.00094: Precise measurement of spring constant and friction coefficient of nano-confined T4 DNA
Christopher L\"uscher , Jonas Pedersen , Rodolphe Marie , Anders Kristensen , Henrik Flyvbjerg

Q1.00095: Viscoelasticity of Epoxy nano-composites
Suresh Ahuja

Q1.00096: Heterogeneous nanoparticles at water-oil interfaces: Structure, Order, Diffusion, and Implications for the stability of Pickering emulsions
Alberto Striolo , Xuan-Cuong Luu

Q1.00097: A Polyhedral Oligomeric Silsesquioxane-Polyoxometalate Hybrid Shape Amphiphile: Facile Synthesis, Characterization and Crystal Structure
Hao Liu , Jing Wang , Kan Yue , Jing Jiang , Wen-Bin Zhang , Stephen Cheng

Q1.00098: Hierarchical Assembly of a Diblock Copolymer-based Supramolecule Containing Liquid Crystal Side Chains
Peter Bai , Myung Im Kim , Ting Xu

Q1.00099: Simulations of liquid crystalline phases of semiflexible polymer melts and blends
Kiran Khanal , Jutta Luettmer-Strathmann

Q1.00100: Morphological Control and Characterization of Liquid Crystalline Materials for Organic Electronics Applications
Nabil Kleinhienz , Karthik Nayani , Jung Ok Park , Mohan Srinivasarao , Elsa Reichmanis

Q1.00101: Length and sequence dependence in the association of Huntingtin protein with lipid membranes
Sudi Jawahery , Anu Nagarajan , Silvina Matysiak

Q1.00102: Effect of Ion Binding in Palmitoyl-Oleoyl Phosphatidylserine Monolayers
Matthew Eckler , Silvina Matysiak

Q1.00103: Interaction of Complex Liquids with Lipid Biomembranes
Benxin Jing , Y. Elaine Zhu

Q1.00104: Ion Induced Changes in Phosphoinositide Monolayers at Phisiological Concentrations
Adolphe Kazadi Badiambile , Martin B. Forstner

Q1.00105: Low Temperature Energy Phase Diagrams of Dimer Adsorption on Square Nanotubes With Attractive First Neighbor Interactions
Alain Phares , David Grumbine, Jr.

Q1.00106: Polymer adsorption from the melts - In-situ x-ray/neutron reflectivity studies on the chain conformations at the polymer/solid interfaces
Naisheng Jiang , Jun Shang , Maya Endoh , Bulent Akgun , Sushil Satija , Tadanori Koga

Q1.00107: Ionic Interactions for Aqueous Templating of Biofunctional Molecules in Block Copolymer Nanostructures
Bradley Olsen , Bokyung Kim , Christopher Lam , Charlotte Stewart-Sloan , Emmanouil Gkikas

Q1.00108: Computational Exploration of the Surface Properties of Cs2Te5 Photoemissive Material
Anthony Ruth , Karoly Nemeth , Katherine Harkay , Linda Spentzouris , Jeff Terry

Q1.00109: Measuring graft stability in a tethered polyelectrolyte film by X-ray and neutron reflectivity
Michael D. Dimitriou , Casey J. Galvin , Sushil K. Satija , Jan Genzer

Q1.00110: Self-folding of Polymer Sheets Responding to Light: Applications and Mechanistic Study
Ying Liu , Michael Dickey , Jan Genzer

Q1.00111: Formation of Lenses by Liquid Interfacial Surfaces
Charlotte Zimmerman , Benjamin Cerjan , Martha-Elizabeth Baylor

Q1.00112: Improving the Adhesion of Au Thin Films Onto PMMA Substrates Using Chloroform
Courtney Wardwell , Alan Mo , Brian Augustine , Chris Hughes , Thomas Devore

Q1.00113: Thermodynamics and Preliminary Size Parameters of a Polymer Confined to a Lattice of Finite Size: Matrix Method
Chad Snyder , Charles Guttman , Edmund DiMarzio

Q1.00114: Influence of Slip on the Rayleigh-Plateau Rim Instability in Dewetting Polymer Films
Oliver Baeumchen , Karin Jacobs , Ludovic Marquant , Sabrina Haefner , Mischa Klos , Ralf Blossey , Andreas Muench , Barbara Wagner

Q1.00115: What information can frictional properties of polymer brushes tell us?
Zhenyu Zhang , Mark Moxey , Andrew Morse , Steven Armes , Andrew Lewis , Mark Geoghegan , Graham Leggett

Q1.00116: Dynamics of Nanoparticle Adhesion
J.-M.Y. Carrillo , A.V. Dobrynin

Q1.00117: Swelling-Induced Hierarchical Structures
Wei Han , Bo Li , Zhiqun Lin

Q1.00118: Listening in on Friction: Stick-Slip Acoustical Signatures in Velcro
Sebastian Hurtado Parra , Leslie Morrow , Miles Radziwanowski , Paul Angiolillo

Q1.00119: Investigating Molecular Level Stress-Strain Relationships in Entangled F-Actin Networks by Combined Force-Measuring Optical Tweezers and Fluorescence Microscopy
Kent Lee , Dean Henze , Rae M. Robertson-Anderson

Q1.00120: Structure and Dynamics of Polymer nanocomposite hydrogels
Di Xu , Miriam Rafailovich , Dilip Gersappe

Q1.00121: Creating Controlled Thickness Gradients in Polymer Thin Films via Flowcoating
Raleigh Davis , Sahana Jayaraman , Richard Register , Paul Chaikin

Q1.00122: Measuring the Dynamic Parameters of MCF7 Cell Microtubules
Carly Winton , Mitra Shojania Feizabadi

Q1.00123: Feedback-enhanced Microrheology
Heev Ayade , Marcel Bremerich , Hiroshi Arimatsu , Daisuke Mizuno

Q1.00124: Actin-independent traction force maintenance in adherent cells
Callen Hyland , Eric Dufresne , Paul Forscher

Q1.00125: Influence of curvature on the morphology of brain microvascular endothelial cells
Mao Ye , Zhen Yang , Andrew Wong , Peter Searson

Q1.00126: Thermal response of a protein (H3.1) by a coarse-grained model with knowledge-based interactions
Barry Farmer , Ras Pandey

Q1.00127: Computational model for Halorhodopsin photocurrent kinetics
Jaime Bravo , Roxana Stefanescu , Sachin Talathi

Q1.00128: Kinetics of inter-segmental contact in semiflexible polymers
Reza Afra , Brian Todd

Q1.00129: Effect of Mutations on HP Lattice Proteins
Guangjie Shi , Thomas Vogel , David P. Landau , Ying Wai Li , Thomas W\"{u}st

Q1.00130: Nearest Neighbor Interactions Affect the Conformational Distribution in the Unfolded State of Peptides
Siobhan Toal , Reinhard Schweitzer-Stenner , Karin Rybka , Hardol Schwalbe

Q1.00131: A large scale membrane-binding protein conformational change that initiates at small length scales
Trevor GrandPre , Matthew Andorf , Srinivas Chakravarthy , Robert Lamb , Taylor Poor , Eric Landahl

Q1.00132: Shear History Independence in Colloidal Aggregation
William Heinson , Amitabha Chakrabarti , Christopher Sorensen

Q1.00133: Crystal-like Complex Formation with Binary Charged Block Copolymer Micelles in Dilute Aqueous Media
Misook Lee , Kyung Jee Min , Jinkee Hong , Kookheon Char

Q1.00134: Free energy change for aggregation of charged monolayer-protected gold nanoparticles
Reid Van Lehn , Alfredo Alexander-Katz

Q1.00135: Direct Measurement of Diffusion of Terbium Ions Through a Silica Gel Matrix
M. Blades , T. Ignatova , J.G. Duque , S.K. Doorn , S.V. Rotkin

Q1.00136: Mechanical characterization of diblock copolymer ``armored" emulsion droplets
Damith P. Rozairo , Andrew B. Croll

Q1.00137: The order-to-disorder transition behavior of PS-b-P2VP thin film system
Hyungju Ahn , Du Yeol Ryu

Q1.00138: Reactivity of End-functionalized Polymers Containing Diels-Alder Functional Groups
Yuan Meng , Yuan Zhang , Mitchell Anthamatten

Q1.00139: Can coarse-grained force field parameters be transferable?
Malgorzata Kowalik , Janna K. Maranas

Q1.00140: Diffusion of liquid polystyrene into glassy poly(phenylene oxide) characterized by DSC
Linling Li , Xiaoliang Wang , Dongshan Zhou , Gi Xue

Q1.00141: Polymer Brush Grafted Nanoparticles and Their Impact on the Morphology Evolution of Polymer Blend Films
Hyun-Joong Chung , Kohji Ohno , Russell J. Composto

Q1.00142: Polymer Blend Emulsions Stabilized by Janus Particles
Kyle Bryson , Thomas Russell , Ryan Hayward

Q1.00143: A new method for homogeneous and uniformly dispersed nanofiber composites using electrospinning
Kentaro Watanabe , Atsushi Hotta

Q1.00144: Effect of Carbon Nanotubes on Thermal Behavior of Poly(L-lactide) and Poly(D-lactide) Electrospun Fibers
Yazhe Zhu , Mao Bin , Peggy Cebe

Q1.00145: The investigation of the viscoelastic properties of silica/PMMA nanocomposites as a function of silica surface chemistry
Heather Conway , Deniz Rende , Rahmi Ozisik

Q1.00146: Responsive metal/polymer nanocomposites via photothermal effect
Merve Seyhan , Deniz Rende , Liping Huang , Seyda Malta , Rahmi Ozisik , Nihat Baysal

Q1.00147: Simulation of heat transport in polymer nanocomposites
Ning Sun , Miriam Rafailovich , Dilip Gersappe

Q1.00148: Modified thiol-ene networks: Tuning the glass transition temperature and energy damping capabilities
Daniel Savin , Olivia McNair , Davis Brent

Q1.00149: The influence of polyurethane type on the electrostrictive behavior
Karat Petcharoen , Anuvat Sirivat

Q1.00150: Improving the electrical conductivity sensitivity of polydiphenylamine and Y zeolite towards halogenated solvents by the dealumination process towards halogenated solvents
Tharaporn Permpool , Anuvat Sirivat , Darunee Aussawasathien

Q1.00151: Deflection and the Dielectrophoresis Force of Multi-Wall Carbon Nanotube/Gelatin Hydrogel Composites under Electric Field
Thawatchai Tungkavet , Anuvat Sirivat

Q1.00152: Electrical conductivity response of poly(p-phenylene vinylene)/zeolite Y composites towards ketone vapor: Influence of Alkaline cation
Jirarat Kamonsawas , Anuvat Sirivat , Pimpa Hormnirun

Q1.00153: Solid State Charge Transport in Radical Polymers
Lizbeth Rostro , Bryan Boudouris

Q1.00154: Microstructure and conductivity of in-situ polymerized poly(3,4-ethylenedioxythiophene) (PEDOT) crystals
Jinglin Liu , Liangqi Ouyang , Jinghang Wu , Chin-Chen Kuo , Bin Wei , David Martin

Q1.00155: Adaptive lenses using transparent dielectric elastomer actuators
Samuel Shian , Roger Diebold , David Clarke

Q1.00156: Nanostructure and Dynamics of Ionic and Non-Ionic PEO-Containing Polyureas
Sunanta Chuayprakong , James Runt

Q1.00157: Phase Behavior and Conductivity of Block Copolymers Containing Heterocyclic Diazole-Based Ionic Liquids
Onnuri Kim , Moon Jeong Park

Q1.00158: Explicit Solvent Simulations of Friction between Brush Layers of Charged and Neutral Bottle-Brush Macromolecules
J.-M.Y. Carrillo , W.M. Brown , A.V. Dobrynin

Q1.00159: Influence of Ion Content, Cation Size and Polymerization Method on Ion Association States of Poly(ethylene oxide)-based Ionomers
Hanqing Masser , Jing-Han Helen Wang , Ralph Colby , Paul Painter , James Runt

Q1.00160: Melt State Morphology Evolution in Precise Acid Copolymers as a Function of Strain
Luri Middleton , Joseph Cordaro , Karen Winey

Q1.00161: Polysiloxane-graft-PEG/Phosphonium Ionomer Morphology and Ion Transport
Michael O'Reilly , Siwei Liang , Joshua Bartels , James Runt , Ralph Colby , Karen Winey

Q1.00162: Li$+$ transport in poly(ethylene oxide) based electrolyte: A combined study of neutron scattering, dielectric spectroscopy, and MD simulation
Changwoo Do , Peter Lunkenheimer , Diddo Diddens , Marion G\"otz , Matthias Wei{\ss} , Alois Loidl , Xiao-Guang Sun , J\"urgen Allgaier , Michael Ohl

Q1.00163: Nonlinear Elasticity of Biological and Polymeric Networks and Gels
A.J. Oyer , J.-M.Y. Carrillo , A.V. Dobrynin , F.C. Mackintosh

Q1.00164: Mechanical similarities observed between polypropylene gels and molten polypropylenes
Tetsu Ouchi , Misuzu Yamazaki , Atsushi Hotta

Q1.00165: ABSTRACT WITHDRAWN

Q1.00166: Observation of Birefringence of an Electrospinning Jet in Flight
Kaiyi Liu , Darrell Reneker

Q1.00167: Explicit Proof of the Tube Concept in Polymer Dynamics
Max Kolb , Monique A.V. Axelos

Q1.00168: Anisotropy Analysis of Polymer Chains upon Uniaxial Extension
Howard Wang , Hao Sun , Shi-Qing Wang , Yangyang Wang

Q1.00169: Structure and Dynamics of Polymer/Ionic Liquid Systems Studied by In-Situ Electron Microscopy
Paul Kim , Thomas Russell , David Hoagland

Q1.00170: Crystallization Control in Crystalline-Crystalline PEO-b-PCL Diblock Copolymers
Ryan M. Van Horn , Elliott Hasenkopf , Christina Mucci

Q1.00171: SAXS/WAXS studies of flow-induced crystallization of poly(1-butene) in uniaxial extensional flow

Erica McCready , Wesley Burghardt

Q1.00172: SAXS/WAXS studies of flow-induced crystallization of poly(1-butene) in shear flow
Binbin Luo , Wesley Burghardt

Q1.00173: Statistics of single molecule rotation driven by electrons
Charles Sykes

Q1.00174: Active contractility and motor-driven effective interactions in a model cytoskeleton
Shenshen Wang , Peter Wolynes

Q1.00175: Generalized formulation of Brownian Vortexes
Henrique W. Moyses , Ross Bauer , David G. Grier

Q1.00176: Electric control interfacial jamming and dynamics
Mengmeng Cui , Caroline Miesch , Irem Kosif , Huarong Nie , Todd Emrick , Thomas Russell

Session R3. Invited Session: Nonequilibrium Relaxation and Aging in Materials

Sponsoring Units: GSNP DCMP
Chair: Uew Tauber, Virginia Polytechnical Institute and State University
Room: Ballroom III

2:30PM - 3:06PM	R3.00001: Nonequilibrium behavior in strongly correlated electron systems Invited Speaker: Dragana Popovi\'c
3:06PM - 3:42PM	R3.00002: Universally slow Invited Speaker: Ariel Amir
3:42PM - 4:18PM	R3.00003: Dynamical symmetries in ageing phenomena Invited Speaker: Malte Henkel
4:18PM - 4:54PM	R3.00004: Probing equilibrium by nonequilibrium dynamics: Aging in Co/Cr superlattices Invited Speaker: Christian Binek
4:54PM - 5:30PM	R3.00005: Aging processes in disordered materials: High-T_c superconductors and ferromagnets Invited Speaker: Michel Pleimling

Session R31. Focus Session: Assembly & Function of Biomimetic & Bioinspired Materials II

Sponsoring Units: DMP DPOLY DBIO
Chair: Mark Stevens, Sandia National Laboratories
Room: 339

2:30PM - 2:42PM	R31.00001: Self-assembly of elastin-like polypeptides diblocks into micelles of various morphologies Wafa Hassouneh , Ekaterina Zhulina , Michael Rubinstein , Ashutosh Chilkoti
2:42PM - 2:54PM	R31.00002: Design of biomimetic super-lubricants by hydrogel-biopolymer aggregates Raymond Seekell , Rachel Dever , Yingxi Zhu
2:54PM - 3:06PM	R31.00003: Forming Self-rotating Pinwheels from Assemblies of Oscillating Gels Debabrata Deb , Pratyush Dayal , Olga Kuksenok , Anna C. Balazs
3:06PM - 3:18PM	R31.00004: Repairable, nanostructured biomimetic hydrogels M. Firestone , S. Brombosz , S. Grubjesic
3:18PM - 3:30PM	R31.00005: Morphogenesis in Belousov-Zhabotinsky microdroplets Ning Li , Nathan Tompkins , Camille Girabawe , Irving Epstein , Seth Fraden
3:30PM - 3:42PM	R31.00006: Dynamic Elasticity Model of Resilin Biopolymers Xiao Hu , Solomon Duki
3:42PM - 3:54PM	R31.00007: Stretching silk-elastin-like peptide polymers induces nucleation of amyloid nanofibers: Mechanistic study using time-lapse lateral force microscopy Nitinun Varongchayakul , Trina Quabili , Sara Johnson , Joonil Seog
3:54PM - 4:30PM	R31.00008: Biopolymer networks in cells Invited Speaker: David Weitz
4:30PM - 4:42PM	R31.00009: Mechanisms and Dynamics of Collagen Assembly Jinhui Tao , Raymond Friddle , Debin Wang , Jim De Yoreo
4:42PM - 4:54PM	R31.00010: Atomistic modeling of bio-based polymeric fibers In-Chul Yeh , B. Christopher Rinderspacher , Jan W. Andzelm , LaShonda T. Cureton , John La Scala
4:54PM - 5:06PM	R31.00011: Structural Properties of Silk Electro-Gels A.P. Tabatabai , J.S. Urbach , D.L. Blair , D.L. Kaplan
5:06PM - 5:18PM	R31.00012: Neural Stimulation via Fractal Electrodes Rick Montgomery , William Watterson , Ian Pilgrim , Kurtis Fairley , Darren Johnson , Heiner Linke , Richard Taylor
5:18PM - 5:30PM	R31.00013: DFT-based prediction of geometric and thermodynamic parameters in the ATP to ADP hydrolysis reaction Mark C. Palenik , Jorge H. Rodriguez

Session R32. Focus Session: Polymer Liquids and Glasses

Sponsoring Units: DPOLY
Chair: Rodney Priestley, Princeton University
Room: 340

2:30PM - 2:42PM	R32.00001: Scattering and Physical Aging in High-Free-Volume Polymeric Glasses Amanda G. McDermott , Peter M. Budd , Neil B. McKeown , Coray M. Colina , James Runt
2:42PM - 2:54PM	R32.00002: Stress Applied during Vitrification Influencing the Subsequent Physical Aging of Polymer Glasses Laura A.G. Gray , Connie B. Roth
2:54PM - 3:06PM	R32.00003: Quench, equilibration, and subaging in structural glasses Joerg Rottler , Mya Warren
3:06PM - 3:42PM	R32.00004: Dynamics and thermodynamics of polymer glasses Invited Speaker: Daniele Cangialosi
3:42PM - 3:54PM	R32.00005: Molecular mobility measurement during constant strain rate deformation of polymer glasses Benjamin Bending , Kelly Christison , M.D. Ediger
3:54PM - 4:06PM	R32.00006: Origin of mechanical stress from tensile extension of polymer glasses Panpan Lin , Shi-Qing Wang
4:06PM - 4:18PM	R32.00007: Observation of yield in a triaxial deformation of a glassy thermoset polymer Grigori Medvedev , Jae-Woo Kim , James Caruthers
4:18PM - 4:54PM	R32.00008: Evidence for non-diverging time-scales in glass-forming liquids Invited Speaker: Gregory McKenna
4:54PM - 5:06PM	R32.00009: Collective effects on activated segmental relaxation in supercooled polymer melts Stephen Mirigian , Kenneth Schweizer
5:06PM - 5:18PM	R32.00010: The Relationship of Dynamical Heterogeneity to the Adam-Gibbs and Random First-Order Transition Theories of Glass Formation Francis Starr , Jack Douglas , Srikanth Sastry
5:18PM - 5:30PM	R32.00011: Enthalpy Recovery of Polystyrene: Is the Liquid Equilibrium Line Reached? Yung P. Koh , Sindee L. Simon

Session R33. Focus Session: Organic Electronics and Photonics - Transport in Small Molecules

Sponsoring Units: DMP
Chair: Jana Zaumseil, Institute of Polymer Materials, Friedrich-Alexander Universitaet Erlangen
Room: 341

2:30PM - 3:06PM	R33.00001: Intrinsic transport and photo-physical properties of high-mobility organic single crystals Invited Speaker: Vitaly Podzorov
3:06PM - 3:18PM	R33.00002: Variation in the Single-Molecule Conductance of Oligothiophenes Brian Capozzi , Emma Dell , Kateri DuBay , Jose Moreno , Timothy Berkelbach , David Reichman , Luis Campos , Latha Venkataraman
3:18PM - 3:30PM	R33.00003: X-ray Induced Trap States in the Organic Semiconductor Rubrene Tobias Morf , Tino Zimmerling , Simon Haas , Bertram Batlogg
3:30PM - 3:42PM	R33.00004: Trap effects in the analysis of conducting probe AFM current-voltage relations Kanokkorn Pimcharoen , Danial Olds , Jiebing Sun , Peng Peng Zhang , Phillip Duxbury
3:42PM - 3:54PM	R33.00005: Wave-packet approach to thermal fluctuation effects on charge transport of organic semiconductors Hiroyuki Ishii , Nobuhiko Kobayashi , Kenji Hirose
3:54PM - 4:06PM	R33.00006: Computational Study of Electron-Phonon Coupling in Crystalline Organic Semiconductors Nenad Vukmirovic , Christoph Bruder , Vladimir M. Stojanovic
4:06PM - 4:18PM	R33.00007: Van der Waals epitaxy of organic crystal films on hexagonal boron nitride layers for high-quality organic electronics Chul-Ho Lee , Theanne Schiros , Seok Ju Kang , Bumjung Kim , Kevin Yager , Colin Nuckolls , Philip Kim
4:18PM - 4:30PM	R33.00008: Voltage dependent capacitance -- a measure of energy level bending in naphthalene-tetra-carboxylic- di-imide based transistors Mathias Nyman , Oskar Sandberg , Josue Martinez Hardigree , Srinivas Kola , Howard Katz , Ronald Osterbacka
4:30PM - 4:42PM	R33.00009: Controlling Leakage Currents in Organic Field-Effect Transistors using Molecular Dipole Monolayers on Nanoscale Oxides Josue F. Martinez Hardigree , Thomas Dawidczyk , Robert Ireland , Gary Johns , Byung-Jun Jung , Nina Markovic , Howard Katz
4:42PM - 4:54PM	R33.00010: Halogenated contorted hexabenzocoronene derivatives for electron transport in thin-film transistors and organic photovoltaics Anna Hiszpanski , Leo Shaw , Matthew Bruzek , Franziska Luettich , Antoine Kahn , John Anthony , Yueh-Lin Loo
4:54PM - 5:06PM	R33.00011: Tellurium-Organic Thin-Films in Hybrid Electronic Platforms Robert Ireland , Howard Katz
5:06PM - 5:18PM	R33.00012: Spatial dependence of charge photogeneration and transport in an ordered, phase-separated liquid crystalline organic semiconductor Sanjoy Paul , Suvagata Tripathi , Brett Ellman , Robert Twieg
5:18PM - 5:30PM	R33.00013: Probing Polaron Dynamics and Transport in Multiporphyrin Conjugated Arrays by EPR and Optical Spectroscopy Paul Angiolillo , Jeff Rawson , Michael Therien

Session R34. Thin Films of Block Copolymers and Hybrid Materials: Hierarchical Structures

Sponsoring Units: DPOLY
Chair: Fred Phelan, National Institute of Standards and Technology
Room: Baltimore Convention Center 342

2:30PM - 3:06PM	R34.00001: Thin Films of Supramolecular Nanocomposites Invited Speaker: Ting Xu
3:06PM - 3:18PM	R34.00002: Hierarchical Structuring in Block Copolymer Nanocomposites through Two Phase Separation Processes Operating on Different Time Scales Roy Shenhar , Elina Ploshnik , Amit Halevi , Meirav Ben-Lulu , Axel H.E. Mueller , Karol M. Langner , Johannes G.E.M. Fraaije , G.J. Agur Sevink
3:18PM - 3:30PM	R34.00003: Hierarchical pattern formation through photo-induced disorder in block copolymer/additive composite films Li Yao , James Watkins
3:30PM - 3:42PM	R34.00004: Hierarchical multiscale patterned flexible PDMS elastomeric film and its ice-retarding properties Ying Chen , Diya Bandyopadhyay , Alamgir Karim
3:42PM - 3:54PM	R34.00005: Theory of Hierarchical Morphologies in Binary Blends of AB/CD Diblock Copolymers Ashkan Dehghan , Weiquan Xu , Pingwen Zhang , An-Chang Shi
3:54PM - 4:06PM	R34.00006: Solution Construction of Multigeometry Nanoparticles and Multicompartment Superstructures from Block Copolymer Mixtures Jiahua Zhu , Shiyi Zhang , Karen Wooley , Darrin Pochan
4:06PM - 4:18PM	R34.00007: Mixed Solvent Strategy for the Dispersion of PCBM in Block Copolymer Thin Films Abul Huq , Manish Kulkarni , Kevin Yager , Detlef-M. Smilgies , Alamgir Karim
4:18PM - 4:30PM	R34.00008: Dynamics of block copolymer / nanoparticle composites Andrei Zvelindovsky , Marco Pinna , Ignacio Pagonabarraga
4:30PM - 4:42PM	R34.00009: Precise control of magnetic and dielectric nanoparticle placement within block copolymer templates for the fabrication of 3D magneto-dielectric metamaterials Xinyu Wang , Dongpo Song , James Watkins
4:42PM - 4:54PM	R34.00010: Morphological studies on supramolecular hybrids comprising a block copolymer and semiconductor nanoparticles Atsushi Noro , Kota Higuchi , Yoshio Sageshima , Yushu Matsushita
4:54PM - 5:06PM	R34.00011: Nanoparticle distribution in complex block-copolymer morphologies YongJoo Kim , Hsieh Chen , Alfredo Alexander-Katz
5:06PM - 5:18PM	R34.00012: Directed Nanorod Assembly Using Block Copolymer-Based Supramolecules Kari Thorkelsson , Alexander Mastroianni , Peter Ercius , Ting Xu
5:18PM - 5:30PM	R34.00013: Morphological Control of Charged Block Copolymer Micelle Complexes in Dilute Aqueous Media Kookheon Char , Misook Lee , Kyung Jee Min , Jinkee Hong

Session R45. Focus Session: Physics of the Cytoskeleton II

Sponsoring Units: DBIO
Chair: Timothy Sanchez, Brandeis University
Room: Hilton Baltimore Holiday Ballroom 4

2:30PM - 3:06PM	R45.00001: Self-organization in cytoskeletal mixtures: from synthetic cilia to flowing networks Invited Speaker: Tim Sanchez
3:06PM - 3:18PM	R45.00002: Nonlinear force propagation, anisotropic stiffening and non-affine relaxation in a model cytoskeleton Daisuke Mizuno , David Head , Emi Ikebe , Akiko Nakamasu , Suguru Kinoshita , Zhang Peijuan , Shoji Ando
3:18PM - 3:30PM	R45.00003: Conformational phases of membrane bound cytoskeletal filaments David A. Quint , Gregory Grason , Ajay Gopinathan
3:30PM - 3:42PM	R45.00004: Athermal Fluctuations of Probe Particles in Active Cytoskeletal Networks Heev Ayade , Irwin Zaid , Daisuke Mizuno
3:42PM - 4:18PM	R45.00005: Spontaneous Motion in Hierarchically Assembled Active Cellular Materials Invited Speaker: Daniel Chen
4:18PM - 4:30PM	R45.00006: Mechanical Models of Microtubule Bundle Collapse in Alzheimer's Disease Austin Sendek , Rajiv Singh , Daniel Cox
4:30PM - 4:42PM	R45.00007: Properties of intracellular transport: the role of cytoskeleton topology Nickolay Korabel , Kerwyn C. Huang , Ajay Gopinathan
4:42PM - 4:54PM	R45.00008: Active Stresses Drive Random Fluctuations in the Cytoplasm of Cells Ming Guo , Allen Ehrlicher , Mikkel Jensen , Jeffrey Moore , Jennifer Lippincott-Schwartz , Fred Mackintosh , David Weitz
4:54PM - 5:06PM	R45.00009: Microrheology of highly crosslinked microtubule networks is dominated by force-induced crosslinker unbinding Megan Valentine , Yali Yang , Mo Bai , William Klug , Alex Levine
5:06PM - 5:18PM	R45.00010: Microtubules contribute to maintain nucleus shape in epithelial cell monolayer Dominique Tremblay , Lukasz Andrzejewski , Andrew Pelling

Session T11. **Invited Session: Self-Assembly, Physical Properties and Functionalities of Amyloid Fibrils**

Sponsoring Units: DPOLY DBIO
Chair: Raffaele Mezzenga, ETH-Zurich
Room: 310

8:00AM - 8:36AM	T11.00001: Folding and mis-folding of proteins Invited Speaker: Christopher Dobson
8:36AM - 9:12AM	T11.00002: Molecular Self-Assembly of Short Aromatic Peptides: From Biology to Nanotechnology and Material Science Invited Speaker: Ehud Gazit
9:12AM - 9:48AM	T11.00003: Amyloid at the nanoscale: AFM and single-molecule investigations of early steps of aggregation and mature fibril growth, structure, and mechanics Invited Speaker: Vinod Subramaniam
9:48AM - 10:24AM	T11.00004: Amyloid Self Assembly Invited Speaker: Tuomas Knowles
10:24AM - 11:00AM	T11.00005: Designing biomaterials exploiting beta-sheet forming peptides self-assembly Invited Speaker: Alberto Saiani

Session T30. **Disordered and Glassy Systems (non-polymeric)**

Sponsoring Units: DCMP
Chair: Nicolas Giovambattista, Brooklyn College
Room: 338

8:00AM - 8:12AM	T30.00001: Two-State “Hopping” Dynamics in Molecular Liquids and Glasses Marcus Cicerone , Qin Zhong , Madhusudan Tyagi , Joseph Curtis , Devin Averett , Juan de Pablo
8:12AM - 8:24AM	T30.00002: Models of two level systems for anisotropic glassy materials Dragos-Victor Anghel , Irina Mihaela Dumitru , Alexandru George Nemnes , Dmitrii Churochkin
8:24AM - 8:36AM	T30.00003: Liquid-liquid phase transition in a family of simple models of tetrahedral liquid Sergey Buldyrev , Giancarlo Franzese , Nicolas Giovambattista
8:36AM - 8:48AM	T30.00004: Configurational excitations of simple liquids Takuya Iwashita , Takeshi Egami
8:48AM - 9:00AM	T30.00005: Supercooled Liquids with Enhanced Orientational Order Michael W\"{u}bbenhorst , Simona Capponi , Simone Napolitano
9:00AM - 9:12AM	T30.00006: The Kinetics of the Glass Transition and Physical Aging in Germanium Selenide Glasses Haoyu Zhao , Yung Koh , Sindee Simon , Sabyasachi Sen
9:12AM - 9:24AM	T30.00007: Dynamical and structural heterogeneities close to liquid-liquid phase transitions: The case of gallium Alex Antonelli , Samuel Cajahuaringa , Maurice de Koning
9:24AM - 9:36AM	T30.00008: Ab Initio Molecular Dynamics Simulation of Liquid and Amorphous Te Jean-Yves Raty , Osman Baris Malcioglu , Christophe Bichara
9:36AM - 9:48AM	T30.00009: Pressure Dependence of the Glass Transition Temperature in the Fragile Glass Former Cumene Tim Ransom , William Oliver
9:48AM - 10:00AM	T30.00010: Average Oscillator Strength Per State of a one-dimensional disordered Frenkel exciton system in the Coherent Potential Approximation Abdelkrim Boukahil , Robert Siemann , David Huber
10:00AM - 10:12AM	T30.00011: Atomistic Modeling of Mechanical Loss in Amorphous Oxides Rashid Hamdan , Jonathan Trinastic , Hai-Ping Cheng
10:12AM - 10:24AM	T30.00012: The nature of the β-peak in the loss modulus of amorphous solids Yossi Cohen , Smarajit Karmakar , Itamar Procaccia , Konrad Samwer
10:24AM - 10:36AM	T30.00013: Density of Surface States in a-Si/Ge Using a Two Parameter Hamiltonian Eliezer Richmond
10:36AM - 10:48AM	T30.00014: Fluctuating Mobility Generation and Transport in Glasses Apiwat Wisitsorasak , Peter Wolynes
10:48AM - 11:00AM	T30.00015: Many-body localization in one dimension as a dynamical renormalization group fixed poin Ronen Vosk , Ehud Altman

Session T31. **Biopolymers: Dynamics of Molecules Under Confinement, Networks, and Proteins**

Sponsoring Units: DPOLY DBIO
Chair: Ting Xu, University of California, Berkeley
Room: 339

8:00AM - 8:12AM	T31.00001: Tales told by tails: watching DNA driven through a random medium Juan Guan , Bo Wang , Sung Chul Bae , Steve Granick
8:12AM - 8:24AM	T31.00002: A localized transition in the size variation of circular DNA in nanoslits Elizabeth A. Strychalski , Samuel M. Stavis , Jon Geist
8:24AM - 8:36AM	T31.00003: Analysis of conflicting experimental studies of DNA size in nanofluidic slits Samuel M. Stavis , Elizabeth A. Strychalski , Brian J. Nablo , Jon Geist
8:36AM - 8:48AM	T31.00004: Universal Regimes of Semiflexible Polymers Confined in a Channel Douglas Tree , Yanwei Wang , Kevin Dorfman
8:48AM - 9:00AM	T31.00005: Fluctuations, structural transitions, and escape of confined biopolymers Aiqun Huang , Aniket Bhattacharya
9:00AM - 9:12AM	T31.00006: Complex effects of molecular topology on diffusion in entangled biopolymer blends Rae M. Robertson-Anderson , Cole D. Chapman , Sachin Shanbhag , Douglas E. Smith
9:12AM - 9:24AM	T31.00007: Direct imaging of entangled actin solutions Chi Hang Boyce Tsang , Lingxiang Jiang , Kejia Chen , Bo Wang , Steve Granick
9:24AM - 9:36AM	T31.00008: Casimir interactions between crosslinkers in semiflexible networks Devin Kachan , Robijn Bruinsma , Alex Levine
9:36AM - 9:48AM	T31.00009: Rheology of rigid rod -- flexible chain composite networks Meenakshi Prabhune , Knut Heidemann , Florian Rehfeldt , Max Wardetzky , Christoph Schmidt
9:48AM - 10:00AM	T31.00010: Cooperativity and redundancy in the mechanics of compositely crosslinked branched anisotropic cytoskeletal networks J. M. Schwarz , Tao Zhang , Moumita Das
10:00AM - 10:12AM	T31.00011: Sacrificial bonds and hidden length in biomaterials -- a kinetic description of strength and toughness in bone Charles K. C. Lieou , Ahmed E. Elbanna , Jean M. Carlson
10:12AM - 10:24AM	T31.00012: Selectively Structural Determination of Cellulose and Hemicellulose in Plant Cell Wall Shih-Chun Huang , Yong Bum Park , Daniel Cosgrove , Janna Maranas
10:24AM - 10:36AM	T31.00013: Glass micro-wire tracks for guiding kinesin-powered gliding motion of microtubules K. Kim , A. L. Liao , A. Sikora , D. Oliveira , M. Umetsu , I. Kumagai , T. Adschiri , W. Hwang , W. Teizer
10:36AM - 10:48AM	T31.00014: Nanotransport Using The Kinesin Motor Protein A. Sikora , J. Ramon-Azcon , D. Oliveira , K. Kim , A.L. Liao , M. Umestu , T. Adschiri , I. Kumagai , W. Hwang , W. Teizer
10:48AM - 11:00AM	T31.00015: On the assembly of kinesin-based nanotransport systems Daniel Oliveira , Domyoung Kim , Mitsuo Umetsu , Tadafumi Adschiri , Winfried Teizer

Session T32. **Focus Session: Charged and Ion Containing Polymers**

Sponsoring Units: DPOLY
Chair: Lilin He, Oak Ridge National Labs
Room: 340

8:00AM - 8:12AM	T32.00001: Puzzle of the Electrostatic Persistence Length A.V. Dobrynin , J.-M.Y. Carrillo
8:12AM - 8:24AM	T32.00002: Theory of complexation of polyelectrolytes onto curved surfaces Hamidreza Shojaei , Murugappan Muthukumar
8:24AM - 8:36AM	T32.00003: Complexation Between Weakly Basic Dendrimers and Linear Polyelectrolytes: Effects of Chain Stiffness, Grafts, and pOH Thomas Lewis , Gunja Pandav , Ahmad Omar , Venkat Ganesan
8:36AM - 9:12AM	T32.00004: Self-organization of multivalent counterions in polyelectrolyte brushes Invited Speaker: Jianzhong Wu
9:12AM - 9:24AM	T32.00005: Linear Viscoelastic and dielectric behavior of Phosphonium Ionomers Quan Chen , Siwei Liang , U Hyeok Choi , James Runt , Ralph H. Colby
9:24AM - 9:36AM	T32.00006: Ionic Conductivity of Nanostructured Block Copolymer Electrolytes in the Low Molecular Weight Limit Alexander Teran , Rodger Yuan , Inna Gurevitch , Nitash Balsara
9:36AM - 9:48AM	T32.00007: Aggregation Behavior of Charged Surfactants and their Mixtures in Ionic Liquids Lang Chen , Harry Bermudez
9:48AM - 10:00AM	T32.00008: Morphology and Aggregate Local Structure of Precise Polyolefins with Associating Pendant Groups Francisco Buitrago , Dan Bolintineanu , Mark Stevens , Amalie Frischknecht , Karen Winey
10:00AM - 10:12AM	T32.00009: Plasticizer Influence on Ionic Morphology and Transport in PEO Ionomers Michael O'Reilly , Hanqing Masser , Daniel King , Paul Painter , Ralph Colby , James Runt , Karen Winey
10:12AM - 10:24AM	T32.00010: Predicting the Solution Morphology of a Sulfonated Pentablock Copolymer in an Arbitrary Solvent Mixture Jamie Ford , William Kyei-Manu , Karen Winey Preview Abstract
10:24AM - 10:36AM	T32.00011: Morphology and Dynamics of Ion Containing Polymers using Coarse Grain Molecular Dynamics Simulation Monojoy Goswami , Bobby Sumpter
10:36AM - 10:48AM	T32.00012: Packing of charged chains on toroidal geometries? Zhenwei Yao , Monica Olvera de la Cruz
10:48AM - 11:00AM	T32.00013: Quantum mechanical calculation of ion chains in Poly(ethylene oxide)-based Sulfonate Ionomers Huai-Suen Shiau , Michael Janik , Ralph Colby

Session T33. **Focus Session: Organic Electronics and Photonics - Transport in Polymers**

Sponsoring Units: DMP
Chair: Vitaly Podzorov, Rutgers University
Room: 341

8:00AM - 8:12AM	T33.00001: Top contact approach to the nanoscale organic electronic systems using novel stencil lithography technique Hoyeol Yun , Hakseong Kim , Sang Wook Lee , Sangwook Kim , Seungmoon Pyo , Jun Sung Kim
8:12AM - 8:24AM	T33.00002: Highly stable organic polymer field-effect transistor for sensing applications in the marine environment Oren Knopfmacher , Mallory L. Hammock , Anthony Appleton , Gregor Schwartz , Zhenan Bao
8:24AM - 8:36AM	T33.00003: Infrared spectroscopy of narrow gap donor-acceptor polymer-based ambipolar transistors Omar Khatib , Jonathan Yuen , Jim Wilson , Rajeev Kumar , Massimiliano Di Ventra , Alan Heeger , Dimitri Basov
8:36AM - 9:12AM	T33.00004: Improving Ambipolar Charge Injection in Polymer FETs with Carbon Nanotubes Invited Speaker: Jana Zaumseil
9:12AM - 9:24AM	T33.00005: Elucidating Bias Stress in Vertical and Lateral Charge Transport in Organic Electronics He Wang , Cherno Jaye , Zugen Fu , Daniel Fischer , Yueh-Lin Loo
9:24AM - 9:36AM	T33.00006: Low-temperature transport in metallic polyaniline Evan Kang , Eunseong Kim
9:36AM - 9:48AM	T33.00007: Role of Morphology on Carrier Transport in Conjugated Polymer Thin Films Hengxi Yang , Bingyuan Huang , Peter Green
9:48AM - 10:00AM	T33.00008: Charge Transport in Trehalose-Derived Sugar Glasses Louis Nemzer , Mahantesh Navati , Joel Friedman , Arthur Epstein
10:00AM - 10:12AM	T33.00009: Hopping conduction and Mobility mechanisms of HCl-doped polyaniline nanofiber networks Yuan-Liang Zhong , Jeng-Ting Li , Jui-Ming Yeh
10:12AM - 10:24AM	T33.00010: Aliphatic Polymers Bearing Pendant Radical Groups as Charge Carrying Moieties in Organic Electronic Applications Bryan Boudouris , Lizbeth Rostro , Aditya Baradwaj
10:24AM - 10:36AM	T33.00011: Violation of the Wiedemann-Franz law in Conducting Polymers Nelson Coates , Jianfeng Liu , Bryan McCulloch , Shannon Yee , Jeffrey Urban , Rachel Segalman , Xiaojia Wang , David Cahill
10:36AM - 10:48AM	T33.00012: Ab initio modeling of electronic properties of DNA: Comparison to experiments Jianqing Qi , Suranga Edirisinghe , Anant Anantram
10:48AM - 11:00AM	T33.00013: Various Magnetoresistance of a New Copolymer, FeCl$_3$ doped Poly(Phenylenevinylene-EDOT-Vinylene) Kyung Ho Kim , Ajeong Choi , Jun-Mo Park , Sung Ju Hong , Min Park , Eun Sang Choi , Tae-Lim Choi , Yung Woo Park

Session T34. **Thin Films of Block Copolymers and Hybrid Materials: Directed Assembly II**

Sponsoring Units: DPOLY
Chair: Gila Stein, University of Houston
Room: Baltimore Convention Center 342

8:00AM - 8:12AM	T34.00001: Coupling Dynamic Thermal Shear Field to Block Copolymer Molecular Ordering for Highly Oriented and Hierarchically Patternable Nanostructures Gurpreet Singh , Kevin Yager , Ho-Cheol Kim , Alamgir Karim
8:12AM - 8:24AM	T34.00002: Strongly segregated polydisperse block copolymer near the order-disorder transition Adam Schmitt , Mahesh Mahanthappa
8:24AM - 8:36AM	T34.00003: Shear-alignment of metal-containing block copolymer thin films for nanofabrication So Youn Kim , Richard Register , Jessica Gwyther , Ian Manners , Paul Chaikin
8:36AM - 8:48AM	T34.00004: High Aspect Ratio Sub-15 nm Silicon Trenches From Block Copolymer Templates Xiaodan Gu , Zuwei Liu , Ilja Gunkel , Deirdre Olynick , Thomas Russell
8:48AM - 9:00AM	T34.00005: Fabrication of 3 Dimensional SERS substrate using block copolymer confined AAO template Jin Kon Kim , Duesik Bae
9:00AM - 9:12AM	T34.00006: Silver based SERS substrates fabricated from block copolymer thin film Xin Zhang , Wonjoo Lee , Seung Yong Lee , Zhenghan Gao , Oded Rabin , R.M. Briber
9:12AM - 9:24AM	T34.00007: 3D Nanoparticle Assemblies in Thin Films of Supramolecular Nanocomposites Joseph Kao , Peter Bai , Vivian Chuang , Zhang Jiang , Peter Ercius , Ting Xu
9:24AM - 9:36AM	T34.00008: Interfacial roughness of self-assembled lamellae in cross-linkable block copolymer thin films Chunlin He , Mark Stoykovich
9:36AM - 9:48AM	T34.00009: Ordered Deposition of Block Copolymer Thin Films and Its Continuous Growth by Electrospray Hanqiong Hu , Chinedum Osuji
9:48AM - 10:00AM	T34.00010: Process-dependent Nanostructure and Crystallinity Competition in All-Conjugated Poly(3-hexylthiophene) Block Copolymers Yen-Hao Lin , Rafael Verduzco
10:00AM - 10:12AM	T34.00011: Evaporation-induced ordering in solution-cast block copolymer thin films Sean Paradiso , Kris Delaney , Hector Ceniceros , Carlos Garcia-Cervera , Glenn Fredrickson
10:12AM - 10:24AM	T34.00012: Coarse Grained Monte Carlo Simulations of Solvent Annealed Block Copolymer Thin Films Gurdaman Khaira , Su-Mi Hur , Juan de Pablo
10:24AM - 10:36AM	T34.00013: Morphology driven spinodal decomposition of film topography in symmetric diblock copolymer thin films Robert D. Peters , Pawel Stasiak , Mark W. Matsen , Kari Dalnoki-Veress
10:36AM - 10:48AM	T34.00014: Controlled Porous Nanostructure on Gold-Decorated Block Copolymer Microspheres Minsoo Kim , Kang Hee Ku , Hyeong Jun Kim , Gi-Ra Yi , Bumjoon Kim

10:48AM - 11:00AM	T34.00015: Microwave- assisted Rapid Self- Assembly of Lamellar Forming Poly (styrene-b- lactic acid) (PS-b-PLA) Block Copolymer for Fabrication of Silicon Nanowires Parvaneh Mokarian-Tabari , Cian Cummins , Sozaraj Rasappa , Justin D. Holmes , Michael M. Morris

Session T44. **Focus Session: Intrinsically Disordered Proteins**

Sponsoring Units: DBIO DCP
Chair: Daniel Cox, UC Davis
Room: *Hilton Baltimore Holiday Ballroom 1*

8:00AM - 8:36AM	T44.00001: Connecting sequence to conformational properties of intrinsically disordered proteins Invited Speaker: Rohit Pappu
8:36AM - 8:48AM	T44.00002: A Binding Model and Similarity for Flexible Modular Proteins Gabriell M\'at\'e , Christoph J. Feinauer , Andreas Hofmann , Sebastian Goldt , Lei Liu , Dieter W. Heermann
8:48AM - 9:00AM	T44.00003: Spatial clustering of binding motifs and charges reveals conserved functional features in disordered nucleoporin sequences David Ando , Michael Colvin , Michael Rexach , Ajay Gopinathan
9:00AM - 9:12AM	T44.00004: Molecular Dynamics Simulations of the Fluctuating Conformational Dynamics of the Intrinsically Disordered Proteins α-Synuclein and τ W. Wendell Smith , Carl Schreck , Abhinav Nath , Elizabeth Rhoades , Corey O'Hern
9:12AM - 9:48AM	T44.00005: Intrinsically disordered segments and the evolution of protein half-life Invited Speaker: M. Madan Babu
9:48AM - 10:24AM	T44.00006: Structural transitions in the intrinsically disordered Parkinson's protein alpha-synuclein Invited Speaker: David Eliezer
10:24AM - 10:36AM	T44.00007: Dimer model for Tau proteins bound in microtubule bundles Natalie Hall , Alexander Kluber , N. Robert Hayre , Rajiv Singh , Daniel Cox
10:36AM - 10:48AM	T44.00008: Physical modeling of the conformation of the unfolded proteins of the Nuclear Pore Complex Anton Zilman , Michael Opferman , Rob Coalson , David Jasnow

Session U31. **Focus Session: Assembly & Function of Biomimetic & Bioinspired Materials III**

Sponsoring Units: DMP DPOLY DBIO
Chair: Shengfeng Cheng, Sandia National labs
Room: 339

11:15AM - 11:27AM	U31.00001: Multiscale self-assembly of DNA-functionalized nanoparticles and cationic phospholipids Sunita Srivastava , Dmytro Nykypanchuk , Oleg Gang
11:27AM - 11:39AM	U31.00002: Revealing Structural Transformations during Crystallization of DNA-Nanoparticle Assemblies Yugang Zhang , Fang Lu , Daniel van der Lelie , Oleg Gang
11:39AM - 11:51AM	U31.00003: Modeling Lattice Structures of DNA-Coated Nanoparticles with Tetrahedral Linkers Joshua Neitzel , Oleg Gang , Francis Starr
11:51AM - 12:03PM	U31.00004: Directed assembly of hierarchical light-harvesting complexes using virus capsid scaffolds and DNA origami tiles Debin Wang , Stacy Capehart , Suchetan Pal , Minghui Liu , Jolene Lau , Hao Yan , Matthew Francis , Jim DeYoreo
12:03PM - 12:39PM	U31.00005: Shape Remodeling Assemblies in Biologically Inspired Materials Invited Speaker: Cyrus Safinya
12:39PM - 12:51PM	U31.00006: Visualizing DNA Nanoparticle Motion under Graphene Liquid Cell TEM Qian Chen , Jessica Smith , Jungwon Park , Somin Lee , Alex Zettl , Paul Alivisatos
12:51PM - 1:03PM	U31.00007: Controlling Assembly and Crystallization of S-layers on Diblock Copolymer Patterns Ilja Gunkel , Magal{\'i} Lingenfelder , Bart Stel , Xiaodan Gu , Thomas Russell , James DeYoreo
1:03PM - 1:15PM	U31.00008: Structural control in model microtubule self-assembly Shengfeng Cheng , Mark Stevens
1:15PM - 1:27PM	U31.00009: Self-folding polyhedra and analogies to biomolecular assembly Shivendra Pandey , Govind Menon , David Gracias
1:27PM - 1:39PM	U31.00010: Why do isotropically grafted spherical nanoparticles assemble into anisotropic structures? Behnaz Bozorgui , Dong Meng , Angelo Cacciuto , Sanat Kumar
1:39PM - 1:51PM	U31.00011: Functional quantum dot-protein nano bio-assembly for superior light harvesting applications Evren Mutlugun , Urartu Ozgur Safak Seker , Pedro Ludwig Hernandez-Martinez , Vijay Kumar Sharma , Vladimir Lesnyak , Nikolai Gaponik , Alexander Eychmuller , Hilmi Volkan Demir
1:51PM - 2:03PM	U31.00012: Controlling size and patchiness of soft nanoparticles via kinetically arrested co-assembly of block copolymers Jose Santos , Margarita Herrera-Alonso
2:03PM - 2:15PM	U31.00013: Structural color of butterflies: The case of Papilio butterflies Beom-Jin Yoon , Jung Ok Park , Mohan Srinivasarao

Session U32. **Charged Polymers and Ionic Liquids**

Sponsoring Units: DPOLY
Chair: Mu Ping Nieh, U Conn
Room: 340

11:15AM - 11:27AM	U32.00001: An Optimized Solvation Theory for Charged Macromolecules Immersed in Aqueous Electrolyte Solutions Zaven Ovanesyan , Bharat Medasani , Marcelo Marucho
11:27AM - 11:39AM	U32.00002: Effect of Ion Content on Conductivity and Morphology of Single-Ion Conducting Ionomers Jing-Han Helen Wang , Ralph H. Colby
11:39AM - 11:51AM	U32.00003: Charge regulation and local dielectric function in planar polyelectrolyte brushes Rajeev Kumar , Bobby Sumpter , S. Michael Kilbey II
11:51AM - 12:03PM	U32.00004: Resolving the Difference in Electric Potential within a Charged Macromolecule Shuangjiang Luo , Jingfa Yang , Jiang Zhao
12:03PM - 12:15PM	U32.00005: Effects of the dielectric inhomogeneity in polyelectrolyte solution Issei Nakamura , Zhen-Gang Wang
12:15PM - 12:27PM	U32.00006: Polyelectrolyte solutions in solvents of extremely high dielectric constant Thomas Seery , Sergey Fillipov , Jiri Panek , Peter Cernoch , Petr Stepanek
12:27PM - 12:39PM	U32.00007: Highly-correlated charges in polyelectrolyte gels Charles Sing , Johannes Zwanikken , Monica Olvera de la Cruz
12:39PM - 12:51PM	U32.00008: Ionic Association States in Polyester Copolymer Ionomers Hanqing Masser , Shichen Dou , Ralph Colby , Paul Painter , James Runt
12:51PM - 1:03PM	U32.00009: Controlling self-assembly and transport properties of ionomer thin films Miguel Modestino , Rachel Segalman
1:03PM - 1:15PM	U32.00010: Effect of Morphology on Ion Transport in Polymerized Ionic Liquid Block Copolymers Jae-Hong Choi , Yuesheng Ye , Yossef Elabd , Karen Winey
1:15PM - 1:27PM	U32.00011: Diffusion of polyelectrolyte chains within layer-by-layer films: a combined FRAP and neutron reflectometry study Viktar Selin , Li Xu , John F. Ankner , Svetlana A. Sukhishvili
1:27PM - 1:39PM	U32.00012: Origins of Symmetry in Polymer Ionic Liquid Phase Diagrams Jane Lipson , Ronald White
1:39PM - 1:51PM	U32.00013: Ordered and Disordered Polymerized Ionic Liquid Block Copolymers: Morphology and Ionic Conductivity Sharon Wang , Yuesheng Ye , Yossef Elabd , Karen Winey
1:51PM - 2:03PM	U32.00014: Morphology, Modulus, and Ionic Conductivity of a Triblock Terpolymer/Ionic Liquid Electrolyte Membrane Lucas D. McIntosh , Timothy P. Lodge
2:03PM - 2:15PM	U32.00015: Decoupling of charge transport from structural dynamics in protic ionic liquids Joshua Sangoro , Alexei Sokolov , Friedrich Kremer , Marian Paluch

Session U33. **Focus Session: Organic Electronics and Photonics - Organic Photovoltaics I - Theory and Processing**

Sponsoring Units: DMP
Chair: Michael Chabinyc, University of California at Santa Barbara
Room: 341

11:15AM - 11:51AM	U33.00001: David Adler Lectureship Award in the Field of Materials Physics Lecture Invited Speaker: Jean-Luc Bredas
11:51AM - 12:03PM	U33.00002: An ab initio approach to organic photovoltaics Vincent Gosselin , Nicolas B\'erub\'e , Josiane Gaudreau , Michel C\^ot\'e
12:03PM - 12:15PM	U33.00003: First principles modeling of donor materials for organic solar cells: where theory complements experiment Andriy Zhugayevych , Sergei Tretiak , Guillermo Bazan
12:15PM - 12:27PM	U33.00004: A Dynamic Monte Carlo Model with an Improved Charge Injection Mechanism for the Photocurrent Generation of Organic Solar Cells Dylan Kipp , Venkat Ganesan
12:27PM - 12:39PM	U33.00005: Computational materials design for bulk heterojunction solar cells Xi Lin , Yongwoo Shin
12:39PM - 12:51PM	U33.00006: New way of polymer design for organic solar cells using the quinoid structure Nicolas Berube , Josiane Gaudreau , Michel Cote
12:51PM - 1:27PM	U33.00007: Morphology-property insights into high-performance organic photovoltaics Invited Speaker: Seth Darling
1:27PM - 1:39PM	U33.00008: The impact of miscibility on organic solar cell performance and stability Brian A. Collins , John R. Tumbleston , Jon A. Bartelt , Michael D. McGehee , Christopher R. McNeill , Harald Ade
1:39PM - 1:51PM	U33.00009: An Alternative Processing Strategy for Polymer-Fullerene Organic Photovoltaic Devices Using Supercritical Carbon Dioxide Jojo Amonoo , Emmanouil Glynos , Chelsea Chen , Anton Li , Bong-Gi Kim , Jinsang Kim , Peter Green
1:51PM - 2:03PM	U33.00010: Optimization of low band gap polymer photovoltaics through structure modification Feng Liu , Yu Gu , Alejandro Briseno , Thomas Russell , Cheng Wang
2:03PM - 2:15PM	U33.00011: Relating Organic Solar Cell Fabrication Methods to Internal Electronic Properties Using Impedance Spectroscopy James Basham , David Gundlach , Thomas Jackson

Session U34. **Thin Films, Surfaces and Interfaces I**

Sponsoring Units: DPOLY
Chair: Mesfin Tsige, The University of Akron
Room: 342

11:15AM - 11:27AM	U34.00001: Comparison of experimental and computational estimation of non-freezing interfacial molecules Rahmi Ozisik , Nihat Baysal , Deniz Rende , Samuel Amanuel
11:27AM - 11:39AM	U34.00002: A molecular view of latex-water interfaces Zifeng Li , Kriten Fichthorn , Scott Milner , Fang Yuan , Ronald Larson
11:39AM - 11:51AM	U34.00003: Pathways and Time Scales for Water Movement to a Metal/Polymer Interface Hyungjin Lee , Bulent Akgun , Jim Browning , Mark Foster
11:51AM - 12:03PM	U34.00004: Desorption Kinetics of Water from Poly (methyl methacrylate) Films and other Polymer Films Carolina Ilie , Thorin Kane , Ross Netusil , Anastasia Yorke
12:03PM - 12:15PM	U34.00005: A Molecular Dynamics Simulation Study on the Wetting Behavior of Water on Oxidized and Non-Oxidized atactic Polystyrene Surface Selemon Bekele , Mesfin Tsige
12:15PM - 12:27PM	U34.00006: Wetting of star-shaped macromolecules Emmanouil Glynos , Bradley Frieberg , Georgios Sakellariou , Peter Green
12:27PM - 12:39PM	U34.00007: The Role of Acid-Base Interactions in Controlling Interfacial Segregation in Polymer Blends He Zhu , Shishir Prasad , Anish Kurian , Ila Badge , Ali Dhinojwala
12:39PM - 12:51PM	U34.00008: Measurement of monolayer viscosity using non-contact microrehology Alex Levine , Arthur Evans , Roie Shlomovitz , Thomas Boatwright , Michael Dennin
12:51PM - 1:03PM	U34.00009: Evidence of Phase Separation during Vapor Deposition Polymerization Ran Tao , Mitchell Anthamatten
1:03PM - 1:15PM	U34.00010: Surface phase separation between polythylene oxide of different molecular weight Rui Chen , Jingfa Yang , Jiang Zhao
1:15PM - 1:27PM	U34.00011: Understanding diblock copolymer colloidal particle anisotropy Debra Audus , Se Gyu Jang , Daniel Krogstad , Alexandre Cameron , Sang-Woo Kim , Kris Delaney , Su-Mi Hur , Edward Kramer , Craig Hawker , Glenn Fredrickson
1:27PM - 1:39PM	U34.00012: Multiblock copolymer adsorption on a hydrophobic surface: A Monte Carlo simulation study Max Kolb , Virginie Hugouvieux
1:39PM - 1:51PM	U34.00013: Capillary Levelling of Stepped Polymer Films - A Nanofluidic Probe of the Slip Boundary Condition Oliver Baeumchen , Joshua D. McGraw , Thomas Salez , Michael Benzaquen , Paul Fowler , Elie Raphael , Kari Dalnoki-Veress
1:51PM - 2:03PM	U34.00014: Relaxation of non-equilibrium entanglement networks in thin polymer films Paul Fowler , Joshua McGraw , Melissa Ferrari , Kari Dalnoki-Veress
2:03PM - 2:15PM	U34.00015: Ion Dispositions in Polyelectrolyte Multilayer Films David Hoagland , Zhaohui Su , Xingjie Zan , Tian Wang

Session U38. **Novel Photophysics and Transport in NanoPV II**

Sponsoring Units: GERA DPOLY DCOMP
Chair: Richard Wiener, Research Corporaton
Room: 347

11:15AM - 11:27AM	U38.00001: Hybrid passivated colloidal quantum dot solids for photovoltaics Susanna M. Thon , Alexander H. Ip , Sjoerd Hoogland , Oleksandr Voznyy , David Zhitomirsky , Ratan Debnath , Larissa Levina , Lisa R. Rollny , Graham H. Carey , Armin Fischer , Kyle W. Kemp , Illan J. Kramer , Zhijun Ning , Andr\'{e} J. Labelle , Kang Wei Chou , Aram Amassian , Edward H. Sargent
11:27AM - 11:39AM	U38.00002: Elimination of deep surface traps in charged colloidal PbS and CdSe quantum dots Oleksandr Voznyy , Susanna Thon , Alex Ip , Edward Sargent
11:39AM - 11:51AM	U38.00003: High pressure core structures of Si nanoparticles for solar energy conversion S. Wippermann , M. Voros , D. Rocca , A. Gali , G. Zimanyi , G. Galli
11:51AM - 12:03PM	U38.00004: Exploring the Influence of the Chemical Passivation on Electron Relaxation in Silicon Quantum Dots Using First-Principles Surface Hopping Methods Yosuke Kanai , Kyle Reeves , Andre Schleife
12:03PM - 12:15PM	U38.00005: Germanium nanoparticles for solar energy conversion M\'arton V\"or\"os , Stefan Wippermann , Dario Rocca , Giulia Galli , Adam Gali , Gergely Zimanyi
12:15PM - 12:27PM	U38.00006: Temperature-Dependent Electron Transport in Si and Ge Nanoparticle Photovoltaics Derek Padilla , Carena Church , Elayaraja Muthuswamy , Susan Kauzlarich , Sue Carter
12:27PM - 12:39PM	U38.00007: Carrier Multiplication Effects Between Interacting Nanocrystals for Solar Cell Applications Ivan Marri , Marco Govoni , Stefano Ossicini
12:39PM - 12:51PM	U38.00008: Monte Carlo modeling of charge transport in nanocrystalline PbSe films Ian Carbone , Gergely Zimanyi , Sue Carter
12:51PM - 1:03PM	U38.00009: 3D engineering of potential profile by charged quantum dots for effective photovoltaic conversion Andrei Sergeev , Nizami Vagidov , Vladimir Mitin , Kimberly Sablon
1:03PM - 1:15PM	U38.00010: Toward an Impurity Band PV: Dynamics of Carriers Generated via Sub-band gap Photons Joseph Sullivan , Christie Simmons , Austin Akey , Michael Aziz , Tonio Buonassisi
1:15PM - 1:27PM	U38.00011: Intermediate Band Performance of GaSb Type-II Quantum Dots Located in n-Doped Region of GaAs Solar Cells Ara Kechiantz , Andrei Afanasev
1:27PM - 1:39PM	U38.00012: Single Element n-p Co-doped Wide Band-gap Semiconductors as Candidate Materials for Intermediate-Band Solar Cells Guangfen Wu , Chunlei Yang , Guohua Zhong , Xudong Xiao , Zhenyu Zhang
1:39PM - 1:51PM	U38.00013: Optical conductivity of GaP alloys studied by hybrid-density functional theory Yoshihiro Gohda , Shinji Tsuneyuki

1:51PM - 2:03PM	U38.00014: Study of vertical correlation in type-II ZnCdTe/ZnCdSe submonolayer quantum dots for efficient intermediate band solar cells. Siddharth Dhomkar , Igor Kuskovsky , Uttam Manna , Ismail Noyan , Maria Tamargo
2:03PM - 2:15PM	U38.00015: Multiple Exciton Generation in Colloidal Si Nanocrystals at the Energy-Conservation-Limit M. Sagar Dodderi , Jihua Yang , Uwe Kortshagen , Erin Whitney , Octavi Semonin , Arthur Nozik , Mathew C. Beard

Session W9. **Invited Session: Physics of Next Generation DNA Sequencing**

Sponsoring Units: DCMP DPOLY
Chair: Alexander V. Balatsky, Los Alamos National Laboratory
Room: 308

2:30PM - 3:06PM	W9.00001: Detection and interrogation of biomolecules via nanoscale probes: From fundamental physics to DNA sequencing Invited Speaker: Michael Zwolak
3:06PM - 3:42PM	W9.00002: Single Molecule Electrical Sequencing of DNA and RNA Invited Speaker: Masateru Taniguchi
3:42PM - 4:18PM	W9.00003: DNA Electronic Fingerprints by Local Spectroscopy on Graphene Invited Speaker: Alexander Balatsky
4:18PM - 4:54PM	W9.00004: Edge-functionalization aspects in DNA sequencing with graphene nano-electrodes Invited Speaker: Ralph H. Scheicher
4:54PM - 5:30PM	W9.00005: Reading DNA at single-nucleotide resolution with a mutant MspA nanopore Invited Speaker: Jens Gundlach

Session W11. **Invited Session: Polymer Based Soft Materials: Industrial Applications**

Sponsoring Units: DPOLY FIAP
Chair: Miriam Rafailovich, State University of New York, Stony Brook
Room: 310

2:30PM - 3:06PM	W11.00001: Tuning the Photoinduced Motion of Glassy Azobenzene Polymers and Networks Invited Speaker: R.A. Vaia
3:06PM - 3:42PM	W11.00002: Using Modeling to Design new Rheology Modifiers for Paints Invited Speaker: Valeriy Ginzburg
3:42PM - 4:18PM	W11.00003: Particles against Reactive Oxygen Species for Sun Protective products Invited Speaker: Wilson Lee
4:18PM - 4:54PM	W11.00004: Starch Applications for Delivery Systems Invited Speaker: Jason Li
4:54PM - 5:30PM	W11.00005: Development of Flame Retardants for Engineering Polymers and Polyurethanes Invited Speaker: Anantha Desikan

Session W28. **Focus Session: Soft-Matter, Biology, & Bioinspiration**

Sponsoring Units: GSNP
Chair: Carmel Majidi, Carnegie Mellon University
Room: 336

2:30PM - 2:42PM	W28.00001: Cavitation in trees monitored using simultaneously acoustics and optics Alexandre Ponomarenko , Olivier Vincent , Philippe Marmottant
2:42PM - 2:54PM	W28.00002: Reversible Rigidity Control Using Low Melting Temperature Alloys Wanliang Shan , Tong Lu , Carmel Majidi
2:54PM - 3:06PM	W28.00003: “Lock and key mechanism” for ligand binding with adrenergic receptors and the arising mechanical effects on the cell membrane Laura Lunghi , Luca Deseri
3:06PM - 3:18PM	W28.00004: Geometrical study of the deformations of a thin spherical shell inspired by pollen grains. Etienne Couturier , Eleni Katifori , Jacques Dumais , Enrique Cerda
3:18PM - 3:30PM	W28.00005: Hysteresis in the creasing instability of hydrogels and elastomers Dayong Chen , Shengqiang Cai , Lihua Jin , Zhigang Suo , Ryan Hayward
3:30PM - 4:06PM	W28.00006: Extreme Mechanics of Growing Matter Invited Speaker: Ellen Kuhl
4:06PM - 4:18PM	W28.00007: A micromechanical viscoelastic model for soft biological tissue Baptiste Coudrillier , Thao D. Nguyen
4:18PM - 4:30PM	W28.00008: Spatially localized structure-function relations in the elastic properties of sheared articular cartilage Jesse Silverberg , Lawrence Bonassar , Itai Cohen
4:30PM - 4:42PM	W28.00009: Highly Deformable Liquid Embedded Soft-Matter Capacitors and Inductors for Stretchable Electronics Andrew Fassler , Carmel Majidi
4:42PM - 4:54PM	W28.00010: Delayed Fluid-Driven Fractures on Soft Gels Mark Schillaci , Joshua Bostwick , Karen Daniels
4:54PM - 5:06PM	W28.00011: Soft-Matter Resistive Sensor for Measuring Shear and Pressure Stresses Daniel Tepayotl-Ramirez , Peter Roberts , Carmel Majidi
5:06PM - 5:18PM	W28.00012: Manufacturing of Liquid-Embedded Elastomers for Stretchable Electronics Rebecca Kramer , Carmel Majidi , James Weaver , Robert Wood
5:18PM - 5:30PM	W28.00013: Elastoswellability: Will it bend or will it buckle? Douglas Holmes , Anupam Pandey

Session W31. **Focus Session: Understanding Fluctuation and Correlation Effects in Polymers**

Sponsoring Units: DPOLY
Chair: Amelie Frischkenacht, Sandia National Laboratories
Room: 339

2:30PM - 3:06PM	W31.00001: Recent Developments in Field-Theoretic Polymer Simulations Invited Speaker: Glenn Fredrickson
3:06PM - 3:18PM	W31.00002: Understanding Fluctuation/Correlation Effects on the Order-Disorder Transition of Symmetric Diblock Copolymers with a Density-Functional Theory Jing Zong , Qiang Wang
3:18PM - 3:30PM	W31.00003: Computational Investigation of Block Copolymer Surfactants for Stabilizing Fluctuation-Induced Polymeric Microemulsions Kris Delaney , Glenn Fredrickson
3:30PM - 3:42PM	W31.00004: Condensation of semiflexible polyelectrolytes in mixed solutions of mono- and multivalent salts Amelia A. Plunk , Erik Luijten
3:42PM - 3:54PM	W31.00005: Rattle, restrict, and release in entangled polymer solutions Subhalakshmi Kumar , Tsang Chi Hang Boyce , Sung Chul Bae , Steve Granick
3:54PM - 4:06PM	W31.00006: Direct imaging of fluctuations in a cross-linked biopolymer network Bo Wang , Lingxiang Jiang , Boyce Tsang , Steve Granick
4:06PM - 4:18PM	W31.00007: Effect of Fluctuation on Order-Disorder Transition in Polydisperse Block Copolymer Melts Gunja Pandav , Venkat Ganesan
4:18PM - 4:30PM	W31.00008: Directed polymer liquids addressed via the two-dimensional one-component plasma: Developing the framework Anton Souslov , D. Zeb Rocklin , Paul M. Goldbart
4:30PM - 4:42PM	W31.00009: Directed polymer liquids addressed via the two-dimensional one-component plasma: Implications for the density profile D. Zeb Rocklin , Anton Souslov , Paul Goldbart
4:42PM - 4:54PM	W31.00010: Disentangle Model Differences and Fluctuation Effects in DPD Simulations of Diblock Copolymers David (Qiang) Wang , Paramvir Sandhu , Jing Jong , Delian Yang
4:54PM - 5:06PM	W31.00011: Static Correlation Functions of Polymer Concentration Fluctuations in the Presence of an Interface Catherine Yeh , Philip Pincus
5:06PM - 5:18PM	W31.00012: Dynamical simulation of disordered micelles in a diblock copolymer melt with fluctuations Russell Spencer , Robert Wickham
5:18PM - 5:30PM	W31.00013: X-ray imaging of wetting ridge on a soft solid Su Ji Park , Byung Mook Weon , Ji San Lee , Jung Ho Je , Robert W. Style , Guy K. German , Eric R. Dufresne , Steve Wang

Session W32. **Focus Session: Micro/Nanofluidics I**

Sponsoring Units: DPOLY DFD
Chair: Daeyeon Lee, University of Pennsylvania
Room: 340

2:30PM - 3:06PM	W32.00001: Uncovering stem-cell heterogeneity in the microniche with label-free microfluidics Invited Speaker: Lydia L. Sohn
3:06PM - 3:18PM	W32.00002: Designing artificial phagocyte that selectively ``ingests'' solutes Alexander Alexeev , Katherine C. Polhemus , Ayuko Morikawa
3:18PM - 3:30PM	W32.00003: Transient Flow Induced by the Adsorption of Particles Naga Musunuri , Daniel Codjoe , Bhavin Dalal , Ian Fischer , Pushpendra Singh
3:30PM - 3:42PM	W32.00004: Effect of surfactant on bubble/liquid transport in a T-junction microchannel with sudden contraction Kuo-Long Pan
3:42PM - 3:54PM	W32.00005: Direct measurement of friction of a fluctuating contact line Shuo Guo , Min Gao , Xiaomin Xiong , Yong Jian Wang , Xiaoping Wang , Ping Sheng , Penger Tong
3:54PM - 4:06PM	W32.00006: Giant slip at liquid-liquid interfaces using a hydrophobic ball bearing Laurent Joly , Quentin Ehlinger , Olivier Pierre-Louis
4:06PM - 4:18PM	W32.00007: A Study of the Concentration Dependent Water Diffusivity in Polymer using Magnetic Resonance Imaging Howon Lee , Jiaxi Lu , John Georgiadis , Nicholas Fang
4:18PM - 4:30PM	W32.00008: Closing the loop in the boundary layer: water slippage, interfacial viscosity and wettability Elisa Riedo , Deborah Ortiz-Young , Hsiang-Chih Chiu , Kislon Vo\"Itchovsky , Suenne Kim
4:30PM - 4:42PM	W32.00009: Molecular Dynamic Studies of Thermal Resistance and Temperature Jumps in Confined Nanofilms P. Thompson , S.M. Troian
4:42PM - 4:54PM	W32.00010: Near-wall Brownian motion of anisotropic particles Sadao Ota , Tongcang Li , Yimin Li , Ziliang Ye , Anna Labno , Xiaobo Yin , M-Reza Alam , Xiang Zhang
4:54PM - 5:06PM	W32.00011: Enhancing microscale particle deposition using actuated synthetic cilia Matthew S. Ballard , Zachary G. Mills , Alexander Alexeev
5:06PM - 5:18PM	W32.00012: Statics and dynamics of polymer droplets on topographically structured substrates Marcus Mueller , Nikita Tretyakov
5:18PM - 5:30PM	W32.00013: The Effect of Polarization on Structure, Dynamics and Electric Double Layer for Interfacial Water near Charged Graphene Alberto Striolo , Tuan A. Ho

Session W33. **Focus Session: Organic Electronics and Photonics - Organic Photovoltaics II - Efficiency, Stability, and Interfaces**

Sponsoring Units: DMP
Chair: Richard Lunt, Michigan State University
Room: 341

2:30PM - 3:06PM	W33.00001: Organic Solar Cell Efficiency Limitations and Pathways to Overcoming Them Invited Speaker: Sean Shaheen
3:06PM - 3:18PM	W33.00002: Tailored exciton diffusion in organic photovoltaic cells for enhanced power conversion efficiency Russell J. Holmes
3:18PM - 3:30PM	W33.00003: \textgreater 1.0{\%} solar cell derived from carbon nanotube excitons Matthew Shea , Michael Arnold
3:30PM - 3:42PM	W33.00004: Towards high performance inverted polymer solar cells Xiong Gong
3:42PM - 4:18PM	W33.00005: The Science of Making Organic Solar Cells Stable Invited Speaker: Michael McGehee
4:18PM - 4:30PM	W33.00006: Influence of MoO$_{\mathrm{x}}$ interlayer on the maximum achievable open-circuit voltage in organic photovoltaic cells Yunlong Zou , Russell Holmes
4:30PM - 4:42PM	W33.00007: The effect of interfaces on charge transport and recombination in polymeric solar cells Ronald Osterbacka , Simon Sanden , Qian Xu , Oskar Sandberg , Mathias Nyman , Jan-Henrik Smatt , Gytis Juska
4:42PM - 4:54PM	W33.00008: Effect of interfacial modification of organophosphonate-based self-assembled monolayers on the performance of inverted hybrid ZnO:P3HT photovoltaic devices Luisa Whittaker-Brooks , Will McClain , Arthur Woll , Jeffrey Schwartz , Yueh-Lin (Lynn) Loo
4:54PM - 5:06PM	W33.00009: Anomalous charge storage exponents of organic bulk heterojunction solar cells. Pradeep Nair , Raaz Dwivedi , Goutam Kumar
5:06PM - 5:18PM	W33.00010: Physical Processes in Organic Photovoltaic Devices Tuned by Ionic Double Layer Doping Alexander Cook
5:18PM - 5:30PM	W33.00011: Correlation between magneto-photocurrent and power conversion efficiency in organic solar cells Bhoj Gautam , Tek Basel , Dali Sun , Eitan Ehrenfreund , Z. Valy Vardeny

Session W34. **Thin Films, Surfaces and Interfaces II**

Sponsoring Units: DPOLY
Chair: Dvora Perahia, Clemson University
Room: 342

2:30PM - 2:42PM	W34.00001: Photo-crosslinkable polymers for fabrication of photonic multilayer sensors Maria Chiappelli , Ryan C. Hayward
2:42PM - 2:54PM	W34.00002: Diffusion of single molecules on surface tethered polymer brushes Zhenyu Zhang , Matt Mears , Mark Moxey , Nicolas Warren , Jeppe Madsen , Steven Armes , Andrew Lewis , Mark Geoghegan
2:54PM - 3:06PM	W34.00003: Molecular Dynamics Simulations of Tension Amplification in Tethered Bottle-brushes Gary M. Leuty , Mesfin Tsige , Michael Rubinstein , Gary S. Grest
3:06PM - 3:18PM	W34.00004: Fast Lattice Monte Carlo Simulations of Grafted Homopolymers under Compression Pengfei Zhang , Qiang Wang
3:18PM - 3:30PM	W34.00005: A Laterally-Mobile Mixed Polymer/Polyelectrolyte Brush Undergoes a Macroscopic Phase Separation Hoyoung Lee , Hae-Woong Park , Vasilios Tsouris , Je Choi , Rafid Mustafa , Yunho Lim , Mati Meron , Binhua Lin , You-Yeon Won
3:30PM - 3:42PM	W34.00006: Low voltage switching of crease patterns on gel surfaces with topographically patterned microelectrodes Bin Xu , Ryan Hayward
3:42PM - 3:54PM	W34.00007: Tunable Surface Properties from Bioinspired Comb Copolymers Wendy van Zoelen , Hilda Buss , Nathan Ellebracht , Ronald Zuckermann , Rachel Segalman
3:54PM - 4:06PM	W34.00008: Microwave-Assisted Surface-Initiated Free Radical Polymerization Erich Bain , Xinfang Hu , Christopher Gorman , Jan Genzer
4:06PM - 4:18PM	W34.00009: Free Volume Model of Enhanced Mobility at a Free Surface Nicholas B. Tito , Jane E. G. Lipson , Scott T. Milner
4:18PM - 4:30PM	W34.00010: Quantification of tip-sample forces on and below resonance in tapping mode atomic force microscopy Orsolya Karacsony , Tomasz Kowalewski , Brian Cusick
4:30PM - 4:42PM	W34.00011: Grazing Resonant Soft X-ray Scattering: A New Way to See Inside Mesoscale Thin Films Eliot Gann , Anne Watson , Cheng Wang , Justin Cochran , Joshua Carpenter , Terry McAfee , Hongping Yan , Christopher McNeill , Michael Chabinyc , Harald Ade
4:42PM - 4:54PM	W34.00012: Marangoni-Driven Topographic Patterning of Polymer Thin Films Christopher Ellison , Joshua Katzenstein , Dustin Janes , Julia Cushen , Nathan Prisco , Nikhil Hira , Dana McGuffin
4:54PM - 5:06PM	W34.00013: Polymer Thin Films and Interfaces; a Layer-by-Layer Approach Ronald White , Jane Lipson
5:06PM - 5:18PM	W34.00014: Melting of Linear Alkanes between Swollen Elastomers and Solid Substrates Ali Dhinojwala , Kumar Nanjundiah

5:18PM - 5:30PM	W34.00015: Tacticity Effects on the Local Conformation and Interfacial Properties of poly (methyl methacrylate) at the Liquid-Vapor Interface Kshitij C. Jha , He Zhu , Ali Dhinojwala , Mesfin Tsige

Session W38. **Focus Session: Novel Photophysics and Transport in NanoPV III**

Sponsoring Units: GERA DPOLY DCOMP
Chair: Zhigang Wu, Colorado School of Mines
Room: *347*

2:30PM - 3:06PM	W38.00001: Novel Low-Loss Plasmonic Waveguides to Create HE PV from Ultra-Thin Organic and Low-Purity Earth Abundant Inorganic Layers Invited Speaker: Janelle Leger
3:06PM - 3:18PM	W38.00002: Embedded metal nanopatterns for near-field scattering-enhanced optical absorption Michael J. Burns , Fan Ye , Aaron H. Rose , Michael J. Naughton
3:18PM - 3:30PM	W38.00003: Improved electrical response of photovoltaic devices by photonic structuring Jeremy Munday
3:30PM - 3:42PM	W38.00004: Optical absorption of nanoporous silicon: quasiparticle band gaps and absorption spectra Guangsha Shi , Emmanouil Kioupakis
3:42PM - 3:54PM	W38.00005: Absorption enhancement in amorphous silicon thin films via plasmonic resonances in nickel silicide nanoparticles Jordan Hachtel , Xiao Shen , Sokrates Pantelides , Ritesh Sachan , Carlos Gonzalez , Ondrej Dyck , Shaofang Fu , Ramki Kalnayaraman , Phillip Rack , Gerd Duscher
3:54PM - 4:06PM	W38.00006: Progress Developing Hybrid Silicon Quantum Dot/Amorphous Silicon Thin Films for Photovoltaics Application Tianyuan Guan , Jeremy Fields , Grant Klafehn , Chito Kendrick , Robert Lochner , Zahra Nourbakhsh , Mark Lusk , Paul Stradins , Craig Taylor , Reuben Collins
4:06PM - 4:18PM	W38.00007: Computational spectroscopy of nanocomposites Marco Govoni , Tuan Anh Pham , Giulia Galli
4:18PM - 4:30PM	W38.00008: Complementary transport channels in Si-ZnS nanocomposites: first principles simulations Stfan Wippermann , Marton Voros , Adam Gali , Gergely Zimanyi , Giulia Galli
4:30PM - 4:42PM	W38.00009: The Electronic Structure of Cd$_{33}$Se$_{33}$ Quantum Dots Passivated with Various [Me(bpy)3]$^{2+}$ Complexes: A Comparative Study Based on DFT and TDDFT Simulation Peng Cui , Michael Mayo , Svetlana Kilina
4:42PM - 4:54PM	W38.00010: Quantum Monte Carlo Characterization of Excited States and Energy-Level Alignment of Oligomer/Quantum-Dot Interfaces Jonathan Dubois , Donghwa Lee , Yosuke Kanai
4:54PM - 5:06PM	W38.00011: Binding mechanism of CdSe quantum dots to carbon nanotubes/graphene Jie Jiang , Sohrab Ismail-Beigi
5:06PM - 5:18PM	W38.00012: Electrochemical growth of semiconductors for excitonic photovoltaic devices Nicholas Regis , Matthew Jensen , David Rider , Janelle Leger
5:18PM - 5:30PM	W38.00013: ZnO Transistor Interfaces Sensitized with Photo Donor Molecules Josef Spalenka , Lushuai Zhang , Padma Gopalan , Paul Evans

Session Y31. **Phase Behavior of Copolymers**

Sponsoring Units: DPOLY
Chair: Chris Ellison, University of Texas at Austin
Room: 339

8:00AM - 8:12AM	Y31.00001: Phase Behavior of All-Hydrocarbon ``Diblock-Random'' Copolymers Bryan Beckingham , Richard Register
8:12AM - 8:24AM	Y31.00002: Self-consistent field theory for directed self-assembly in non-cylindrical confinement Tatsuhiro Iwama , Nabil Laachi , Bongkeun Kim , Kris Delaney , Glenn Fredrickson
8:24AM - 8:36AM	Y31.00003: Phase behavior of binary blends of asymmetric diblock copolymers: Bulk and thin films Adetunji Onikoyi , Edward Kramer
8:36AM - 8:48AM	Y31.00004: Identifying the ODT in simulations of diblock copolymers using thermodynamic integration with a flexible simulation cell Pavani Medapuram , Jens Glaser , David Morse
8:48AM - 9:00AM	Y31.00005: Identifying the ODT in simulations of diblock copolymers using metadynamics Jens Glaser , David Morse
9:00AM - 9:12AM	Y31.00006: Rod-Coil Block Copolymer Simulation With SCFT Lee Trask , Eric Cochran
9:12AM - 9:24AM	Y31.00007: Self-consistent Field Theory Simulations of the Phase Behavior of Tapered Diblock Copolymers Jonathan Brown , Lisa Hall
9:24AM - 9:36AM	Y31.00008: Theory of Chiral Block Copolymer Melts: Mesoscopic Helicity from Inter-Segment Twist Gregory Grason , Wei Zhao , Thomas Russell
9:36AM - 9:48AM	Y31.00009: Self-assembly of peptoid block copolymers with tunable conformational asymmetry Adrianne Rosales , Ronald Zuckermann , Rachel Segalman
9:48AM - 10:00AM	Y31.00010: Phase coexistence calculations via a unit-cell Gibbs ensemble formalism for melts of reversibly bonded block copolymers Zoltan Mester , Nathaniel Lynd , Glenn Fredrickson
10:00AM - 10:12AM	Y31.00011: Phase behavior of multi-arm star-shaped polystyrene-\textit{block}-poly(methyl methacrylate) copolymer Sangshin Jang , Hong Chul Moon , Dusik Bae , Jonghen Kwak , Jin Kon Kim
10:12AM - 10:24AM	Y31.00012: Pressure Effect of Various Inert Gases on the Phase Behavior of Polystyrene-\textit{block}-Poly(n-pentyl methacrylate) Copolymer Hong Chul Moon , Hye Jeong Kim , Junhan Cho , Jin Kon Kim
10:24AM - 10:36AM	Y31.00013: Micellization behavior of A-b-(B-\textit{alt}-C)$_{\mathrm{n}}$ multiblock terpolymers in a selective solvent for one terminal A-block Yu-Chieh Hsu , Ching-I Huang , Weihua Li , Feng Qiu , An-Chang Shi
10:36AM - 10:48AM	Y31.00014: Micellar Packing in Aqueous Solutions of As-Received and Pure Pluronic Block Copolymers Chang Ryu , Han Jin Park

Session Y32. **Polymer Nanocomposites III**

Sponsoring Units: DPOLY
Chair: Jeff Meth, DuPont Chemicals
Room: 340

8:00AM - 8:12AM	Y32.00001: Layered polymer nanocomposite films of type-specific single wall carbon nanotubes Matthew R. Semler , John M. Harris , Jeffrey A. Fagan , Erik K. Hobbie
8:12AM - 8:24AM	Y32.00002: Influence of Thermal History on Microphase Separation and Morphology of Elastomeric Polyureas James Runt , Alicia Castagna , Autchara Pangon
8:24AM - 8:36AM	Y32.00003: Quantifying segmental dynamics of model poly(urethane urea) systems using computational modeling Tanya L. Chantawansri , Yelena R. Sliozberg , Alex J. Hsieh , Robert A. Riggleman
8:36AM - 8:48AM	Y32.00004: Optical characterization of isotactic polypropylene and carbon nanotube composites using spectroscopic ellipsometry Sabyasachi Sarkar , Parvathalu Kalakonda , Georgi Georgiev , Germano Iannacchione
8:48AM - 9:00AM	Y32.00005: Temperature dependent photoluminescence from polymer nanocomposites of size-puified silicon quantum dots Austin R. Vansickle , Joseph B. Miller , Rebecca J. Anthony , Uwe R. Kortshagen , Erik K. Hobbie
9:00AM - 9:12AM	Y32.00006: Non-Bleaching Photoluminescent Magnetic Nanoparticles Lu Zou , Chanjoong Kim , Emad Girgis , Wagdy K. B. Khalil
9:12AM - 9:24AM	Y32.00007: Electrically Percolating Clusters in Sheared Carbon Nanotube Composites Kalman Migler , Doyoung Moon , Jan Obrzut , Jack Douglas , Thomas Lam , Renu Sharma , Alex James Liddle
9:24AM - 9:36AM	Y32.00008: Electrical properties of isotactic polypropylene loaded with carbon nanofibers Mircea Chipara , Magdalena L. Ciurea , Karen Lozano , Gheorghe V. Aldica , Dorina M. Chipara , Stelian Popa , Ionel Stavarache
9:36AM - 9:48AM	Y32.00009: Polyaniline-SnO$_2$ Nanocomposites for Better Sensitivity of NO$_{\mathrm{X}}$ gases at Lower Temperatures Navendu Goswami , Anjali Sharma , Monika Tomar , Vinay Gupta
9:48AM - 10:00AM	Y32.00010: Self-healing of polymeric materials: The effect of the amount of DCPD confined within microcapsules Dorina M. Chipara , Alma Perez , Karen Lozano , Ibrahim Elamin , Jahaziel Villarreal , Alfonso Salinas , Mircea Chipara
10:00AM - 10:12AM	Y32.00011: Engineering Flame Retardant Biodegradable Nanocomposites Shan He , Kai Yang , Yichen Guo , Linxi Zhang , Seongchan Pack , Rachel Davis , Menahem Lewin , Harald Ade , Chad Korach , Takashi Kashiwagi , Miriam Rafailovich
10:12AM - 10:24AM	Y32.00012: Designing high hard block Content TPU resins for composite application Alberto Saiani , Chinemelum Nedolisa , Christopher I. Lindsay
10:24AM - 10:36AM	Y32.00013: Structure and Dynamics Characterization of HMDI- and MDI-based Poly(urethane urea) Elastomers via Solid- State NMR Weiguo Hu , Alex Hsieh , B. Christopher Rinderspacher , Tanya Chantawansri
10:36AM - 10:48AM	Y32.00014: Thermal Boundary Resistance Across Solid-Fluid Interface Sanghamitra Neogi , Davide Donadio

Session Y33. **Focus Session: Organic Electronics and Photonics - Morphology and Structure I**

Sponsoring Units: DMP
Room: 341

8:00AM - 8:12AM	Y33.00001: Molecular simulation studies of morphology in blends of conjugated polymers and fullerene derivatives for organic photovoltaic applications Eric Jankowski , Hilary Marsh , Arthi Jayaraman
8:12AM - 8:24AM	Y33.00002: Correlation of Fullerene Structure to its Miscibility in P3HT and OPV Function Mark Dadmun , Huipeng Chen , Jeff Peet
8:24AM - 8:36AM	Y33.00003: Mixing-Induced Anisotropic Correlations in Molecular Crystalline Systems: Rationalizing the Behavior of Organic Semiconductor Blends Katharina Broch , Antje Aufderheide , Jiri Novak , Alexander Hinderhofer , Alexander Gerlach , Rupak Banerjee , Frank Schreiber
8:36AM - 8:48AM	Y33.00004: Domain compositions in the active layer of low band gap polymer/fullerene solar cells strongly affect device performance Sameer Vajjala Kesava , Zhuping Fei , Martin Heeney , Cheng Wang , Alexander Hexemer , Enrique Gomez
8:48AM - 9:00AM	Y33.00005: The importance of domain purity for performance in P(NDI2OD-T2)-based all-polymer solar cells revealed by resonant x-ray scattering Harald Ade , Brian Collins , Marcel Schubert , Steffen Roland , Robert Steyrluethner , Zhihua Chen , Antonio Facchetti , Dieter Neher
9:00AM - 9:12AM	Y33.00006: Probing the morphology of novel non-fullerene based bulk heterojunction solar cells Gregory Su , Toan Pho , Fred Wudl , Edward Kramer , Michael Chabinyc
9:12AM - 9:24AM	Y33.00007: Tuning polymer/inorganic blend morphology using pyridine terminated poly(3-hexylthiophene)s: Novel ligands for potential OPV applications W. Michael Kochemba , S. Michael Kilbey II , Deanna L. Pickel , Bobby G. Sumpter
9:24AM - 9:36AM	Y33.00008: Determination of the Crystallinity of Semicrystalline Poly(3-hexyl thiophene) by Means of Wide Angle X-Ray Scattering Jens Balko , Ruth Lohwasser , Mukundan Thelakkat , Michael Sommer , Ovidiu Pascui , Kay Saalwaechter , Thomas Thurn-Albrecht
9:36AM - 9:48AM	Y33.00009: Structural and Morphological Analysis of Poly(3-hexylthiophene) at Surfaces and Interfaces Yeneneh Yimer , Mesfin Tsige
9:48AM - 10:00AM	Y33.00010: Conjugated backbone orientation variation in high mobility regioregular PT based copolymers Louis Perez , Lei Ying , Guillermo Bazan , Edward Kramer
10:00AM - 10:12AM	Y33.00011: Poly(3-hexylthiophene) Brush-Modified Interfaces for Control of Active Layer Morphology and Properties S. Michael Kilbey , W. Michael Kochemba , Deanna Pickel , Jose Alonzo
10:12AM - 10:24AM	Y33.00012: Rod-Coil Copolymer as Efficient Compatibilizer for Thermally-Stable Polymer Solar Cell H.J. Kim , K. Paek , H. Yang , B.J. Kim
10:24AM - 10:36AM	Y33.00013: Percolating bulk-heterostructures from neutron reflectometry and small angle scattering data Daniel Olds , Phillip Duxbury

10:36AM - 10:48AM	Y33.00014: In-situ Neutron Scattering Determination of 3D Phase-Morphology Correlations in Fullerene -Polymer Organic Photovoltaic Thin Films Alamgir Karim , David Bucknall , Dharmaraj Raghavan , Bobby Sumpter , Scott Sides

Session Y34. **Focus Session: Microfluidics, Nanofluidics Applications**

Sponsoring Units: DPOLY
Chair: Alberto Fernandez-Nieves, Georgia Institute of Technology
Room: 342

8:00AM - 8:36AM	Y34.00001: Acoustic Microfluidics for Bioanalytical Application Invited Speaker: Gabriel Lopez
8:36AM - 8:48AM	Y34.00002: Electrokinetic device for three-dimensional trapping of single fluorescent emitters Jason K. King , Brian K. Canfield , Lloyd M. Davis
8:48AM - 9:00AM	Y34.00003: It may be possible to construct a Chemical Synthesizing Computer based on Capillary Action Richard Kriske
9:00AM - 9:12AM	Y34.00004: Droplet Formation in Microfluidic T-junction Generators Operating in the Transitional Regime Tomasz Glawdel , Caglar Elbuken , Carolyn Ren
9:12AM - 9:24AM	Y34.00005: Integrated optics for Lab-On-Chip Yu Gu , Andrea Crespi , Lisa Mariani , Gianna Valentino , Giulio Cerullo , Roberto Osellame
9:24AM - 9:36AM	Y34.00006: A microfluidic separation platform using an array of slanted ramps Sumedh Risbud , Jorge Bernate , German Drazer
9:36AM - 9:48AM	Y34.00007: Size based separation of micro-particles using adhesive ciliated surfaces: Mimicing the behaviour of suspension feeders Anurag Tripathi , Amitabh Bhattacharya , Anna Balazs
9:48AM - 10:00AM	Y34.00008: Stiffness Dependent Separation of Cells in a Microfluidic Device Todd Sulchek , Gonghao Wang , Wenbin Mao , Alexander Alexeev
10:00AM - 10:12AM	Y34.00009: Process development for perfectly concentric droplets-within-droplets and uniform-walled shells Greg Randall , Brent Blue
10:12AM - 10:24AM	Y34.00010: Optical Nanodozers: A New Tool for Probing Single-Molecule Conformation and Confinement Free Energy in Cavities of Adjustable Nanoscale Dimension Ahmed Khorshid , Walter Reisner
10:24AM - 10:36AM	Y34.00011: DNA in Nanochannels: A Multistage Free Energy Perturbation Approach Yanwei Wang , Douglas R. Tree , Kevin D. Dorfman
10:36AM - 10:48AM	Y34.00012: Molecular Dynamics Study of Polymer Separation Using a Nanofluidic Staircase Frederick Phelan Jr. , Christopher Forrey
10:48AM - 11:00AM	Y34.00013: Measuring the confinement free energy of DNA in nanofluidic cavities Alexander Klotz , Walter Reisner

Session Y42. **Focus Session: Single Molecule Studies of Nucleotides and Nanomachines**

Sponsoring Units: DBIO
Chair: Keir Neuman, NIH
Room: Hilton Baltimore Holiday Ballroom 3

8:00AM - 8:12AM	Y42.00001: Length selective accumulation of oligonucleotides in thermal gradients Moritz Kreysing , Simon Lanzmich , Dieter Braun
8:12AM - 8:24AM	Y42.00002: Reconstructing kinetic pathways from single-molecule FRET experiments using Bayesian inference Jan-Willem van de Meent , Ruben L. Gonzalez, Jr. , Chris H. Wiggins
8:24AM - 8:36AM	Y42.00003: Single Molecule Measurements Using Correlation Force Spectroscopy Milad Radiom , Brian Robbins , John Walz , Mark Paul , William Ducker
8:36AM - 9:12AM	Y42.00004: A kinetic clutch governs uncoiling by type IB topoisomerases Invited Speaker: Keir Neuman
9:12AM - 9:24AM	Y42.00005: Stretch Moduli of Ribonucleotide Embedded Short DNAs Hsiang-Chih Chiu , Kyung Duk Koh , Elisa Riedo , Francesca Storici
9:24AM - 9:36AM	Y42.00006: Optical tweezers reveal a dynamic mechanical response of cationic peptide-DNA complexes Amy Lee , Tai Zheng , Sarah Sucayan , Szu-Ting Chou , Lucas Tricoli , Jason Hustedt , Jason Kahn , A. James Mixson , Joonil Seog
9:36AM - 9:48AM	Y42.00007: The interplay between single-stranded binding proteins on RNA secondary structure Yi-Hsuan Lin , Ralf Bundschuh
9:48AM - 10:24AM	Y42.00008: Mechanostability of Proteins and Virus Capsids Invited Speaker: Marek Cieplak
10:24AM - 10:36AM	Y42.00009: Nanomechanical Response of \textit{Pseudomonas aeruginosa} PAO1 Bacterial Cells to Cationic Antimicrobial Peptides Shun Lu , Grant Walters , John Dutcher
10:36AM - 10:48AM	Y42.00010: Ion Discrimination by Nanoscale Design Susan Rempe , David Rogers
10:48AM - 11:00AM	Y42.00011: Extracting Models in Single Molecule Experiments Steve Presse

Session Y44. **Focus Session: Novel Experimental Techniques for Probing Cellular Mechanics**

Sponsoring Units: DBIO
Chair: Cristian Staii, Tufts
Room: Hilton Baltimore Holiday Ballroom 1

8:00AM - 8:36AM	Y44.00001: Mechanosensitivity in axon growth and guidance Invited Speaker: Jeff Urbach
8:36AM - 8:48AM	Y44.00002: Electrophysiology of Axonal Constrictions Christopher Johnson , Peter Jung , Anthony Brown
8:48AM - 9:00AM	Y44.00003: Role of biomechanical cues on neuronal growth on asymmetric textured surfaces Cristian Staii , Elise Spedden , Timothy Atherton , Koray Sekeroglu , Melik Demirel
9:00AM - 9:12AM	Y44.00004: The formation of axonal caliber and nodes of Ranvier Yinyun Li , Peter Jung , Anthony Brown
9:12AM - 9:24AM	Y44.00005: Studying neuronal biomechanics and its role in CNS development Kristian Franze , Hanno Svoboda , Luciano da F. Costa , Jochen Guck , Christine Holt
9:24AM - 9:36AM	Y44.00006: Contact nanomechanical measurements with the AFM Nicholas Geisse
9:36AM - 10:12AM	Y44.00007: Quantitative nano-mechanics of biological cells with AFM Invited Speaker: Igor Sokolov
10:12AM - 10:24AM	Y44.00008: Tracking Cytoskeletal Dynamics in Living Neurons via Combined Atomic Force and Fluorescence Microscopy Elise Spedden , David Kaplan , Cristian Staii
10:24AM - 10:36AM	Y44.00009: Atomic Force Microscopy Based Cell Shape Index Usienemfon Adia-Nimuwa , Volkan Mujdat Tiryaki , Steven Hartz , Kan Xie , Virginia Ayres
10:36AM - 10:48AM	Y44.00010: Response of Quiescent Cerebral Cortical Astrocytes to Nanofibrillar Scaffold Properties Virginia Ayres , Volkan Mujdat Tiryaki , Kan Xie , Ijaz Ahmed , David I. Shreiber

Session Y46. **Focus Session: Physics of Proteins III**

Sponsoring Units: DBIO DPOLY
Chair: Corey O'Hern, Yale University
Room: *Hilton Baltimore Holiday Ballroom 5*

8:00AM - 8:12AM	Y46.00001: Copper Chelation in Alzheimer's Disease Protein Frisco Rose , Miroslav Hodak , Jerry Bernholc
8:12AM - 8:24AM	Y46.00002: Low resolution structures of cold, warm, and chemically denatured cytochrome-c via SAXS Christopher Asta , Anthony Banks , Margaret Elmer , Trevor GrandPre , Eric Landahl
8:24AM - 9:00AM	Y46.00003: Structural dynamics of membrane proteins - time-resolved and surface-enhanced IR spectroscopy Invited Speaker: Joachim Heberle
9:00AM - 9:12AM	Y46.00004: Multistage Enzymatic Pathways of the Copper-containing Nitrite Reductase (CuNiR) Yan Li , Miroslav Hodak , Jerry Bernholc
9:12AM - 9:24AM	Y46.00005: Single molecule processivity and dynamics of cAMP-dependent protein kinase (PKA) Patrick C. Sims , Yongki Choi , Chengjun Dong , Issa S. Moody , Mariam Iftikhar , O. Tolga Gul , Gregory A. Weiss , Philip G. Collins
9:24AM - 9:36AM	Y46.00006: The ribosome as an optimal decoder: a lesson in molecular recognition Tsvi Tlusty , Yonatan Savir
9:36AM - 9:48AM	Y46.00007: A Bayesian Statistical Approach for Improving Scoring Functions for Protein-Ligand Interactions Sam Z Grinter , Xiaoqin Zou
9:48AM - 10:00AM	Y46.00008: Refinement and Selection of Near-native Protein Structures Jiong Zhang , Jingfen Zhang , Yi Shang , Dong Xu , Ioan Kosztin
10:00AM - 10:12AM	Y46.00009: Effect of solvent on the structure of a protein (H3.1) with a coarse-grained model with knowledge-based interactions Ras Pandey , Barry Farmer
10:12AM - 10:24AM	Y46.00010: Diffusion and internal dynamics of proteins in crowded solutions Felix Roosen-Runge , Marcus Hennig , Tilo Seydel , Fajun Zhang , Frank Schreiber
10:24AM - 10:36AM	Y46.00011: Diffusion of molecular oxygen in the red fluorescent protein mCherry Chola Regmi , Yuba Bhandari , Bernard Gerstman , Prem Chapagain
10:36AM - 10:48AM	Y46.00012: New insights into the picosecond dynamics solvated proteins Nguyen Vinh , Jim Allen , Kevin Plaxco

Session Z2. **Invited Session: Jamming and Rheology of Disordered Systems**

Sponsoring Units: DCMP GSNP
Chair: Bulbul Chakraborty, Brandeis University
Room: Ballroom II

11:15AM - 11:51AM	Z2.00001: Impact-activated solidification of dense suspensions Invited Speaker: Scott Waitukaitis
11:51AM - 12:27PM	Z2.00002: Dilatancy and shear thickening of particle suspensions Invited Speaker: Daniel Bonn
12:27PM - 1:03PM	Z2.00003: Simulations of shear-induced jamming in athermal particulate systems Invited Speaker: Corey O'Hern
1:03PM - 1:39PM	Z2.00004: Dilatancy and Diffusion in Sheared Granular Materials Invited Speaker: Joshua Dijksman
1:39PM - 2:15PM	Z2.00005: Rigidity of Dry Granular Solids Invited Speaker: Dapeng Bi

Session Z10 **Invited Session: Elastic Instabilities and Pattern Formation in Structureless Solids**

Sponsoring Units: DFD DPOLY
Chair: Benny Davidovitch, University of Massachusetts Amherst
Room: 309

11:15AM - 11:51AM	Z10.00001: Coarsening of patterns from scale free instabilities in soft solids Invited Speaker: Evan Hohlfeld
11:51AM - 12:27PM	Z10.00002: Instabilities in axisymmetrically constrained sheets Invited Speaker: Jose Bico
12:27PM - 1:03PM	Z10.00003: The generation of stress-focusing features in confined elastic sheets Invited Speaker: Robert Schroll
1:03PM - 1:39PM	Z10.00004: Compression-triggered instabilities of multi-layer systems: From thin elastic membranes to lipid bilayers on flexible substrates Invited Speaker: Howard A. Stone
1:39PM - 2:15PM	Z10.00005: Electromechanical instability in soft materials: Theory, experiments and applications Invited Speaker: Zhigang Suo

Session Z11. **Invited Session: Nonlinear Mechanics of Glassy Polymers**

Sponsoring Units: DPOLY
Chair: Robert Hoy, University of South Florida
Room: 310

11:15AM - 11:51AM	Z11.00001: Rate- and Temperature-Dependent Softening in Polymer Glasses Invited Speaker: Leon Govaert
11:51AM - 12:27PM	Z11.00002: How deformation enhances mobility in a polymer glass Invited Speaker: Daniel Lacks
12:27PM - 1:03PM	Z11.00003: Can intrachain contributions dominate the stress response of polymer glasses under large deformation? Invited Speaker: Shi-Qing Wang
1:03PM - 1:39PM	Z11.00004: A Simple Model for Yielding and Strain Hardening in Glassy Polymers Invited Speaker: Ron Larson
1:39PM - 2:15PM	Z11.00005: Impact-Induced Glass Transition in Elastomeric Coatings Invited Speaker: C.M. Roland

Session Z31. **New Computational Methods in Polymer & Soft Matter Physics**

Sponsoring Units: DPOLY
Chair: Gary Leuty, The University of Akron
Room: 339

11:15AM - 11:27AM	Z31.00001: Simulations of Coarse Grain Entangled Polymeric Systems: From Thermodynamics to Rheology Abelardo Ramirez-Hernandez , Juan De Pablo
11:27AM - 11:39AM	Z31.00002: Model for the shear viscosity of suspensions of star polymers and other soft particles Carlos Mendoza
11:39AM - 11:51AM	Z31.00003: Systematic and Simulation-Free Coarse-Graining of Polymer Melts using Soft Potentials Delian Yang , Qiang Wang
11:51AM - 12:03PM	Z31.00004: Solvent Entropy in and Coarse-Graining of Polymer Lattice Models Qiang Wang , Pengfei Zhang
12:03PM - 12:15PM	Z31.00005: Recent developments in the VOTCA package for coarse-graining Christoph Junghans
12:15PM - 12:27PM	Z31.00006: Coarse-graining of Polystyrene in Various Environments by Iterative Boltzmann Inversion Roland Faller , Beste Bayramoglu
12:27PM - 12:39PM	Z31.00007: Complex Langevin Simulation of the Coherent States Formulation of Polymer Field Theory Xingkun Man , Kris Delaney , Henri Orland , Glenn Fredrickson
12:39PM - 12:51PM	Z31.00008: Using adaptive-mesh refinement in SCFT simulations of surfactant adsorption Scott Sides , Rajeev Kumar , Ben Jamroz , Robert Crockett , Alex Pletzer
12:51PM - 1:03PM	Z31.00009: Extension of the SCF theory to calculate generalized correlation functions Panagiotis Maniadis
1:03PM - 1:15PM	Z31.00010: Embedding methods: application and development Jin Cheng , Florian Libisch , Emily Carter
1:15PM - 1:27PM	Z31.00011: Ion distributions near dielectric interfaces from Car-Parrinello molecular dynamics Vikram Jadhao , Francisco Solis , Monica Olvera de la Cruz
1:27PM - 1:39PM	Z31.00012: Monte Carlo approaches for a particle at a diffusivity interface and the ``Ito-Stratonovich dilemma" Mykyta V. Chubynsky , Hendrick W. de Haan , Gary W. Slater
1:39PM - 1:51PM	Z31.00013: Application of atomic-orbital projections to the study of the electronic properties of metal-organic frameworks Luis Agapito , Arrigo Calzolari , Andrea Ferretti , Marco Nardelli
1:51PM - 2:03PM	Z31.00014: HipGISAXS: A Massively Parallel Code for GISAXS Simulation Slim Chourou , Abhinav Sarje , Xiaoye Li , Elaine Chan , Alexander Hexemer

Session Z32. **Micro/Nanofluidics II**

Sponsoring Units: DFD
Chair: German Drazer, Rutgers University
Room: 340

11:15AM - 11:27AM	Z32.00001: Electro-coflow as a means to study whipping instabilities in electrified liquid jets Josefa Guerrero Millan , Venkat Gundabala , Alberto Fernandez-Nieves
11:27AM - 11:39AM	Z32.00002: Do electroviscous effects impact the hydraulic conductance of xylem? A theoretical inquiry Michael Santiago , Vinay Pagay , Abraham Stroock
11:39AM - 11:51AM	Z32.00003: Microfluidic route to generation of celloidosomes Venkata Gundabala , Sergio Martinez-Escobar , Samantha Marquez , Manuel Marquez , Alberto Fernandez-Nieves
11:51AM - 12:03PM	Z32.00004: Dynamics assembly of magnetic microparticles suspended in moving droplets under the influence of magnetic fields Helmut Strey , Eric Brouzes , Travis Kruse
12:03PM - 12:15PM	Z32.00005: Droplet pairing and coalescence control for generation of combinatorial signals Eujin Um , Matthew Rogers , Howard Stone
12:15PM - 12:27PM	Z32.00006: Microfluidic Printing and Ablation of Metallic Films by Modulated Capillary and Maxwell Stresses Gerry Della Rocca , Sandra Troian

Session Z33. **Focus Session: Organic Electronics and Photonics - Morphology and Structure II**

Sponsoring Units: DPOLY
Room: 341

11:15AM - 11:27AM	Z33.00001: Correlating polymer solution conformation and thin film nanostructure: Implications for BHJ processing Rajeev Dattani , Alisyn Nedoma , Natalie Stingelin , Jenny Nelson , Joao Cabral
11:27AM - 11:39AM	Z33.00002: Chemical Effects in Solution on the Formation of Film Morphology in Bulk Heterojunction Organic Solar Cells Jong Kuk Koh , Won Tae Choi , Kookheon Char
11:39AM - 11:51AM	Z33.00003: Effect of solvent annealing on phase separation of donor/acceptor species in organic mixtures Miriam Cezza , Qian Shao , Shy-Hauh Guo , Raymond J. Phaneuf
11:51AM - 12:03PM	Z33.00004: Precise Structural Development and its Correlation to Function in Conjugated Polymer: Fullerene Thin Films by Controlled Solvent Annealing Huipeng Chen , Sheng Hu , Huidong Zang , Bin Hu , Mark Dadmun
12:03PM - 12:15PM	Z33.00005: Controlling donor/acceptor interface structure by processing solvents in organic solar cells Wei Ma , Long Ye , Gann Eliot , Jianhui Hou , Harald Ade
12:15PM - 12:27PM	Z33.00006: A comparative study of the morphology of flow and spin coated P3HT:PCBM films Jose Chapa , Alamgir Karim
12:27PM - 12:39PM	Z33.00007: Microstructure of self-assembled all-conjugated donor-acceptor block copolymers for organic solar cells Michael Brady , Sung-Yu Ku , Justin Cochran , Craig Hawker , Edward Kramer , Michael Chabinyc
12:39PM - 12:51PM	Z33.00008: Controlled Domain Swelling for Block Copolymer-Based Solar Cells Alisyn Nedoma , Rajeev Dattani , James Bannock , Paul Westacott , Joao Cabral
12:51PM - 1:03PM	Z33.00009: Observation the Nanoscale Blending Morphology of P3HT:PCBM Bulk-Heterojunction by Energy-Filtered TEM and Contrast Transfer Function. Nopporn Rujisamphan , Ismat Shah
1:03PM - 1:15PM	Z33.00010: Cross-sectional nanoscale morphology and interfacial band alignment of phase-separated polymer/fullerene by scanning tunneling microscopy and spectroscopy M.C. Shih , Y.P. Chiu , B.C. Huang , C.C. Lin , S.S. Li , C.S. Chang , C.W. Chen
1:15PM - 1:27PM	Z33.00011: Enhanced Photocurrent in a Photovoltaic Cell involving a Nonconjugated Conductive Polymer, Poly($\beta $-pinene) M. Sangal , G. Telang , M. Thakur
1:27PM - 1:39PM	Z33.00012: Molecular Imaging of Ultrathin Pentacene Films: Evidence for Homoepitaxy Yanfei Wu , Greg Haugstad , C. Daniel Frisbie
1:39PM - 1:51PM	Z33.00013: Understanding the growth of nanoscale organic semiconductors: the role of substrates Mina Yoon , Kai Xiao , Kendal W. Clark , An-Ping Li , David Geohegan , Bobby Sumpter , Sean Smith
1:51PM - 2:03PM	Z33.00014: Temperature Dependent Anisotropic Step-Flow Growth of Metal Phthalocyanine on Silicon Studied by Scanning Probe Microscopy Sean Wagner , Richard Lunt , Pengpeng Zhang
2:03PM - 2:15PM	Z33.00015: Adsorption structure analysis of co-adsorption dye-sensitized solar cells by the NEXAFS and XPS Mitsunori Honda , Masatoshi Yanagida , Liyuan Han

Session Z34. **Polymeric Glasses**

Sponsoring Units: DPOLY
Chair: Yunlong Guo, Princeton University
Room: 342

11:15AM - 11:27AM	Z34.00001: Nanostructured glassy polymer films deposited via matrix assisted pulsed laser evaporation Kimberly Shepard , Rodney Priestley
11:27AM - 11:39AM	Z34.00002: Acid Diffusion in a Reacting Polymer Glass Abhijit Patil , Ginusha Perera , Yogendra Pandey , Manolis Doxastakis , Gila Stein
11:39AM - 11:51AM	Z34.00003: Effect of Hydrogenation on the Glass Transition Temperatures of Novel Ring-Opened Polynorbornenes Adam Burns , Sheng Li , Richard Register
11:51AM - 12:03PM	Z34.00004: Observing density-dependent formation of a fragile glass in surface-bound molecular chains L.I. Clarke , M.P. Roman , D.R. Stevens , M.C. Scott , J.R. Bochinski
12:03PM - 12:15PM	Z34.00005: States of Water in Non-Equilibrium Glassy Polymers Eric Davis , Yossef Elabd
12:15PM - 12:27PM	Z34.00006: Role of quantum effects in the glass transition Vladimir Novikov , Alexei Sokolov
12:27PM - 12:39PM	Z34.00007: Potential energy landscape contribution to the dynamic heat capacity John McCoy , Jonathan Brown
12:39PM - 12:51PM	Z34.00008: Coarse grained dynamics in the glass phase Anton Smessaert , J\"org Rottler
12:51PM - 1:03PM	Z34.00009: Dynamic Deformation of Thermosetting Polymers---All Atomistic Simulations Mesfin Tsige , Natalia Shenogina , Sharmila Mukhopadhyay , Soumya Patnaik
1:03PM - 1:15PM	Z34.00010: How melt stretching affect the brittle-ductile transition temperature of polymer glasses Shiwang Cheng , Shi-Qing Wang
1:15PM - 1:27PM	Z34.00011: Influence of entanglements on glass transition temperature of polystyrene Toshiaki Ougizawa , Yoshinori Kinugasa
1:27PM - 1:39PM	Z34.00012: Translation-rotation decoupling and nonexponentiality in room temperature ionic liquids Philip Griffin , Alexander Agapov , Alexei Sokolov
1:39PM - 1:51PM	Z34.00013: Statistical Properties of Fluctuating Local Phases and Fluctuating Local Relaxation Rates in Glass-forming Liquids Gcina Mavimbela , Horacio E. Castillo , Azita Parsaeian
1:51PM - 2:03PM	Z34.00014: The Defect Diffusion Model of Glass-Forming Liquids John Fontanella , John Bendler , Mary Wintersgill , Michael Shlesinger
2:03PM - 2:15PM	Z34.00015: Phase behaviour of a 2D system exhibiting inverse melting Ahmad Almudallal , Sergey Buldyrev , Ivan Saika-Voivod

Session Z42. **Focus Session: Single Molecule Studies of Protein Nanomachines**

Sponsoring Units: DBIO
Chair: Jing Xu, University of California, Merced
Room: Hilton Baltimore Holiday Ballroom 3

11:15AM - 11:51AM	Z42.00001: Casein Kinase 2 Reverses Tail-Independent Inactivation of Kinesin-1 Invited Speaker: Jing Xu
11:51AM - 12:03PM	Z42.00002: Investigation of the kinesin stepping mechanism via simulated annealing B.D. Jacobson , S.J. Koch , S.R. Atlas
12:03PM - 12:15PM	Z42.00003: The Role of Secondary Structure on the Mechanical Properties of Titin Ravi Kappiyoor , Daniel Dudek , Ishwar Puri
12:15PM - 12:27PM	Z42.00004: Revealing Transient Interactions between Phosphatidylinositol-specific Phospholipase C and Phosphatidylcholine--Rich Lipid Vesicles Boqian Yang , Tao He , C\'edric Grauffel , Nathalie Reuter , Mary Roberts , Anne Gershenson
12:27PM - 1:03PM	Z42.00005: Single-Molecule Discrimination within Dendritic Spines of Discrete Perisynaptic Sites of Actin Filament Assembly Driving Postsynaptic Reorganization Invited Speaker: Thomas A. Blanpied
1:03PM - 1:15PM	Z42.00006: Solvated dissipative electro-elastic network model of hydrated proteins Daniel Martin
1:15PM - 1:27PM	Z42.00007: Single Molecule Electron Paramagnetic Resonance Richelle M. Teeling-Smith , Ezekiel Johnston-Halperin , Michael G. Poirier , P. Chris Hammel
1:27PM - 1:39PM	Z42.00008: Turning a Single Molecule into an Electric Motor Charles Sykes
1:39PM - 1:51PM	Z42.00009: Characterization of cellular traction forces at the single-molecule level Alexander Dunn

Session Z44. **Focus Session: Cell Mechanics III**

Sponsoring Units: DBIO
Chair: Eric Dufresne, Yale University
Room: Hilton Baltimore Holiday Ballroom 1

11:15AM - 11:27AM	Z44.00001: Energy barriers for cellular rearrangements in tissues Dapeng Bi , J.H. Lopez , J.M. Schwarz , M. Lisa Manning
11:27AM - 11:39AM	Z44.00002: Motion of individual and coupled amoebae during collective migration Chenlu Wang , Meghan Driscoll , Sagar Chowdhury , Satyandra K. Gupta , Carole Parent , Wolfgang Losert
11:39AM - 11:51AM	Z44.00003: Cellular Particle Dynamics simulation of biomechanical relaxation processes of multi-cellular systems Matthew McCune , Ioan Kosztin
11:51AM - 12:03PM	Z44.00004: Effects of TNF-alpha on Endothelial Cell Collective Migration Desu Chen , Di Wu , Jose Helim Aranda-Espinoza , Wolfgang Losert
12:03PM - 12:15PM	Z44.00005: Collective Motility of Migrating Cell Layers Kazage J. Christophe Utuje , Shiladitya Banerjee , M. Cristina Marchetti
12:15PM - 12:27PM	Z44.00006: Mitotic wavefronts mediated by mechanical signaling in early Drosophila embryos Louis Kang , Timon Idema , Andrea Liu , Tom Lubensky
12:27PM - 1:03PM	Z44.00007: Cells as Drops and Drops as Cells Invited Speaker: Eric R. Dufresne
1:03PM - 1:15PM	Z44.00008: Control Parameter Description of Eukaryotic Chemotaxis Eberhard Bodenschatz , Gabriel Amselem , Albert Bae , Mathias Theves , Carsten Beta
1:15PM - 1:27PM	Z44.00009: Mathematical Modeling of Bacterial Growth Samina Masood
1:27PM - 1:39PM	Z44.00010: Measuring the correlation between cell mechanics and myofibroblastic differentiation during maturation of 3D microtissues Ruogang Zhao , Weigang Wang , Thomas Boudou , Christopher Chen , Daniel Reich
1:39PM - 1:51PM	Z44.00011: Effects of Polymer Surfaces on Proliferation and Differentiation of Embryonic Stem Cells and Bone Marrow Stem Cells Sisi Qin , Wenbin Liao , Yupo Ma , Marcia Simon , Miriam Rafailovich
1:51PM - 2:03PM	Z44.00012: An Elastic Model of Blebbing in Nuclear Lamin Meshworks Chloe Funkhouser , Rastko Sknepnek , Takeshi Shimi , Anne Goldman , Robert Goldman , Monica Olvera de la Cruz
2:03PM - 2:15PM	Z44.00013: The actin cytoskeleton of chemotactic amoebae operates close to the onset of oscillations Christian Westendorf , Jose Negrete Jr. , Albert Bae , Rabea Sandmann , Eberhard Bodenschatz , Carsten Beta

SPECIAL DPOLY EVENTS

DPOLY Reception:
5:30 PM, Sunday, March 17, 2013
Pratt Street Ale House
206 W. Pratt Street Phone: 410-244-8900

This DPOLY reception recognizes **Stephen Cheng** (recipient of the 2013 Polymer Physics Prize) and **Mahesh Mahanthappa** (recipient of the 2013 Dillon Medal).

DPOLY Business Meeting
5:45 PM, Tuesday, March 19, 2013
Baltimore Convention Center
Room 310

Polymer Physics Prize Symposium:
8:00 AM, Tuesday, March 19, 2013
Baltimore Convention Center
Room 310
Stephen Z. D. Cheng
Polymer Physics Prize Lecture: *Self-assemblies of Giant Molecular Shape Amphiphiles as a New Platform for Engineering Structures with Sub-Nanometer Feature Sizes*

Padden Award Symposium:
11:15 AM, Tuesday, March 19, 2013
Baltimore Convention Center
Room 339

Dillon Medal Symposium:
2:30 PM, Tuesday, March 19, 2013
Baltimore Convention Center
Room 310
Mahesh Mahanthappa
Dillon Medal Lecture: *Molecular Heterogeneity in Block Copolymer Self-Assembly*

American Physical Society
Division of Polymer Physics
One Physics Ellipse
College Park, MD 20740-3844