2005

DPOLY
Meeting Program

APS March Meeting
Los Angeles, CA
March 21-25, 2005

APS Division of Polymer Physics

DPOLY Short Course
Charged Polymers
Saturday March 19, 2005 - 8:00 am - 5:00 pm
Sunday March 20, 2005 - 8:00 am - 5:00 pm

Course Description

Hydrocarbon polymers of weakly interacting monomers exhibit unique and useful behavior due to topological connectivity. This behavior is well understood and models have been developed that guide scientists and engineers for a substantial array of applications. Polymers with charged groups are, in contrast, poorly understood and many fundamental challenges persist -- for example, the delineation of the structure of the macromolecule, how the charges are placed, whether or how the fixed charges are shielded and what interactions exist or can be made to occur with the charged macromolecule and an external chemical or physical stimulus. Although private industry devotes considerable resources to ion-containing polymers, the activity devoted to answering basic scientific questions is relatively small. For example, the development of lithium batteries and proton exchange membranes for fuel cells, which are national priorities, is effectively limited by the lack of suitable polymers. Similarly, many biomimetics or biomaterial applications, e.g., implantable glucose sensors, require novel, advanced ionic permselective membranes to develop this promising technology.

Who Should Attend

The course will be useful to scientists from academia or industry with broad interests in charged polymers. The instructors will assume a background of B.S. level training in physical science or engineering. If you are a student, post doc, faculty member or scientist working in industry dealing with charged polymers, proteins or biomaterials and you need to know how to characterize your system and avoid common pitfalls in understanding these complex materials then this course will be valuable to you.

Topics to be Covered

The course will begin with an overview of synthetic methods focusing on challenges of isolating and characterizing charged macromolecules. Examples of charged polymers discussed will include polyelectrolytes, ionomers, proteins, and their complexes. The course will also reference colloids and surfactants as posing comparable challenges in their physics and chemistry. Theory and simulation will be covered from fundamentals to state of the art. Experimental methods for determining properties of charged polymers in solution will be discussed including scattering, rheology, electrophoresis and size exclusion chromatography. Morphology and microscopy of membranes, complexes and tissue scaffolds will round out the course.

Planned Speakers

Thomas A. P. Seery (University of Connecticut); David Hoagland (University of Massachusetts, Amherst); Mark Stevens (Sandia National Laboratories); Darrin Pochan (University of Delaware); and others (TBD)

Registration fees

Registration fees: $400 ($200 for students) *You must pre-register for this course. There is no on-site registration.*

Organizer

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Special DPOLY events are listed on the inside back cover of this pamphlet.

Disclaimer: The information contained within this booklet is unofficial and is accurate as of 02/14/05. For all official information, please refer to the APS March Meeting Proceedings or the website (http://www.aps.org/meet/MAR05/baps/index.html)

SESSION A28. DPOLY: POLYMER SURFACES I

Monday morning, 08:00, LACC-506

Chair: Chang Yeol Ryu, Rensselaer Polytechnic

8:00 **A28.00001:** Surface Diffusion of Single Polymer Chain Using Molecular Dynamics Simulation
Tapan Desai, Pawel Keblinski, Sanat Kumar, Steve Granick

8:24 **A28.00003:** Wetting of Heterogeneous Surfaces by Polymer Nanodroplets
David R. Heine, Gary S. Grest, Edmund B. Webb III

8:48 **A28.00005:** Origin of surface ordered phase in poly(n-alkyl acrylates) above the bulk melting temperature (Tm)
Shishir Prasad, Laurie Hanne, Ali Dhinojwala

9:12 **A28.00007:** Measurement of Adhesion Energy and Young's Modulus in Thin Polymer Films Using a Novel Axi-symmetric Peel Test Geometry
Adam N. Raegen, Kari Dalnoki-Veress

9:36 **A28.00009:** Water adsorption and desorption from crystalline P(VDF-TrFE) copolymers
Jie Xiao, Luis Rosa, Peter Jacobson, Peter Dowben

10:00 **A28.00011:** Solvent-Assisted Formation of Nanostrand Networks of Supramolecular Diblock Copolymer-Surfactant Complexes at the Air-Water Interface
C. Geraldine Bazuin, Qing Lu

10:24 **A28.00013:** Quantitative measurement of adhesion of ink on plastic films with a Nano Indenter and a Scanning Probe Microscope
Weidian Shen, Bin Jiang

10:48 **A28.00015:** Confocal Raman-AFM, A New Tool for Materials Research
Ute Schmidt, Klaus Weishaupt, Wolfram Ibach, Matthias Kress, Olaf Hollricher

SESSION A29. DPOLY: CHARGED AND ION-CONTAINING POLYMERS I

Monday morning, 8:00AM, LACC-504

Chair: Andrey Dobrynin, University of Connecticut

8:00AM **A29.00001:** Complexation between flexible polyelectrolytes and oppositely charged particles
M. Muthukumar, C.Y. Kong, Abhijit Sarkar

8:12AM **A29.00002:** Solvent effects on the dynamics of polyelectrolyte chains near a charged wall: Molecular dynamics simulations with explicit solvent
Govardhan Reddy, Rakwoo Chang, Arun Yethiraj

8:24AM **A29.00003:** Self-Consistent Field Calculations of Polyelectrolytes on Flat Surfaces
Qiang Wang, Glenn Fredrickson

8:36AM **A29.00004:** Forces of Interaction between Polyelectrolyte Brushes in the Presence of Multivalent Ions and Cationic Surfactant
Matthew Tirrell, Feng Li, Akira Ishikubo

8:48AM **A29.00005:** Ion Sensors based on Polyelectrolyte Hydrogels
David Hoagland, Douglas W. Howie, Jr.

9:00AM **A29.00006:** Time Resolved Studies of Bundle Formation in Rod-Like Polyelectrolytes
John C. Butler, Tommy Angelini, Gerard C. L. Wong

9:12AM **A29.00007:** Computer Simulations of Aggregate Formation and Dynamics in Ionomers
Monojoy Goswami, Sanat Kumar, Gerassimos Orkoulas, Aniket Bhattacharya

9:24AM **A29.00008:** Langevin Dynamics Simulations of Counterion-mediated Complexation of Polyelectrolytes
Zhaoyang Ou, M. Muthukumar

9:36AM **A29.00009:** Ionic Conductivity at the Ordinary-Extraordinary Transition in Polyelectrolyte Solutions
Ryan Murphy, Murugappan Muthukumar

9:48AM **A29.00010:** Comments on Electrostatic Persistence Length
Andrey Dobrynin

10:00AM **A29.00011:** Influence of charge density and backbone rigidity on the structure and properties of polyelectrolyte solutions
S.I. Yun, Y.B. Melnichenko, G.D. Wignall, K. Hong, J. Mays, R.M. Briber

10:12AM **A29.00012:** Liquid structure of flexible polyelectrolyte solutions
James Donley, David Heine

10:24AM **A29.00013:** Solid-State NMR Investigations of a Perfluorinated Ionomer (Nafion)
Qiang Chen, Klaus Schmidt-Rohr

10:36AM **A29.00014:** Small Angle Neutron Scattering (SANS) Study of Perfluorinated Ionomer Membrane under In-situ Vapor Sorption
Man-Ho Kim, Charles J. Glinka

10:48AM **A29.00015:** Structure of highly rigid ionic polymers from single molecules to membranes
Lilin He, Dvora Perahia, Christopher J. Cornelius

SESSION A30. DPOLY: BLOCK COPOLYMERS I

Monday morning, 8:00AM, LACC-505

Chair: Eric Cochran, UCSB

8:00AM **A30.00001:** Long-Lived Metastable bcc Phase during Ordering of Micelles
Joona Bang, Timothy P. Lodge

8:12AM **A30.00002:** Kinetics of BCC-FCC Transition in SI Diblock Copolymer Micelles in a Selective Solvent
Rama Bansil, Yongsheng Liu, Huifen Nie, Milos Steinhart, Joona Bang, Timothy P. Lodge

8:24AM **A30.00003:** Evolution of disordered micelles to hexagonally packed cylinders in a diblock copolymer studied by X-ray Photon Correlation Spectroscopy
Amish Patel, Simon Mochrie, Suresh Narayanan, Alec Sandy, Nitash Balsara

8:36AM **A30.00004:** Twinning and Growth Kinetics of Lamellar Grains
Thomas Chastek, Timothy Lodge

8:48AM **A30.00005:** On elasticity of block-copolymer mesophases with glassy domains
Kirill Katsov, Glenn Fredrickson

9:00AM **A30.00006:** The Fddd Network Phase in Triblock and Diblock Copolymer Melts
Christopher Tyler, David Morse

9:12AM **A30.00007:** Order-disorder transition in 2-D sphere forming diblock copolymers
Leopoldo R. G\'{o}mez, Daniel A. Vega, Enrique M. Vall\'{e}s

9:24AM **A30.00008:** Determination of Order-Disorder Transition of Polystyrene-block-poly(n-pentyl methacrylate) Copolymer by Temperature-dependent FTIR Spectroscopy
Jin Kon Kim, Hye J. Kim, Young M. Jung, Seung B. Kim, Du Yeol Ryu, Kristopher Lavery, Thomas P. Russell

9:36AM **A30.00009:** Phase Behavior of Poly(styrene-b-isoprene) Diblock Copolymers Loaded with \gamma-Fe$_{2}$O$_{3}$ Nanoparticles
Moon Jeong Park, Jongnam Park, Taeghwan Hyeon, Kookheon Char

9:48AM **A30.00010:** Nanocellular formation of supercritical CO$_2$ in block copolymer thin films
Hideaki Yokoyama, Lei Li, Taichi Nemoto, Kenji Sugiyama

10:00AM **A30.00011:** Phase Transitions and Spatial Organization in Nanoparticle-Block Copolymer Mixtures
Jaeup Kim, Ben O'Shaughnessy

10:12AM **A30.00012:** Elastic Properties of Ordered Block Copolymer / Nanoparticle Composites
Russell Thompson, Kim Rasmussen, Turab Lookman

10:24AM **A30.00013:** On the influence of temperature and volume fraction on liquid crystalline block copolymer nanoscale architectures
Kishore Tenneti, Christopher Li, Yingfeng Tu, Xinhua Wan, Qu-Feng Zhou, Carlos Avila-Orta, Benjamin Hsiao

A30.00014: The Effect of Segregation Strength on Network Formation in ABC Triblocks
Thomas Epps, Joon Chatterjee, Frank Bates

A30.00015: Stability of Core-Shell-Cylinder Structure of Poly(styrene-b-1,3-cyclohexadiene) Diblock Copolymers
Ashoutosh Panday, Samuel Gido, Kunlun Hong, Jimmy Mays

A30.00016: LDOT Diblock Copolymers: Specific Interactions, Compressibility, and Fluctuations
Junhan Cho, Duyeol Ryu, Jin Kon Kim

SESSION B4. DPOLY: GLASSY POLYMERS

Monday morning, 11:15AM, LACC-515A

Chair: Alexei Sokolov, University of Akron

11:15AM **B4.00001:** The Distributions of Tg Values and Physical Aging across Thin and Ultrathin Polymer Films and within Polymer Nanocomposites
Invited Speaker: John M. Torkelson

11:51AM **B4.00002:** Mechanical heterogeneity in bulk, thin-film, and nanocomposite polymeric glasses
Invited Speaker: Juan de Pablo

12:27PM **B4.00003:** Kinetics and Thermodynamics of the Glass Transition: Kovacs and Kauzmann Revisited
Invited Speaker: Sindee Simon

1:03PM **B4.00004:** Continuum and Meso-scopic Models for the Nonlinear Relaxation Behavior of Glassy Polymers
Invited Speaker: James Caruthers

1:39PM **B4.00005:** Nanostructure in amorphous poly(n-alkylmethacrylate) melt from dynamic NMR and scattering
Invited Speaker: Hans Wolfgang Spiess

SESSION A31. DPOLY: MOLECULAR MOTION IN MISCIBLE BLENDS

Monday morning, 8:00AM, LACC-503

Chair: Sanat Kumar, Rensselaer Polytechnic Institute

8:00AM **A31.00001:** Dynamics in Miscible Blends: Recent Results and Open Questions
Invited Speaker: Juan Colmenero

8:36AM **A31.00002:** Component Dynamics in Miscible Blends of PEO and PMMA
Invited Speaker: Janna Maranas

9:12AM **A31.00003:** Modelling the Segmental Relaxation Time Distribution of Miscible Polymer Blends
Jane Lipson, Ralph Colby

9:24AM **A31.00004:** Miscible Polyisoprene/Polystyrene Blends: An Unusual Combination of Heterogeneous Segmental Dynamics and Homogeneous Diffusion
Yiyong He, Tom Lutz, Mark Ediger, Marinos Pitsikalis, Nikos Hadjichristidis, Ernst von Meerwall

9:36AM **A31.00005:** A molecular picture: How composition influences the dynamic and static properties in a polyolefin blend, as observed with molecular simulation
Andrew May, Janna Maranas

9:48AM **A31.00006:** Interdiffusion in a Polydisperse Polymer Blend
Anna C. Balazs, Victor V. Yashin

10:00AM **A31.00007:** A Molecular Dynamics Simulation Study of the Alpha- and Beta-Relaxation Processes in a Realistic Model Polymer
Dmitry Bedrov, Grant D. Smith

10:12AM **A31.00008:** Entropy Theory of Polymer Glass-Formation Revisted
Jack Douglas, Jacek Dudowicz, Karl Freed

10:24AM **A31.00009:** Correlation between static and dynamic heterogenities in polymer mixtures
Roland Faller, Florence Pon, Qi Sun

SESSION B28. DPOLY: POLYMER SURFACES II

Monday morning, 11:15AM, LACC-506

Chair: Steve Hudson, NIST

11:15AM **B28.00001:** Combined theoretical formulation of Energetic and Entropic driving forces of polymers towards surfaces and comparison with experiments
Venkat Minnikanti, Lynden Archer

11:27AM **B28.00002:** Formation and Properties of Molecular Loops at Polymeric Interfaces
J. Kevin Rice, Mark Dadmun, Brandon Farmer, Haining Ji, Jimmy Mays

11:39AM **B28.00003:** Interfacial Segregation Driven by Architectural Asymmetry in Blends of Branched and Linear Polymers
Jae S. Lee, Nam-heui Lee, Alexei P. Sokolov, Roderic P. Quirk, Mark D. Foster, Charles F. Majkrzak

11:51AM **B28.00004:** Effect of sequence distribution on copolymer interfacial activity
Michelle D. Lefebvre, Rachel L. McSwain, Christine M. Dettmer, Jonathan R. Davila, SonBinh T. Nguyen, Kenneth R. Shull, Chen Xu, Russell J. Composto

12:03PM **B28.00005:** Towards a Universal Profile for Polymer Brushes: Effect of Surface Heterogeneity on Brush Structure
S. Michael Kilbey, II, Peng Tian, Hiroshi Watanabe

12:15PM **B28.00006:** Computational Modeling of the Temperature-Induced Structural Changes of Tethered Poly(N-isopropylacrylamide)
John G. Curro, Sergio Mendez, John D. McCoy, Gabriel P. Lopez

12:27PM **B28.00007:** Random Copolymer Brushes on Silicon Carbide
William Gibson, Jeremy Jarl, Eric Botello, Elizabeth Covington, Phillip Hartnet, Deborah Koeck, David Donnelly, Heather Galloway, Suresh Murugesan, Gary Beall, Chad Booth, Patrick Cassidy

12:39PM **B28.00008:** Interface Roughness Correlations and Surface Fluctuations in Diblock Copolymer Brushes Synthesized by Atom Transfer Radical Polymerization
Mark D. Foster, Bulent Akgun, William J. Brittain, Jin Wang, Xuefa Li

12:51PM **B28.00009:** Nested self-similar wrinkling patterns in skins
Kirill Efimenko, Jan Genzer, Mindaugas Rackaitis, Evangelos Manias, Ashkan Vaziri, L. Mahadevan

1:03PM **B28.00010:** Interaction of Peo-Ppo-Peo Block Copolymer with Model Lipid Membranes
Guohui Wu, Jaroslaw Majewski, Canay Ege, Kristian Kjaer, Markus Weygand, Jyostana Lal, Ka Yee C. Lee

1:15PM **B28.00011:** Detection of a thin depletion region of water on an extended hydrophobic surface using x-ray reflectivity
Andrew Richter, Jason Van de Walker

1:27PM **B28.00012:** Structure and electrical property of DNA molecules immobilized on the patterned self-assembled monolayers
Yoichi Otsuka, Kaoru Ojima, Takuya Matsumoto, Hitoshi Tabata, Tomoji Kawai

1:39PM **B28.00013:** Liquid crystals alignments on heterogeneous surfaces
Jones Tsz-Kai Wan, Ophelia Tsui, Ping Sheng, Hoi-Sing Kwok

1:51PM **B28.00014:** Switchable Adhesion from Bicomponent Polymeric Brushes
Haris Retsos, Ganna Gorodyska, Anton Kiriy, Mandred Stamm, Costantino Creton

B28.00015: Correlation Between Interfacial Mositure Content and Adhesive Fracture Energy
Emmett O'Brien, Bryan Vogt, Christopher White

SESSION B29. DPOLY: CHARGED AND ION-CONTAINING POLYMERS II

Monday morning, 11:15AM, LACC-504

Chair: M. Muthukumar, Univ. of Massachusetts

11:15AM **B29.00001:** Brownian Dynamics Studies of Morphology and Dynamics of Associative Ionomers
Aniket Bhattacharya, Monojoy Goswami, Sanat K. Kumar

11:27AM **B29.00002:** Phase Behavior of Polyelectrolyte Solutions
Chi-lun Lee, M. Muthukumar

11:39AM **B29.00003:** Phase diagram of solution of oppositely charged polyelectrolytes
Rui Zhang, B. I. Shklovskii

11:51AM **B29.00004:** Influence of Neutralization on Amorphous-Phase Properties in Semicrystalline Ionomers
Katsuyuki Wakabayashi, Richard A. Register

12:03PM **B29.00005:** Toward Reconciliation of STEM and SAXS Data from Ionomers by Investigating Gold Nanoparticles
Nicholas Benetatos, Brian Smith, Paul Heiney, Karen Winey

12:15PM **B29.00006:** In-situ process for synthesis of monodispersed semiconducting nanoparticle in polyelectrolyte matrix
Vivek Maheshwari, Ravi Saraf

12:27PM **B29.00007:** Model for periodic pattern formation in salt precipitates during drop evaporation.
Vladimir A Belyi, M Muthukumar

12:39PM **B29.00008:** Pattern Formation in Drying Drops of Polyelectrolyte - Salt Solutions
Deniz Kaya, Vladimir A Belyi, M Muthukumar

12:51PM **B29.00009:** Counterion effect on rheology and morphology of polydimethylsiloxane ionomers
Claude Coehn, Ashish Batra, Hansoo Kim, Karen Winey

1:03PM **B29.00010:** Miscibility of Polystyrene and Lighted Sulfonated Polystyrene Blends
N.C. Zhou, W.R. Burghardt, R.J. Composto, K.I. Winey

1:15PM **B29.00011:** The behavior of multivalent ions in binary polyelectrolyte mixtures
Olena Zribi, Ramin Golestanian, Tannie Liverpool, Hee Kyung, Hyung S. Lee, Gerard C. L. Wong

1:27PM **B29.00012:** Molecular Dynamics Simulations of Polyelectrolyte Networks
De-Wei Yin, Juan J. de Pablo

1:39PM **B29.00013:** Test-charge theory for the planar electric double layer
Yoram Burak, David Andelman, Henri Orland

1:51PM **B29.00014:** Spin Lattice Relaxation as a Probe of Carrier Dynamics in Conducting Polymer Poly-3-methyl-thiophene
Gerard Gaidos, W.G. Clark, S.E. Brown, Reghu Menon

2:03PM **B29.00015:** Capillary Force Driven Nanoactuator
Gaurav Singh, Ravi Saraf

B29.00016: Diffusion of Labeled Polyelectrolytes in an Unlabeled Polyelectrolyte Matrix Solution
Paul Russo, Rongjuan Cong, Elena Temyanko

SESSION B30. DPOLY FIAP: ORGANIC FIELD EFFECT TRANSISTORS I

Monday morning, 11:15AM, LACC-505

Chair: George Malliaras, Cornell University

11:15AM **B30.00001:** Nonlinear charge injection in organic thin-film field effect transistors
Behrang Hamadani, Douglas Natelson

11:27AM **B30.00002:** Photocurrent Spectroscopy of Pentacene Thin Film Transistors
Mihaela Breban, Danilo Romero, Sergey Mezhenny, Vincet Ballorotto, Ellen Williams

11:39AM **B30.00003:** Photo-induced effects in Organic Field-Effect Transistors
Vitaly Podzorov, Michael Gershenson

11:51AM **B30.00004:** 2D Continuum Percolation in Single-Monolayer Pentacene Transistors
Byoung-Nam Park, Soonjoo Seo, Paul Evans

12:03PM **B30.00005:** Photoinduced Memory Effects in Polymer Field Effect transistors
K.S. Narayan, Soumya Dutta

12:15PM **B30.00006:** Correlating structure development to performance enhancement in organic semiconductor films
Eric Lin, Dean DeLongchamp, Sharadha Sambasivan, Daniel Fischer

12:27PM **B30.00007:** New Strategies for Thin Film Organic Transistors
Invited Speaker: Colin Nuckolls

1:03PM **B30.00008:** High Quality Organic Semiconductor Thin-film Transistors Printed on Plastic Substrates using Transfer Printing
Y. Shao, S.A. Solin, D.R. Hines, V.W. Ballarotto, E.D. Williams

1:15PM **B30.00009:** N-Type and Ambipolar Charge Transport in Polymer Field-Effect Transistors
Jana Zaumseil, Lay-Lay Chua, Peter K.H. Ho, Richard H. Friend, Henning Sirringhaus

1:27PM **B30.00010:** Water-Dispersible Polyaniline Electrodes for Thin-Film Transistors
Kwangseok Lee, Yueh-Lin Loo, Graciela Blanchet, Feng Gao

B30.00011: One-Dimensional Transport in Polymer Nanofibers
Y.W. Park, A.N. Aleshin, H.J. Lee, K. Akagi

SESSION C1. DPOLY: POSTER SESSION I

Monday afternoon, 2:00PM, LACC-Exhibit Hall

C1.00129 NEXAFS Determinations of ``Skin" Orientation of Injection-Molded Thermotropic Liquid Crystalline Copolyesters
Robert Bubeck, Lowell Thomas, Stanley Rendon, Wesley Burghardt, Alexander Hexemer, Daniel Fischer

C1.00130 Self-assembly in conjugated diblock copolymer in melt
Myungae Lee, David Cookson, Binhua Lin, Mati Meron, Tananori Koga, Hengbin Wang, Luping Yu

C1.00131 Thermotropic Side Chain Liquid Crystalline Polypeptides
Kathleen Schaefer, Edward Kramer, Patrick Keller, Timothy Deming

C1.00132 The Phase Transition Behavior of Side Chain Liquid Crystalline Polymers Containing Sulfone Group
Daewon Lee, Jong-Chan Lee, Kookheon Char

C1.00133 Transition of Hexagonal to Lamellar Packing in a Discotic Liquid Crystal
Chenchen Xue, Faysal Ilhan, Shi Ji, Stephen Z .D. Cheng, Michael A. Meador, Mary Ann. B. Meador, R. K. Eby

C1.00134 Control of Anchoring of Nematic Fluids at Polymer Interfaces and Switchable Diffraction Devices
Jian Zhou, David Collard, Jung Park, Mohan Srinivasarao

C1.00135 Synthesis through Continuous-Wave Plasma of High Quantum Efficiency Light-Emitting Polymers from 1-Naphthaldehyde
Arnold Yang, Chun-Chih Chang, Yi-Hsing Chang, Ling-Yu Cheng, Kuo Chu Hwang, Cheng-Hsuan Lai

C1.00136 High Refractive Index Poly(thiophene) for 3-D Organic Photonic Crystals
Matthew Graham, Stephen Cheng, Shi Jin, Timothy Bunning

C1.00137 Electrospun liquid silk from the gland of Bombyx mori silk/ Green Fluorescent Proteins (GFP)/ poly(ethylene oxide)
Sirina Putthanarat, Woraphon Kataphinan, Ron Eby, Darrell Reneker, Sharon Jones, Rajesh Naik, Barry Farmer

C1.00138 Phase coherence upon heating in diblock copolymer films
Junhan Cho, Kwanwoo Shin, Kwang Soo Cho, Young-Soo Seo, Sushil K. Satija

C1.00139 Electric Field induced alignment and morphological transitions of triblock copolymers.
Akinbode Isaacs-Sodeye, Shujun Chen, Samuel Gido

C1.00140 Investigation of the Unique Phase Behavior of Amphiphilic Triblock Copolymers (PAA-PMA-PS) in Solvent-Nonsolvent Mixtures
Kelly Hales, Honggang Cui, Darrin Pochan, Zhiyun Chen, Qai Ki, Karen Wooley

C1.00141 Phase behaviour of a diblock copolymer melt under cylindrical confinement
Weihua Li, Robert Wickham

C1.00142 The Influence of Polydispersity on the Thermodynamics of Diblock Copolymers
Nathaniel Lynd, Marc Hillmyer

C1.00143 Phase ordering mechanism of triblock copolymers. A dynamic density functional study
Jianfeng Xia, Feng Qiu, Hongdong Zhang, Yuliang Yang

C1.00144 A TEM, SFM and GISAXS investigation of the ordering behavior of a cylinder forming block copolymer
V. Khanna, G.E. Stein, A. Hexemer, E.J. Kramer, X. Li, J. Wang, S.H. Hahn

C1.00145 Graphoepitaxy of Block Copolymer as a Route to Patterning Macroscopic Length Scales with a Single Long-Range Grain Orientation
G.E. Stein, H. Cota, A. Hexemer, E.J. Kramer

C1.00146 Effect of Chemical Oxidation on the Self-Assembly of Organometallic Block Copolymers
Hany Eitouni, Nitash Balsara

C1.00147 Toroid formation by the co-assembly of charged triblock copolymers with divalent organic counterions
Honggang Cui, Kelly Hales, Darrin Pochan, Zhiyun Chen, Qi Kai, Karen Wooley

C1.00148 Solution Characterization of pH-Sensitive Polypeptide Based Block Copolymer Assemblies
Kay Gebhardt, Daniel Savin, Manikandan Jayaraman, Jean Frechet

C1.00149 Catalysts from Self-Assembled Organometallic Block Copolymers
David Durkee, Mark Ellsworth, Nitash Balsara

C1.00150 Graphoepitaxy of triblock and diblock copolymer blend thin films.
K.E. Sohn, G.E. Stein, E.J. Kramer

C1.00151 Morphological Transitions in a Triblock Copolymer and Its Sulfonated Ionomer: Thermal Annealing and Solvent Effects
Shujun Chen, Samuel P. Gido

C1.00152 The Order-to-Disorder Transition of A Symmetric Polystyrene-block-Poly(2-vinyl pyridine) Copolymers with various amounts of Cadnium Chloride
Dong Hyun Lee, Du Yeol Ryu, Jin Kon Kim

C1.00153 Solvent Annealing Block Copolymer Thin Films of Poly(isoprene-b-lactide)
Kevin Cavicchi, Thomas Russell

C1.00154 Phase Behavior of Amphiphilic Block Copolymers in Supercritical Carbon Dioxide
William Edmonds, Timothy Lodge, Marc Hillmyer

C1.00155 Combinatorial Investigation of Crazes in Polymer Nanocomposites
Jong-Young Lee, Alfred Crosby

C1.00156 3-Dimensional Imaging of Evolving Block Copolymer Microstructure using Laser Scanning Confocal Microscopy
Wonmok Lee, Jongseung Yoon, Hyunjung Lee, Edwin L. Thomas

C1.00157 Baroplastic Block copolymers
Sheldon A. Hewlett, Juan A. Gonzalez Leon, Jeffrey A. Borowitz, Anne M. Mayes

C1.00158 Phase behavior of cross-linked block copolymers
Hyeok Hahn, Enrique Gomez, Jayajit Das, Arup Chakraborty, Nitash Balsara, Mark Ellsworth

C1.00159 The effect of temperature gradient on block copolymer thin film under non-neutral surface condition: simulation and experiment
June Huh, Won Ho Jo, Hui Joon Jung, Cheolmin Park

C1.00160 Compositional and monomer sequence distribution analysis of monodisperse brominated-polystyrenes using interaction chromatography
Junwon Han, Chang Yeol Ryu, James J. Semler, Jan Genzer

C1.00161 Templated growth of sub-20nm GaN nanostructures using Block Copolymer Lithography
Kasiraman Krishnan, Azar Alizadeh, Christopher Keimel, Seth Taylor, Steven Leboeuf, Suryaprakash Ganti

C1.00162 Prediction and characterization of biodegradable baroplastics with low temperature processability
Nathan Lovell, Ikuo Taniguchi, Anne M. Mayes

C1.00163 Effect of PE on the structural evolution of iPP: analysis of a series of iPP-PE copolymers
Kishore Tenneti, Lingyu Li, Chung Tso, Christopher Li

C1.00164 Ceramic electrospun nanofibers as selective emitters for thermophotovoltaic energy conversion
Woraphon Kataphinan, Vivek Tomer, George Chase, Edward Evans, Rex Ramsier, Daniel Smith, Darrell Reneker

C1.00165 Effect of Organic Modifier and Preparation Method on the Morphology and Crystalline Structure of Poly(vinylideneflouride)-Montmorillonite Nanocomposites
Douglas Dillon, Kishore Tenneti, Christopher Li

C1.00166 Spherical nanoparticle ordering in block copolymer systems
John Papalia, Mary Galvin

C1.00167 Pathway Dependent Self-Assembly of Amphiphilic Diblock Copolypeptides
Lisa Pakstis, Andrew Nowak, Eric Holowka, Jeffery Thompson, Timothy Deming, Darrin Pochan

C1.00168 Disc Micelle Formation of Polystyrene-b-Polymethacrylate-b-Polyacrylic acid Triblock Copolymer
Zhibin Li, Zhiyun Chen, Kelly Hales, Honggang Cui, Kai Qi, Karen Wooley, Darrin Pochan

C1.00169 Langmuir structure of poly (2-vinylpyridine-b-hexyl isocyanate) rod-coil diblock copolymers at the air/water Interface
Farhan Ahmad, Kwanwoo Shin, S.H. Han, J.S. Lee

C1.00170 Coarse Grain Molecular Dynamics Simulations of the Deformation of Polymer Nanocomposites
Barry Farmer, Richard Vaia, Kelly Anderson

C1.00171 A Theoretical Study of the Use of Electroosmotic Flow to Extend the Read-Length of DNA Sequencing by End Labeled Free Solution Electrophoresis
Laurette McCormick, Gary Slater

C1.00172 Single clay sheets inside electrospun polymer nanofibers
Zhaohui Sun, Darrell Reneker

C1.00173 Equilibrium configurations of self-assembling polymers: An extended parallel tempering approach
Chakravarthy Ayyagari, Dmitry Bedrov, Grant Smith

C1.00174 Brush formation at the reactive surface from end-functionalized polymer
Ye Zhang, Fang Yin, Dmitry Bedrov, Grant Smith

C1.00175 Linear Viscoelastic Response of PBX-9501 Binder using Molecular Dynamics Simulations
Hemali Davande, Oleg Borodin, Grant Smith

C1.00176 Monte Carlo study of reversibly associated polymers
Chun-Chung Chen, Elena E. Dormidontova

C1.00177 Molecular Dynamics simulations of polymer translocation through a nanoscopic pore
Michel G. Gauthier, Gary W. Slater

C1.00178 Universal function for the diffusion coefficient of DNA fragment
Jean-Francois Mercier, Gary W. Sltater

C1.00179 Molecular Assembly for Hybrid Electronics
Bansal Juhi, Dilip Gersappe

C1.00180 Short Time Dynamics in Melts Near the Glass Transition
Aaron Wilson, John McCoy, Joanne Budzien, Douglas Adolf

C1.00181 Molecular Dynamics Simulations of Protein-Polyelectrolyte Multilayer Assembly
Venkateswarlu Panchagnula, Junhwan Jeon, Andrey Dobrynin

C1.00182 The Equilibrium Partitioning of SAW Chains into Pores with Heterogeneous Surfaces
Jesse Ziebarth, Yongmei Wang

C1.00183 A Hybrid Theoretical and Computational Approach to Study Polymer Induced Interaction between Two Parallel Plates
Wenhua Jiang, Yongmei Wang, Iwao Teraoka

C1.00184 The influence of surface chemistry on interfacial moisture and adhesion
Emmett O'Brien, Bryan Vogt, Christopher White

C1.00185 Ordered structural evolution and relaxation behaviors of a series microphase separated
Alexander Jiaokai Jing, Zhihao Shen, Shi Jin, Huabin Wang, Frank W. Harris, Stephen Z. D. Cheng

C1.00186 Soft X-ray Resonant Scattering of Polymers: A Complement to NEXAFS Microscopy
Tohru Araki, Shane Harton, Ying Zou, Harald Ade, Gary Mitchell, Jeffrey Stubbs, Jeffrey Kortright

C1.00187 Studying Polymer Solutions using Light Scattering Spectroscopy
Kiril A. Streletzky, George D.J. Phillies

C1.00188 Ballistic Resistance of Polymeric Materials
Chad Snyder, Gale Holmes, Kathleen Flynn, Steven Roth, Walter McDonough, Da-Wei Liu

C1.00189 Local mobility of polymer chains with specific interactions
Jutta Luettmer-Strathmann

C1.00190 Shear flow behavior of a dynamically symmetric polymeric bicontinuous microemulsion
Ning Zhou, Timothy Lodge, Frank Bates

C1.00191 Enhanced Mechanical Properties in PVA/SWNT Composite Fibers
William Sampson, Joselito Razal, Steve Collins, Ray Baughman, Alan Dalton

C1.00192 Polymer Nanocomposites Made by Solid-State Shear Pulverization: Achievement of Well-Dispersed Nanofiller Sheets, Nanotubes, and Nanoparticles
Kosmas G. Kasimatis, Laura M. Dykes, Wesley D. Burghardt, Ramanathan Thillaiyan, L. Catherine Brinson, Rodney Andrews, John M. Torkelson

C1.00193 Molecular-Level Insulation: An Approach to Controlling Interfacial Charge Transfer
Jong Seung Park, Mohan Srinivasarao, Saif A. Haque, James R. Durrant

C1.00194 Diblock copolymer-incorporation onto Polystyrene Colloidal Beads
Jong-Man Lee, Kwanwoo Shin

C1.00195 Femtosecond Two-Photon Photopolymerization
Nayer Eradat, Ian Mitchell Mitchell, Chelsea Bond, Yeon Rim

C1.00196 Carbon Nanotube Reinforced Nanocomposite with Controlled CNT Dispersion
Lingyu Li, Wenwen Cai, Stephen Kodjie, Kishore Tenneti, Christopher Li

C1.00197 Encapsulation of ZnS:Mn2+ Nanoclusters with PS-PVP Diblock Copolymer
Sangcheol Kim, Fr\'ed\'eric S. Diana, Pierre M. Petroff, Edward J. Kramer, Takeshi Otsu, Tomohide Murase

C1.00198 Optical Properties of Rhodamine 6G Laser Dye and Ag-Nanoparticle Aggregates
M.A. Noginov, M. Vondrova, S.M. Williams, M. Bahoura, V.I. Gavrilenko, S.M. Black, A. Sykes, V.P. Drachev, V.M. Shalaev

C1.00199 Characterization of Inorganic/Organic Interfaces by Ab Initio Methods
Rajeev Pandey, Nicolas Bruque, Roger Lake

C1.00200 Self-Healing of a Polyurethane-based Polymer Composite
Melissa Considine, Erin Dreyer, S. Paul Freese, Paul Ledwith, Joanna Meador

C1.00201 The Nano-mechanical Properties of Polystyrene Thin Films Embedded with Surface Grafted Multiwalled Carbon Nanotubes
Arnold Yang, Chih-Chun Hsiao, Tian Shyng Lin, Ling Yu Cheng, Chen-Chi Mar

C1.00202 Structural Effects on the Interfacial Strength of Silane Coupling Agent Layers
Shigeo Nakamura, Elizabeth Pavlovic, Edward Kramer

C1.00203 Grafting and Loop Formation of Telechelic Polymers at Interfaces Monitored by Fluorescence Labeling
Zhenyu Huang, Haining Ji, Jimmy Mays, Mark Dadmun

C1.00204 Nonlinear optical Spectroscopy of Polyimide Surface for homeotropic liquid crystal alignment
Masahito Oh-e, Hiroshi Yokoyama, Doseok Kim

C1.00205 An explicit 3D chain and node mesoscale network model for silica-filled polydimethylsiloxane
David Hanson

C1.00206 Stacking of conjugated oligomers and polymers in solution from first-principles
Damian Scherlis, Jean-Luc Fattebert, Francois Gygi, Nicola Marzari

C1.00207 A reassessment of entropic factors influencing molecular weight dependence of surface tension
Venkat Minnikanti, Lynden Archer

C1.00208 The effect of temperature heterogeneities on the dynamics of reactive ternary systems
Christopher Pooley, Anna Balazs

SESSION D28. DPOLY: BLOCK COPOLYMER THIN FILMS

Monday afternoon, 2:30PM, LACC-506

Chair: Michael Fasolka, NIST

2:30PM **D28.00001:** Competing Surface Fields on the Ordering Transition of Block Copolymer Films
Peter Green, Abraham Arceo

2:42PM **D28.00002:** Substrate Surface Energy Effects in Triply-Periodic Block Copolymer Thin Films
Thomas Epps, Michael Fasolka

2:54PM **D28.00003:** Investigating the Morphology and Dynamics of Thin Films of Diblock Copolymers on Chemically Nanopatterned Substrates of Varying Interfacial Energy and Pattern Quality
Erik W. Edwards, M.P. Stoykovich, Paul F. Nealey, H.H. Solak, C.J. Hawker

3:06PM **D28.00004:** Self-assembly of block-copolymers on binary chemical nanopatterns
Gabriel Baralia, Bernard Nysten, Alain M. Jonas

3:18PM **D28.00005:** Lateral Confinement Effects in Block Copolymer Thin Films
August Bosse, Scott Sides, Carlos Garcia-Cervera, Glenn Fredrickson

3:30PM **D28.00006:** Shear alignment of spherical microdomain block copolymer thin films via a viscous fluid layer.
M.W. Wu, D.E. Angelescu, D.H. Adamson, X. Guo, R.K. Prud'homme, P.M. Chaikin, R.A. Register

3:42PM **D28.00007:** Alignment of Cylindrical Diblock Copolymer Thin Films Using Flow Stress
Vincent Pelletier, Mingshaw Wu, Douglas Adamson, Richard Register, Paul Chaikin

3:54PM **D28.00008:** Long-Range Order in Cylindrical Block Copolymer Thin Films using Graphoepitaxy
Mark Dadmun, Scott Fontana, Doug Lowndes

4:06PM **D28.00009:** Experimental studies of symmetric block copolymer blends in thin films.
Easan Sivaniah, Shinya Matsubara, Yue Zhao, Takeji Hashimoto, Tom Mates, Edward J. Kramer

4:18PM **D28.00010:** Nanoporous Thin Films Using Benzocyclobutene-Containing Diblock Copolymers
Julie Leiston-Belanger, Thomas Russell, Eric Drockenmuller, Craig Hawker

4:30PM **D28.00011:** Helix morphology forced by confinement upon bulk cylinder-forming block copolymers
Hongqi Xiang, Kyusoon Shin, Taehyung Kim, Sung In Moon, Thomas J. McCarthy, Thomas P. Russell

4:42PM **D28.00012:** Laterally Confined Block Copolymer Cylinder Monolayers: Smectic, Nematic, and Isotropic Ordering
M.R. Hammond, E.J. Kramer

4:54PM **D28.00013:** Ordering in Salt Containing Block Copolymer Thin Films
Seung Hyun Kim, Matthew J. Misner, Thomas P. Russell

5:06PM **D28.00014:** Kinetics of Assembly of ``Looped" Brushes at the Solid-Liquid Interface
Jose Alonzo, S. Michael Kilbey II

D28.00015: Two-dimensional order-disorder (melting) transition in a diblock copolymer cylinder-forming thin-film system.
Weining Man, Dan E. Angelescu, Mingshaw W. Wu, Vincent Pelletier, Douglas H. Adamson, Richard A. Register, Paul M. Chaikin

SESSION D30. DPOLY FIAP: ORGANIC FIELD EFFECT TRANSISTORS II

Monday afternoon, 2:30PM, LACC-505

Chair: Arthur Epstein, Ohio State Univ.

2:30PM **D30.00001:** Ferroelectric Switching in a Polymeric Transistor
Peter Jacobson, Jie Xiao, Luis Rosa, Peter Dowben

2:42PM **D30.00002:** Characterization of Organic and Carbon Nanotube Electronic Devices Fabricated via Transfer Printing onto Plastic Substrates
D.R. Hines, S. Mezhenny, M. Breban, G. Esen, M.S. Fuhrer, E.D. Williams, V.W. Ballarotto

2:54PM **D30.00003:** Copper-Phthalocyanine Field-Effect Transistor with a Low Driving Voltage
Tetsuji Okuda, Susumu Shintoh, Norio Terada

3:06PM **D30.00004:** Rubrene Thin Film Transistors
Soonjoo Seo, Byoung-Nam Park, Paul Evans

3:18PM **D30.00005:** Effect of using split-gate electrodes on a pentacene based field effect transistor
Nicholas Pinto, Carl Mueller, Noulie Theofylaktos, Alan Johnson, Felix Miranda

3:30PM **D30.00006:** Photoinduced charge transfer in bifunctional molecules with both electron donor and accepter groups
J. H. Park, Y. Wu, J. Parquette, A. J. Epstein, P. Padmawar, L. Y. Chiang

3:42PM **D30.00007:** Synergistic Processes At Optically-Active Membrane-Protein, Conducting Polymer Interfaces
Invited Speaker: K.S. Narayan

4:18PM **D30.00008:** Ab Initio Study of Polarizabilities of Oligothiophene, Oligocyclopentadiene and Oligofulvene and their Cyano Substituted Oligomers
Jolanta Lagowski, Sultana Ferdous

4:30PM **D30.00009:** Patterned Conducting Polymer Microelectronics for Analysis of Neural Signaling
Daniel T. Simon, S. A. Carter

4:42PM **D30.00010:** Synthesis and Electrical Properties of Nanorods and Nanotubes of Poly(3-hexylthiophene)
Adrian Southard, Seungil Cho, Miriam Berdichevsky, Michael Fuhrer, Sang Jun Son, Sang Bok Lee

SESSION H2. DPOLY: POLYMER PHYSICS PRIZE SYMPOSIUM

Tuesday morning, 8:00AM, LACC-151

Chair: Richard Register, Princeton University

8:00AM **H2.00001:** Routes to Frustrated Nanostructures with Block Copolymers
Invited Speaker: Thomas Russell

8:36AM **H2.00002:** Using polymer chemistry and block copolymers to create a viable nanopatterning strategy
Invited Speaker: Craig Hawker

9:12AM **H2.00003:** Micellization of pH-responsive Amphiphilic Diblock Copolymers in Aqueous Media and the Formation of Metal Nanocrystals
Invited Speaker: Spiros H. Anastasiadis

9:48AM **H2.00004:** Force Measurements Using Capillary Instabilities
Invited Speaker: Ullrich Steiner

10:24AM **H2.00005:** Toughness and adhesion in an acqueous environment
Invited Speaker: Hugh Brown

SESSION H30. DPOLY: LIQUID CRYSTALLINE POLYMERS

Tuesday morning, 8:00AM, LACC-505

Chair: Patrick Mather, Case Western Reserve University

8:00AM **H30.00001:** BREAK - H30

8:36AM **H30.00002:** Polydomain Liquid Crystalline Networks as Actuators
Patrick Mather, Haihu Qin, Ingrid Rousseau

8:48AM **H30.00003:** Molecular orientation of commercial thermotropic liquid crystalline polymers in transient shear flow
Stanley Rendon, Wesley Burghardt, Robert Bubeck

9:00AM **H30.00004:** Confined Discotic Liquid Crystalline Self-Assembly in a Novel Coil-Coil-Disk Triblock Oligomer
Li Cui, Jianjun Miao, Lei Zhu, Igors Sics, Benjamin Hsiao

9:12AM **H30.00005:** From vulcanization to isotropic and nematic rubber elasticity
Xiangjun Xing, Swagatam Mukhopadhyay, Paul Goldbart, Annette Zippelius

9:24AM **H30.00006:** Slow dynamics and the glass transition in anisotropic polymer liquids
Folusho Oyerokun, Kenneth Schweizer

9:36AM **H30.00007:** The Origin of Helical Suprastructure from Achiral 4-Biphenyl Carboxylic Acid Molecules
Kwang-Un Jeong, Jason J. Ge, Shi Jin, Matthew J. Graham, Brian S. Knapp, Frank W. Harris, Stephen Z. D. Cheng

9:48AM **H30.00008:** Free Energy Functional for Bend-core Liquid-Crystal Molecules
Rui Zhang, An-Chang Shi

10:00AM **H30.00009:** Electric-field-induced motion of colloid particles in smectic liquid crystals
Antal Jakli, Guangxun Liao, Ivan Smalyukh, Jack Kelly, Oleg Lavrentovich

10:12AM **H30.00010:** Crystallization of Polyelectrolyte-Surfactant Complexes at the Air-Water Interface
Alex Travesset, David Vaknin, Gilat Nizri, Shlomo Magdassi

10:24AM **H30.00011:** Mesophase Behavior of Polyion-Complexed Azobenzene Chromophores in the Bulk
C. Geraldine Bazuin, Carmen M. Tibirna, Qian Zhang

SESSION H31. DPOLY FIAP: PHOTONICS AND OPTOELECTRONICS

Tuesday morning, 8:00AM, LACC-503

Chair: Adam Fontecchio, Drexel University

8:00AM **H31.00001:** Analysis of the diffraction properties of volume holograms written with spherical object beams
Michael Ermold, Adam Fontecchio

8:12AM **H31.00002:** Development of High Refractive Index Poly(thiophene) for 3-D Organic Photonic Crystals
Stephen Cheng, Shi Jin, Matthew Graham, Timothy Bunning

8:24AM **H31.00003:** Self-Assembly of Conjugated Block Copolymers for Optoelectronic Applications
Rachel Segalman, Bradley Olsen, Yuefei Tao

8:36AM **H31.00004:** Nanomechanical Characterization of Finite-Size Constrained Relaxation Processes in Optoelectronic and Photonic Thin Films
Tomoko Gray, Rene Overney, Marnie Haller, Jingdong Luo, Alex Jen

8:48AM **H31.00005:** Quadratic Electro-Optic Effect and Electroabsorption in a Novel Nano-Optical Material based on the Nonconjugated Conductive Polymer, Poly(ethylenepyrrolediyl) Derivative
R. Swamy, P. Vippa, H. Rajagopalan, J. Titus, M. Thakur, A. Sen

9:00AM **H31.00006:** Single- and Two-photon Pumped Defect-Mode Lasing in Dye-doped One-Dimensional Photonic Crystal
Jongseung Yoon, Wonmok Lee, Steven Kooi, Jean-Michel Caruge, Moungi Bawendi, Robert Field, Przemyslaw Markowicz, Paras Prasad, Edwin Thomas

9:12AM **H31.00007:** Electro-optic Modulation Using a DAST Single-crystal Film in a Fabry-Perot Cavity
S.P. Kutty, M. Thakur

9:24AM **H31.00008:** Investigation of the self-pumped two-beam coupling in a photorefractive material using beam propagation simulation
Mohammad Saleh, Partha Banerjee, Gary Cook, Shekhar Guha, Dean Evans

9:36AM **H31.00009:** Demonstration of Wavelength Tunable Silicon Raman Laser
Ozdal Boyraz, Bahram Jalali

9:48AM **H31.00010:** Silicon light emission from {113} rodlike defects
Grant Z Pan, Roman Ostroumov, Yaguang Lian, K. N. Tu, Kang L Wang

10:00AM **H31.00011:** Effect of Photovoltaic Induced Instabilities in Photorefractive Reflection Gratings in LiNbO$_{3}$:Fe
Jennifer Gibson, Mohammad Saleh, Gary Cook, Dean Evans

10:12AM **H31.00012:** Development of a new photorefractive and photovoltaic potassium niobate crystal
D.R. Evans, G. Cook, J.L. Gibson, M.A. Saleh, S.A. Basun, J.M. Seim, G.J. Mizell

10:24AM **H31.00013:** Reduction of Dark Current in Germanium Quantum Dot Infrared Photodetector
Siguang Ma, Song Tong, Hyung-Jun Kim, Joo-Young Lee, K. L. Wang

10:36AM **H31.00014:** EXAFS Study of the Electroluminescence Materials ZnS:Cu,Cl and ZnS:Cu,Mn,Cl, and EL devices
Frank Bridges, M. Warkentin, S. A. Carter, M. Anderson

10:48AM **H31.00015:** Anomalous space-charge field enhancement in Fe:KNbO3
Gary Cook, Dean Evans, Sergei Basun, Jennifer Gibson, Mohammad Saleh

H31.00016: Microbeam HRXRD and Photoluminescence characterization of selective area grown (SAG) optoelectronic waveguide arrays
A.A. Sirenko, S. O'Malley, A. Kazimirov, D.H. Bilderback, Z.-H. Cai, B. Lai, A. Ougazzaden

SESSION J4. DPOLY: CONDUCTING POLYMERS
Tuesday morning, 11:15AM, LACC-515A

Chair: Rachel Segalman, UC-Berkeley

11:15AM **J4.00001:** Fundamental electronic processes in organic photovoltaic cells
Invited Speaker: Michael McGehee

11:51AM **J4.00002:** Semiconducting block copolymers and their devices: the relationship between electronic properties, morphology and interfaces
Invited Speaker: Georges Hadziioannou

12:27PM **J4.00003:** Structural Influences on Conjugated Polymer Optoelectronic Properties
Invited Speaker: Donal Bradley

1:03PM **J4.00004:** Water-Soluble Conjugated Polymers: Self-Assembly and Biosensor Applications
Invited Speaker: Guillermo Bazan

1:39PM **J4.00005:** Understanding the Intra- and Interchain Electronic Structure of Conjugated Polymers by Encapsulation in Mesoporous Silica
Invited Speaker: Benjamin Schwartz

SESSION J30. DPOLY: ELASTOMERS AND GELS

Tuesday morning, 11:15AM, LACC-505

Chair: Claude Cohen, Cornell University

11:15AM **J30.00001:** Mechanical and swelling properties of end-linked polydimethylsiloxane networks with hydrogen bonding or ionic interactions
Claude Cohen, Ashish Batra

11:27AM **J30.00002:** Nonaffinity and nonlinearity in random elastic networks
Brian DiDonna, Tom Lubensky, Paul Jamney

11:39AM **J30.00003:** MD simulations of chemically reacting networks
Dana Rottach, John Curro, Aidan Thompson, Gary Grest

11:51AM **J30.00004:** Thiol-Vinyl Photopolymerizations: Controlled Network Evolution
Sirish Reddy, Amber Rydholm, Kristi Anseth, Christopher Bowman

12:03PM **J30.00005:** Traveling Waves in a Reactive Polymer Gel
Victor V. Yashin, Anna C. Balazs

12:15PM **J30.00006:** Scaling of entropic shear rigidity
Swagatam Mukhopadhyay, Xiangjun Xing, Paul Goldbart

12:27PM **J30.00007:** A cavity approach to the heterogeneity of the random solid state
Xiaoming Mao, Paul Goldbart, Marc Mezard, Jean-Philippe Bouchaud

12:39PM **J30.00008:** Structural changes in polymer gels probed by Fluorescence Correlation Spectroscopy
Ariel Michelman-Ribeiro, Hacene Boukari, Ralph Nossal, Ferenc Horkay

12:51PM **J30.00009:** The elasticity of smectic liquid crystal elastomers
James Adams, Mark Warner

1:03PM **J30.00010:** Self-Adhesion of uncrosslinked elastomers using a probe method
Regis Schach, Costantino Creton

1:15PM **J30.00011:** Effects of Substitutes on the Self-Assembling of Rigid Polymers
Yunfei Jiang, Dvora Perahia, Uwe H.F. Bunz

1:27PM **J30.00012:** Ultrasound Devulcanization of Natural Rubber, Studied by NMR Relaxation and Diffusion
E. von Meerwall, J.L. Massey, C.-K. Hong, A.I. Isayev

1:39PM **J30.00013:** Local Conversion model for Phase Diagrams and Calorimetric properties of gel-forming LCST-type polymers.
Fraancisco Solis, Brent Vernon

1:51PM **J30.00014:** Studies on Phase Separation in a-PMMA/PEG Gels
Xiaoliang Wang, Liang Li, Dongshan Zhou, Gi Xue

2:03PM **J30.00015:** Thermoreversible gel transitions in physical polymer hydrogels
Johan Mattsson, Bivash Bivash Dasgupta, Min Lin, Bo Nystrom, David Weitz

J30.00016: Stretching Networks of Helical Polymers
Gustavo A. Carri, Richard Batman

J30.00017: Normal stresses and elastic modulus in sol gels polyester blends
Suresh Ahuja

SESSION J31. DPOLY: FRANK J. PADDEN AWARD SYMPOSIUM

Tuesday morning, 11:15AM, LACC-503

Chair: Steve Granick, UIUC

11:15AM **J31.00001:** Local Dynamic Mechanical Properties of Model Free-Standing Polymer Thin Films
Kenji Yoshimoto, Tushar Jain, Juan de Pablo

11:27AM **J31.00002:** Self-assembly and cross-linking of nanoparticles at liquid-liquid interfaces
Yao Lin, Alexander Boeker, Habib Skaff, Jinbo He, Kevin Sill, Todd Emrick, Anthony Dinsmore, Thomas Russell, Su Long, Qian Wang

11:39AM **J31.00003:** Predicting the Viscosity of a Miscible Polymer Blend
Jeffrey Haley, Timothy Lodge

11:51AM **J31.00004:** Host polymer influence on dilute polystyrene segmental dynamics
T.R. Lutz, Y.Y. He, M.D. Ediger

12:03PM **J31.00005:** Tailoring Protein and Cell Adsorption Using Surface-grafted Polymer Gradients
Rajendra Bhat, Jan Genzer, Bryce Chaney, Andrea Liebmann-Vinson

12:15PM **J31.00006:** Experimental Investigation of Entangled Polymer Flow Behavior
Prashant Tapadia, Shi-Qing Wang

12:27PM **J31.00007:** The distribution of Tgs in bulk and nanoconfined polymer films measured by a novel fluorescence method
Christopher J. Ellison, John M. Torkelson

12:39PM **J31.00008:** Growth of the Cooperative Length Scale Below the Caging Temperature of Glass-forming Liquids
Brian Erwin, Ralph Colby, Sudesh Kamath, Sanat Kumar

12:51PM **J31.00009:** Conjugated Polymer Nanowires: Preparation, Morphology, Optical Properties and Field-Effect Transistors
Amit Babel, Yan Zhu, Dan Li, Younan Xia, Samson A. Jenekhe

SESSION K1. DPOLY: POSTER SESSION II

Tuesday afternoon, 1:00PM, Exhibit Hall

K1.00114 Intercalation Mechanism and Interlayer Structure of Hexadecylamine inside Layered α-Zirconium Phosphates
Bongwoo Ha, Kookheon Char

K1.00115 X-ray Standing Wave Measurements of Gold Nanoparticles of Varying Sizes Embedded in Polymer Thin Films
Aleta Hagman, Kenneth Shull, Jin Wang, Xuefa Li, Suresh Narayanan

K1.00116 The influence of chain rigidity and the degree of sulfonation on the morphology of block copolymers as nano reactor
K. Hong, S. I. Yun, J. Mays, X. Zhang, R. M. Briber

K1.00117 Multiscale Modeling of Viscoelastic Properties of Polymer Nanocomposites
Oleg Borodin, John Nairn, Dmitry Bedrov, Grant Smith

K1.00118 Effects of temperature and dissolved LiClO$_{4}$ on the viscoelastic and dynamic properties of poly(ethylene oxide), (PEO) melts
Radoslav Bogoslovov, James C. Selser, Shufu Peng, Greg Piet

K1.00119 Microwave Induced Structural Transitions in Polymers
Yuning Yang, Wei-Chi Lai, Shaw Ling Hsu

K1.00120 Light Scattering Investigation of Dynamic and Viscoelastic Properties of Entangled Poly(ethylene oxide) Melts in the Presence of LiClO4
Shufu Peng, J. C. Selser, R. Bogoslovov, G. Piet

K1.00121 Correlation length of a near-critical, eight-arm star polystyrene in methylcyclohexane
Angie Triplett, Nithya Venkataraman, D.T. Jacobs

K1.00122 Coexistence curve of a near-critical, eight-arm star polystyrene in methylcyclohexane
Mark Lightfoot, D.T. Jacobs

K1.00123 Mapping Instabilities in Polymer Friction
Charles Rand, Alfred Crosby

K1.00124 Influence of Patterned Surfaces on Adhesion
Edwin Chan, Tina Thomas, Alfred Crosby

K1.00125 Ordered Helices in Chiral σ-conjugated Polysilanes
Withoon Chunwachirasiri, Michael Winokur, Josef Michl, Julian Koe

K1.00126 Segment Orientation and Optical Birefringence of Amorphous Polymers Under Tensile Deformation: Novel Computational Method applied to Different Glassy Polycarbonates
Upendra Natarajan, M.S. Sulatha

K1.00127 Adsorption of Proteins to Cu(II)-IDA and Ni(II)-IDA Functionalized Langmuir Monolayers and Insertion Processes by Grazing Incidence Neutron and X-ray Techniques
Michael Kent, Hyun Yim, Darryl Sasaki, Sushil Satija, Young-Soo Seo, Ivan Kuzmenko, Thomas Gog, Jaroslaw Majewski

K1.00128 Design and Synthesis of pH Sensitive Polymeric Sensor for Potential Molecular Imaging using Fluorescence Resonance Energy Transfer
Sung Woo Hong, Keon Hyeong Kim, June Huh, Cheol-Hee Ahn, Won Ho Jo

K1.00129 Theory of End-Labeled Free Solution Electrophoresis: Using Branched Polymeric Labels with ssDNA
Sorin Nedelcu, Martin Kenward, Laurette McCormick, Gary W. Slater

K1.00130 Counteracting the electrophoretic motion of a polyelectrolyte: a Molecular Dynamics study
Martin M. Bertrand, Gary W. Slater

K1.00131 Diffusion in a system of vibrating obstacles: Exact numerical results
Smaine Bekhechi, Gary W. Slater

K1.00132 DNA Molecules for Single Polymer Dynamics and Rheology Studies
Rae Robertson, Stephan Laib, Douglas E. Smith

K1.00133 Charged surface Induced Diblock Copolymer Micellization
Monica Olvera de la Cruz, Hao Cheng

K1.00134 Effect of Beta-Hairpin Peptide Strand Length on the Dynamics of Semiflexible Networks
Bulent Ozbas, Darrin Pochan, Karthikan Rajagopal, Joel Schneider

K1.00135 Biodegradable Poly(L-Lactic Acid) (PLLA) Thin Films by Plasma Polymerization
Arnold Yang, Yi-Hsing Chang, Hsun Li, Tai-Wei Chang, Yin-Chang Liu, Cheng Kung Cheng

K1.00136 Dielectric and a.c conductivity relaxation processes of ion conducting amorphous polymer.
Baskaran Natesan, Naba Karan, Ram Katiyar

K1.00137 Conformation and dynamics of chained molecules in nanoscopic cylinders
Kyusoon Shin, Jiun-Tai Chen, Duyeol Ryu, Amanda Leach, Pappannan Thiyagarajan, Thomas Russell

K1.00138 Thermal Analysis, X-ray and Electron Diffraction Studies on Crystalline Phase Transitions in Solvent-Treated Poly(hexamethylene terephthalate)
Ming-Chien Wu, Eamor M. Woo, Taiyo Yoshioka, Masaki Tsuji

K1.00139 Electrospinning of nanocomposite fibers
Vahik Krikorian, Darrin Pochan

K1.00140 Can short alkyl chain fold in lamellar crystals?
Jianjun Miao, Li Cui, Lei Zhu, Igors Sics, Benjamin Hsiao

K1.00141 Stereocomplex Formation in Racemic Chiral Polylactide Block Copolymers
Lu Sun, Lei Zhu

K1.00142 Single Crystal Engineering of Diblock Copolymer Brushes
Huiming Xiong, Joseph X. Zheng, Stephen Z.D. Cheng, Ya Guo, Roderic P. Quirk, Bernard Lotz

K1.00143 Spectroscopic analysis of poly(lactic acid) crystals and their formation
Kaoru Aou, Shuhui Kang, Shaw Ling Hsu

K1.00144 Equilibrium Fold Thickness in Polymer Crystals
Buckley Crist, Herve Marand

K1.00145 Crystallization Behavior of Inter-Chain H-Linked Isotactic Poly(propylenes) from their Quiescent Melts
Anindya Ghosal, Rufina Alamo

K1.00146 Induced PEO Crystal Orientation within the Inversed Cylindrical Morphology of PEO-b-PS Block Copolymer
Ping Huang, Stephen Z. D. Cheng, Ya Guo, Roderic P. Quirk, Benjamin S. Hsiao, Carlos A. Avila-Orta, Igors Sics

K1.00147 SANS Study of Polyethylene Crystallization from Solution
Howard Wang, Boualem Hammouda

K1.00148 Structure and Morphology of PEO-b-PLLA Diblock Copolymer Single Crystal
Lingyu Li, Kishore Tenneti, Christopher Li

K1.00149 Tracer Diffusion of Polystyrene in Lightly Sulfonated Polystyrene
Chen Xu, Nancy Zhou, Wesley Burghardt, Karen Winey, Russell Composto

K1.00150 Molecular Dynamics Simulations of Liquid, Gel and Polymer Electrolytes
Oleg Borodin, Grant Smith

K1.00151 Semicrystalline Ionomer-Metal Carboxylate Composite: Phase Behavior and Mechanical Properties
Katsuyuki Wakabayashi, Richard A. Register

K1.00152 Effect of pH on Swelling Behavior of Polyelectrolyte Brushes Produced via Surface Confined Atom Transfer Radical Polymerization.
Amit Sankhe, Scott Husson, Michael Kilbey

K1.00153 Can Nanorods Emulsify Immiscible Polymer Blends?
Michael J.A. Hore, Mohamed Laradji

K1.00154 Viscoelastic Properties of PBX-9501 by Material Point Method (MPM) Simulation
Liping Xue, Oleg Borodin, Grant Smith

K1.00155 Conformation and Dynamics of a Flexible Sheet in Solvent Media by Monte Carlo Simulations
Ras Pandey, Kelly Anderson, Hendrik Heinz, Barry Farmer

K1.00156 Block Copolymer Surfactancy: Swollen Micelles and Interfacial Tensions in Immiscible A/B Blends with AB Copolymer
Kwanho Chang, David Morse

K1.00157 Watching Molecules Near Surfaces: Vibrational Spectroscopy in a Confined Geometry
Shan Jiang, Jeff Turner, Sung Chul Bae, Malgorzata Graca, Steve Granick

K1.00158 Water at a Hydrophobic Surface
Wina Tjen, Adel\'e Poynor, Steve Granick

K1.00159 Optical interferometry and refractive index measurement at sub-angstrom resolution
Minsu Kim

K1.00160 Spin-orbit effects on reflectance anisotropy spectroscopy of aclean CdTe(001) surface
Ra\'{u}l A. V\'{a}zquez-Nava, B.S. Mendoza, N. Arzate

K1.00161 Formation and properties of silicon elastomer-based responsive surfaces
Julie Crowe, Kirill Efimenko, Jan Genzer, Dwight Schwark

K1.00162 Scaling roughness and transport properties correlation in manganite thin films
Juan Ram\'irez, Maria Elena G\'omez, Wilson L\'opera, Pedro Prieto

K1.00163 Positron annihilation induced Auger electron spectroscopic studies of oxide surfaces
Manori Nadesalingam, J.L. Fry, N. Fazleev, A.H. Weiss

K1.00164 Formation and applications of multifunctional polymer brush gradients
Michael Tomlinson, Rajendra Bhat, Jason Stone, Jan Genzer, Tao Wu

K1.00165 Drying Mediated Pattern Formation From a Restricted Geometry
Jun Xu, Zhiqun Lin

K1.00166 Roughness in a kinetic film growth of hydrophobic and polar components in aqueous solution - spectroscopic studies and Monte Carlo simulations
Otts Daniel, Luis Cueva-Parra, Ras Pandey, Marek Urban

K1.00167 Tunneling and fatigue properties of SRO/PZT/Pt structures
P. Prieto, A. Cortes, E. Delgado, J. Realpe, W. Lopera

K1.00168 Determination of Physical Aging in Thin Polymer Films via Fluorescence: Effects of Confinement and Attractive vs. Neutral Polymer-Substrate Interactions
Rodney D. Priestley, Linda J. Broadbelt, John M. Torkelson

K1.00169 Influence of curing temperature on properties of GPS adhesion promoter layers
Elisabeth Pavlovic, Edward J. Kramer, Shigeo Nakamura, Michael Kent, Hyun Yim

K1.00170 Phase Transitions in Triblock Copolymer Thin Films
A. Hexemer, G.E. Stein, V. Khanna, E.J. Kramer, X. Li, J. Wang

K1.00171 Self-folding membranes
Galen T. Pickett

K1.00172 Chemical Functionalization of Silicone, Quartz and Mica: Soldiers Report from the Trenches
Yan Yu, Liang Hong, Adele' Poynor, Steve Granick

K1.00173 Autophobic Dewetting of PS/dPS-\textit{b}-PVP Blend Thin Films
Huiman Kang, Bumjoon Kim, Seung-Heon Lee, Kookheon Char, Edward J. Kramer

K1.00174 Confinement and the Glass Transition Temperature in Supported Polymer Films: Molecular Weight, Repeat Unit Modification, and Cooperativity Length Scale Investigations
Manish K. Mundra, John M. Torkelson

K1.00175 Layered glass transition temperature in polymer thin films
Haobin Luo, Dilip Gersappe

K1.00176 Polyelectrolyte Spin-Assembly: Effect of Ionic Strength and Spinning Rate on the Growth of Multilayered Thin Films
Christophe Lefaux, Pritesh Patel, Junhwan Jeon, Andrey Dobrynin, Patrick Mather

K1.00177 Resonant soft x-ray reflectivity of polymer bilayers
Cheng Wang, Tohru Araki, Shane Harton, Jeff Kortright, Gary Mitchell, Harald Ade

K1.00178 Nanoporous Polymer Films via the Self-Assembly of Triblock Copolymers
Seung Hyun Kim, Joona Bang, Eric Drockenmuller, Matthew J. Misner, Craig J. Hawker, Thomas P. Russell

K1.00179 Orientation and Lateral Order in Block Copolymer Thin Films
Matthew J. Misner, Seung Hyun Kim, Thomas P. Russell

K1.00180 Dynamics at a Buried Polymer Interface
Xuesong Hu, Xuesong Jiao, Zhang Jiang, Suresh Narayanan, Alec Sandy, Sunil Sinha, Laurence Lurio, Jyotsana Lal

K1.00181 Electric Field-Induced Dewetting and Structure Formation in Thin Polymer-Polymer-Air Trilayers
K. Amanda Leach, Suresh Gupta, Thomas P. Russell, Michael D. Dickey, C. Grant Willson

K1.00182 Self assembled monolayers of rigid thiols on Gold
Svetlana Stoycheva, Joerg Fick, Alexander Kornviakov, Avi Ulman, Michael Himmelhaus, Michael Grunze

K1.00183 Interaction of Self-Assembled Monolayers of Oligo(ethylene glycol)-Terminated Alkanethiols with Water studied by Vibrational Sum Frequency Generation (VSFG)
Joerg Fick, Rongyao Wang, Sascha Herrwerth, Wolfgang Eck, Michael Himmelhaus, Michael Grunze

K1.00184 The effect of substrate temperature and annealing time on the morphology of metallophthalocyanine thin films: an AFM study
Amos Sharoni, Corneliu Colesniuc, Casey Miller, Ge Liu, Bernd Fruhberger, Ivan K. Schuller

K1.00185 Compatibilization of Immiscible Polymer Blends via Gradient Copolymer Addition during Melt Processing: Stabilization of the Dispersed Phase against Coarsening
Jungki Kim, Maisha K. Gray, John M. Torkelson

K1.00186 New Strategy for Compatibilization of Immiscible Polymer Blends: Block Copolymer Addition during Solid-State Shear Pulverization
Ying Tao, Andrew H. Lebovitz, John M. Torkelson

K1.00187 Influence of Copolymer Composition on Morphology Development in Blends
Jayaraman Krishanmoorthy, Young Gyu Jeong, Tomoko Hashida, Thomas J McCarthy, Shaw Ling Hsu

K1.00188 Porod Scattering Study of Coarsening in Immiscible Polymer Blends
Kristin Brinker, Wesley Burghardt

K1.00189 Determining the melt miscibility of commercial polyolefin blends by Small-Angle Light Scattering
Ping Peng, Yvonne Akpalu

K1.00190 Effect of molecular architecture on the phase diagram of multi-arm acrylate and nematic liquid crystal mixture
Scott Meng, Hatice Duran, Thein Kyu

K1.00191 Photopolymerization induced phase ordering in confined regions
Thein Kyu, Rushikesh Matkar, Scott Meng, Soojeoung Park, Greg Yandek

K1.00192 Diffusion of low molecular polymers through tunable phase separated morphology
Jake Ferguson, Shuhui Kang, Kaoru Aou, Shaw Hsu

K1.00193 How Chemical Reactions Take Place in Reactive Ternary Blends
Young Gyu Jeong, Tomoko Hashida, Shaw Ling Hsu

K1.00194 Nucleation Induced Molecular and Micron-Scale Dual Ordering of Flourinated Dendron Monolayer
Farhan Ahmad, Kwanwoo Shin, Dong Ki Yoon, Hae Tae Jung

K1.00195 Determination of the molecular parameters and studies of the aggregation behavior of polybenzimidazole in solution.
Christopher Shogbon, Jean-Luc Brousseau, Haifeng Zhang, Brian Benicewicz, Yvonne Akpalu

SESSION L30. DPOLY: POLYMERS-INORGANIC COMPOSITES I

Tuesday afternoon, 2:30PM, LACC-505

Chair: Dilip Gersappe, SUNY Stony Brook

2:30PM **L30.00001:** Selective Metallization of Block Copolymers Using Supercritical Carbon Dioxide
James Sievert, Thomas Russell, James Watkins

2:42PM **L30.00002:** Holographically phase separated gold/nanoparticle films
Kashma Rai, Adam Fontecchio

2:54PM **L30.00003:** Controlling Self-Assembly of Gold Nanoparticles in Block Copolymer Templates
Bumjoon Kim, Julia J. Chiu, David J. Pine, Edward J. Kramer

3:06PM **L30.00004:** Synthesis of Ordered Fe$_{2}$O$_{3}$ Nanoparticles within Norbornene Methanol/Norbornene Dicarboxylic Acid Diblock Copolymers
Pinar Akcora, Peter Kofinas, Robert Briber

3:18PM **L30.00005:** Microphase Segregation in Organic-Inorganic Randomly Grafted Copolymers
Engin Burgaz, Lei Zheng, Gregoire Cardoen, E. Bryan Coughlin, Samuel P. Gido

3:30PM **L30.00006:** Electrospun Fibers from Self-assembling Polystrene-b-Polyisoprene Block Copolymers
Yong Lak Joo, Timur Ivannikov, Jeanne Panels, Prashant Kakad, Ulrich Wiesner, Manuel Marquez

3:42PM **L30.00007:** Nanometer scale patterning using di-block copolymer
Zuoming Zhao, Tae-Sik Yoon, Wen Feng, Biyun Li, Ya-Hong Xie

3:54PM **L30.00008:** Nanofibers And Related Structures Formed By Polymerization
S. V. Doiphode, D. H. Reneker

SESSION L31. DPOLY FIAP: ORGANIC PHOTOVOLTAIC AND ELECTROCHROMIC DEVICES

Tuesday afternoon, 2:30PM, LACC-503

Chair: Graciela Blanchet, Dupont

2:30PM **L31.00001:** Organic Semiconductor Photovoltaics
Invited Speaker: Niyazi Serdar Sariciftci

3:06PM **L31.00002:** Numerical Simulations of Layered and Blended Organic Photovoltaic Cells
Sue Carter, Jan Haerter, John Scott

3:18PM **L31.00003:** Efficiency of Organic Conjugated Polymer/C$_{60}$ Bulk Heterojunction Photovoltaic Devices
D.B. Romero, M. Breban, C. Zhang, W.N. Herman

3:30PM **L31.00004:** High Efficiency Regio-Regular-P3HT/PCBM Flexible Solar Cells
Kanzan Inoue, Pallavi Madakasira, Ross Ulbricht, Miaoxin Zhou, Xiaomei Jiang, Sergey Lee, John Ferraris, Anvar Zakhidov

3:42PM **L31.00005:** Time-resolved Photoluminescence Studies of Various Polymer Heterojunction Films for Photovoltaics
Stephanie V. Chasteen, Garry Rumbles, H.-H. Hoerhold, H. Tillman, Sue A. Carter

3:54PM **L31.00006:** Temperature dependence of polymer hybrid solar cells
Yuko Nakazawa, Sue Carter

4:06PM **L31.00007:** Photoconductivity of Hybrid Organic/Inorganic Quantum Dot Composite
Xiaomei Jiang, Willam M. Sampson, Sergey Lee, Kanzan Inoue, Anvar Zakhidov

4:18PM **L31.00008:** Solid State Electrochromic Devices Based on PPV Polymers
Amanda Holt, Janelle Leger, Sue Carter

4:30PM **L31.00009:** In-situ spectroscopic investigation of infrared transmissive/absorptive electrochromic devices.
Maria Nikolou, David B. Tanner, Zhuangchun Wu, Andrew G. Rinzler, Aubrey L. Dyer, Timothy Steckler, John R. Reynolds

4:42PM **L31.00010:** Solid-state electrochromic device for 8-12 $\mu $m based on Poly(3,4-ethylenedioxythiophene)
Ilsup Jin, Bruce Dunn

SESSION L40. DPOLY: DILLON MEDAL SYMPOSIUM

Tuesday afternoon, 2:30PM, LACC-408A

Chair: Russel Composto, Univ. of Penn

2:30PM **L40.00001:** Surface engineering with soft matter
Invited Speaker: Jan Genzer

3:06PM **L40.00002:** Grafting reactions between end-functional polymers at polymer interfaces
E.J. Kramer, B.J. Kim, K. Katsov, G.H. Fredrickson, H. Kang, K. Char

3:18PM **L40.00003:** Design and Realization of Temperature-Responsive Polymers with Tunable Onset of Response
Evangelos Manias

3:30PM **L40.00004:** Structure and Phase Behavior of End-Tethered Weak Polyelectrolytes
Igal Szleifer, Peng Gong

3:42PM **L40.00005:** How do grafting points influence the structure formation in binary and one-component polymer brushes?
Marcus M{\"u}ller, Ludger Wenning

3:54PM **L40.00006:** Dendronized polymer is a Single Molecule Glass
Jayajit Das, Yoshida Masaru, Zachary Fresco, Tae-Lim Choi, Jean Frechet, Arup Chakraborty

4:06PM **L40.00007:** Understanding the Assembly of Pi-Conjugated Dithiol Molecules on Metal and Semiconductor Surfaces
Yueh-Lin Loo, Dmitry Krapchetov, Hong Ma, Alex Jen, Daniel Fischer

4:18PM **L40.00008:** Adhesive Transfer of Thin Viscoelastic Films
Kenneth Shull, Rachel McSwain

4:30PM **L40.00009:** Adhesion Induced Instability in Thin Polymer Films
Manoj Chaudhury

4:42PM **L40.00010:** Symmetry, Equivalence and Molecular Self-Organization
Jack Douglas, Kevin Van Workum

4:54PM **L40.00011:** Direct Comparison of Surface and Bulk Relaxation of PS - A Temperature Dependent Study
Wen-li Wu, Sharadha Sambasivan, Chia-Ying Wang, William E. Wallace, Jan Genzer, Daniel A. Fischer

5:06PM **L40.00012:** Does Coarsening Begin During the Initial Stages of Spinodal Decomposition?
Nitash Balsara, Timothy Rappl

5:18PM **L40.00013:** Temperature-Dependent Conformational Changes of PNIPAM Grafted Chains in Water: Effects of Molecular Weight and Grafting Density
Michael Kent, Hyun Yim, Sergio Mendez, S.S. Balamurugan, S. Balamurugan, Gabriel Lopez, Sushil Satija, Young-Soo Seo

SESSION N4. DPOLY: POLYMER ENTANGLEMENT AND ELASTICITY

Wednesday morning, 8:00AM, LACC-515A

Chair: William Graessley, Princeton University

8:00AM **N4.00001:** Predicting The Tube Diameter For Polymer Melts and Solutions
Invited Speaker: Scott Milner

8:36AM **N4.00002:** A primitive path analysis of entangled polymer melts and networks
Invited Speaker: Ralf Everaers

9:12AM **N4.00003:** Convective constraint release, chain stretch and hopping tubes: details matter.
Invited Speaker: Daniel Read

9:48AM **N4.00004:** Yield-like flow transition in entangled polymers: what do we understand about non-Newtonian polymer flow behavior?
Invited Speaker: Shi-Qing Wang

10:24AM **N4.00005:** Entanglements and Elasticity in Polymer Networks
Invited Speaker: Michael Rubinstein

Day	Monday	Monday	Monday	Monday
Title	**A28: Polymer Surfaces I**	**A29: Charged and Ion-Containing Polymers I**	**A30: Block Copolymers I**	**A31: Molecular Motion in Miscible Blends**
Room	LACC-506	LACC-504	LACC-505	LACC-503
Chair	*Chang Yeol Ryu*	*Andrey Dobrynin*	*Eric Cochran*	*Sanat Kumar*
8:00	Tapan Desai	M. Muthukumar	Joona Bang	Juan Colmenero
8:12	Liang Hong	Govardhan Reddy	Rama Bansil	
8:24	David R. Heine	Qiang Wang	Amish Patel	
8:36	Andrew B. Croll	Matthew Tirrell	Thomas Chastek	Janna Maranas
8:48	Shishir Prasad	David Hoagland	Kirill Katsov	
9:00	Ying Zou	John C. Butler	Christopher Tyler	
9:12	Adam N. Raegen	Monojoy Goswami	Leopoldo R. G\'{o}mez	Jane Lipson
9:24	K. M. Pellerin	Zhaoyang Ou	Jin Kon Kim	Yiyong He
9:36	Jie Xiao	Ryan Murphy	Moon Jeong Park	Andrew May
9:48	Chansu Kim	Andrey Dobrynin	Hideaki Yokoyama	Anna C. Balazs
10:00	C. Geraldine Bazuin	S.I. Yun	Jaeup Kim	Dmitry Bedrov
10:12	F. Nelson Nunalee	James Donley	Russell Thompson	Jack Douglas
10:24	Weidian Shen	Qiang Chen	Kishore Tenneti	Roland Faller
10:36	Janet Wong	Man-Ho Kim		
10:48	Ute Schmidt	Lilin He		

Day	Monday	Monday	Monday	Monday
Title	**B4: Glassy Polymers**	**B28: Polymer Surfaces II**	**B29: Charged and Ion-Containing Polymers II**	**B30: Organic Field Effect Transistors I**
Room	LACC-515A	LACC-506	LACC-504	LACC-505
Chair	*Alexei Sokolov*	*Steve Hudson*	*M. Muthukumar*	*George Malliaras*
11:15	John M. Torkelson	Venkat Minnikanti	Aniket Bhattacharya	Behrang Hamadani
11:27		J. Kevin Rice	Chi-lun Lee	Mihaela Breban
11:39		Jae S. Lee	Rui Zhang	Vitaly Podzorov
11:51	Juan de Pablo	Michelle D. Lefebvre	Katsuyuki Wakabayashi	Byoung-Nam Park
12:03		S. Michael Kilbey	Nicholas Benetatos	K.S. Narayan
12:15		John G. Curro	Vivek Maheshwari	Eric Lin
12:27	Sindee Simon	William Gibson	Vladimir A Belyi	Colin Nuckolls
12:39		Mark D. Foster	Deniz Kaya	
12:51		Kirill Efimenko	Claude Coehn	
1:03	James Caruthers	Guohui Wu	N.C. Zhou	Y. Shao
1:15		Andrew Richter	Olena Zribi	Jana Zaumseil
1:27		Yoichi Otsuka	De-Wei Yin	Kwangseok Lee
1:39	Hans Wolfgang Spiess	Jones Tsz-Kai Wan	Yoram Burak	
1:51		Haris Retsos	Gerard Gaidos	
2:03			Gaurav Singh	

Day	Monday	Monday
Title	**D28: Block Copolymer Thin Films**	**D30: Organic Field Effect Transistors II**
Room	LACC-506	LACC-505
Chair	*Michael Fasolka*	*Arthur Epstein,*
2:30	Peter Green	Peter Jacobson
2:42	Thomas Epps	D.R. Hines
2:54	Erik W. Edwards	Tetsuji Okuda
3:06	Gabriel Baralia	Soonjoo Seo
3:18	August Bosse	Nicholas Pinto
3:30	M.W. Wu	J. H. Park
3:42	Vincent Pelletier	K.S. Narayan
3:54	Mark Dadmun	
4:06	Easan Sivaniah	
4:18	Julie Leiston-Belanger	Jolanta Lagowski
4:30	Hongqi Xiang	Daniel T. Simon
4:42	M.R. Hammond	Adrian Southard
4:54	Seung Hyun Kim	
5:06	Jose Alonzo	

Day	Tuesday	Tuesday	Tuesday
Title	**H2: Polymer Physics Prize Symposium**	**H30: Liquid Crystalline Polymers**	**H31: Photonics and Optoelectronics**
Room	LACC-151	LACC-505	LACC-503
Chair	*Richard Register*	*Patrick Mather*	*Adam Fontecchio*
8:00	Thomas Russell		Michael Ermold
8:12			Stephen Cheng
8:24			Rachel Segalman
8:36	Craig Hawker	Patrick Mather	Tomoko Gray
8:48		Stanley Rendon	R. Swamy
9:00		Li Cui	Jongseung Yoon
9:12	Spiros H. Anastasiadis	Xiangjun Xing	S.P. Kutty
9:24		Folusho Oyerokun	Mohammad Saleh
9:36		Kwang-Un Jeong	Ozdal Boyraz
9:48	Ullrich Steiner	Rui Zhang	Grant Z Pan
10:00		Antal Jakli	Jennifer Gibson
10:12		Alex Travesset	D.R. Evans
10:24	Hugh Brown	C. Geraldine Bazuin	Siguang Ma
10:36			Frank Bridges
10:48			Gary Cook

Day	Tuesday	Tuesday	Tuesday
Title	**J4: Conducting Polymers**	**J30: Elastomers and Gels**	**J31: Frank J. Padden Award Symposium**
Room	LACC-515A	LACC-505	LACC-503
Chair	*Rachel Segalman*	*Claude Cohen*	*Steve Granick*
11:15	Michael McGehee	Claude Cohen	Kenji Yoshimoto
11:27		Brian DiDonna	Yao Lin
11:39		Dana Rottach	Jeffrey Haley
11:51	Georges Hadziioannou	Sirish Reddy	T.R. Lutz
12:03		Victor V. Yashin	Rajendra Bhat
12:15		S. Mukhopadhyay	Prashant Tapadia
12:27	Donal Bradley	Xiaoming Mao	Christopher J. Ellison
12:39		Ariel Michelman-Ribeiro	Brian Erwin
12:51		James Adams	Amit Babel
1:03	Guillermo Bazan	Regis Schach	
1:15		Yunfei Jiang	
1:27		E. von Meerwall	
1:39	Benjamin Schwartz	Fraancisco Solis	
1:51		Xiaoliang Wang	
2:03		Johan Mattsson	

Day	Tuesday	Tuesday	Tuesday
Title	**L30: Polymers-Inorganic Composites I**	**L31: Organic Photovoltaic and Electrochromic Devices**	**L40: Dillon Medal Symposium**
Room	LACC-505	LACC-503	LACC-408A
Chair	*Dilip Gersappe*	*Graciela Blanchet*	*Russel Composto*
2:30	James Sievert	Niyazi Serdar Sariciftci	Jan Genzer
2:42	Kashma Rai		
2:54	Bumjoon Kim		
3:06	Pinar Akcora	Sue Carter	E.J. Kramer
3:18	Engin Burgaz	D.B. Romero	Evangelos Manias
3:30	Yong Lak Joo	Kanzan Inoue	Igal Szleifer
3:42	Zuoming Zhao	Stephanie V. Chasteen	Marcus M{\"u}ller
3:54	S. V. Doiphode	Yuko Nakazawa	Jayajit Das
4:06		Xiaomei Jiang	Yueh-Lin Loo
4:18		Amanda Holt	Kenneth Shull
4:30		Maria Nikolou	Manoj Chaudhury
4:42		Ilsup Jin	Jack Douglas
4:54			Wen-li Wu
5:06			Nitash Balsara
5:18			Michael Kent
5:30			**DPOLY Business Meeting**

Day	Wednesday	Wednesday	Wednesday
Title	**N4: Polymer Entanglement and Elasticity**	**N29: Block Copolymers II**	**N30: Polymer - Inorganic Composites II**
Room	LACC-515A	LACC-504	LACC-505
Chair	*William Graessley*	*Thomas Epps*	*Joao Cabral*
8:00	Scott Milner	Sumeet Jain	Gang He
8:12		Dennis Discher	Eihab Jaber
8:24		Enrique Gomez	H.-J. Chung
8:36	Ralf Everaers	Isaac Larue	Kookheon Char
8:48		Hasan Yardimci	James Smith
9:00		Zhibo Li	Marilyn Hawley
9:12	Daniel Read	Yongsheng Liu	David Hanson
9:24		Junxian Wu	Sanat Kumar
9:36		Darrin Pochan	Stephen Hutcheson
9:48	Shi-Qing Wang	Zhibin Li	Valeriy Ginzburg
10:00		Chang Yeol Ryu	David Pan
10:12		Panitarn Wanakamol	A.L. Frischknecht
10:24	Michael Rubinstein	Xiaochuan Hu	Megha Surve
10:36		Tomonari Dotera	
10:48		Dennis Discher	
11:00		June Huh	

Day	Wednesday	Wednesday	Wednesday	Wednesday
Title	**P4: Structure in Solutions and Melts**	**P29: Transport and Electronic Structure of Organic Electronic Materials**	**P30: Polymers - Inorganic Composites III**	**P31: Biopolymers: Molecules, Solutions and Networks I**
Room	LACC-515A	LACC-504	LACC-505	LACC-503
Chair	*Zhen-Gang Wang*	*Arthur Epstein*	*Mark Dadmun*	*John Crocker*
11:15	Julia Kornfield	Vladimir Prigodin	Sivakumar Nagarajan	Fred MacKintosh
11:27			Georg E. Fantner	
11:39			G. Kumaraswamy	
11:51	Francoise M. Winnik	J. Campbell Scott	Mircea Chipara	Amir Ahsan
12:03		Tse Nga Ng	Kalman Migler	Mark C. Williams
12:15		Natalya A. Zimbovskaya	Fangming Du	Yuko Hori
12:27	Travis Bailey	Y.W. Park	Reto Haggenmueller	Philip Nelson
12:39		Sathish Thriuvengadam	Asif Rasheed	Bulent Ozbas
12:51		Raghu Ramachandran	Yachin Cohen	Wendy E. Krause
1:03	Grant Smith	D. H. Dunlap	Jaemin Kim	Buddhapriya Chakrabarti
1:15		Benjie Limketkai	Erik K. Hobbie	Bae-Yeun Ha
1:27		Cedric Troadec	Laura Dykes	Pui-Man Lam
1:39	Adi Eisenberg		Jun Li	Helmut Strey
1:51			Sudeepto Sen	Taiji Ikawa
2:03			Laxmi Sahu	Daniel Needleman

Day	Wednesday	Wednesday
Title	**S30: Polymer Blends**	**S31: Organic Electronics Materials Characterization**
Room	LACC-505	LACC-503
Chair	*Alamgir Karim*	*Graciela Blanchet*
2:30	Benedict J. Reynolds	J.R. Weinberg-Wolf
2:42	Megan Ruegg	A. Ugawa
2:54	Jae S. Lee	Erik Muller
3:06	Kwanho Chang	Rui He
3:18	Shane Harton	M. Arif
3:30	Mark P. Stoykovich	Jeremy D. Schmit
3:42	Timothy Rappl	Kevin E. Smith
3:54	Joao Cabral	Daniel Quinn
4:06	Rujul Mehta	Yongguo Yan
4:18	Thein Kyu	M. V. Katkov
4:30	Tomoko Hashida	Haibin Su
4:42	Paul Goldbart	David Rigby
4:54	Marina Guenza	
5:06	Sandeep Jain	
5:18	Justin Barone	

Day	Thursday	Thursday	Thursday	Thursday
Title	**U4: Polymer Microstructures**	**U29: Organic Light Emitting Diodes**	**U30: Polymer Thin Films: General**	**U31: Polymers and Filaments for the Cytoskeleton**
Room	LACC-515A	LACC-504	LACC-505	LACC-503
Chair	*Karen Winey*	*Eric Lin*	*Azar Alizadeh*	*David Morse*
8:00	Mohan Srinivasarao	Junji Kido	Gregory McKenna	Alex J. Levine
8:12			Vivek Prabhu	Pieter J. in 't Veld
8:24			Megan Juszkiewicz	John Crocker
8:36	Paul Nealey	Hsin-Fei Meng	Jeffrey Wilbur	Jayna Jones
8:48		Samson Jenekhe	Chris Murray	Lori K. Sanders
9:00		Abhishek Kulkarni	John M. Hudson	Glenna Z. Sowa
9:12	Ulrich Wiesner	George Malliaras	Yohei Tateishi	Scott Slimmer
9:24			A. Cavallo	Margaret Gardel
9:36			Orhan Kizilkaya	Shriram Ramanathan
9:48	Ben Chu	Ruth Pachter	H. Ade	Mehmet Sayar
10:00		Joseph Shinar	Brian Besancon	Jie Zhu
10:12		Christopher Williams	Xuesong Jiao	Camilo Guaqueta
10:24	Nitash Balsara	Michael Winokur	Zahra Fakhraai	Linda Hirst
10:36		Thomas Ford	Robert E. Prud'homme	Ajay Gopinathan
10:48		Zhigang Shuai	Alan Esker	Jorge Viamontes

Day	Thursday	Thursday	Thursday
Title	**V29: Polymer Theory and Simulation I: General**	**V30: Flow of Immiscible Polymer Blends**	**V31: Bioplyomers: Molecules, Solutions and Networks II**
Room	LACC-504	LACC-505	LACC-503
Chair	*Cameron Abrams*	*Gary Leal*	*Jay Tang*
11:15	Michael Tambasco	Chris Macosko	Mihail Mihailescu
11:27	Qi Sun		Hao Cheng
11:39	Upendra Natarajan		Arivalagan Gajraj
11:51	Andrew Spakowitz	Steven Hudson	Rastislav Levicky
12:03	Peter Virnau		Yingxi Elaine Zhu
12:15	Chuck Yeung		Jason Benkoski
12:27	Gustavo A. Carri	L. Gary Leal	Lisa Pakstis
12:39	Vikas Varshney	Kristin Brinker	Ting Xu
12:51	Sergei Obukhov	Yosang Yoon	Yael Dror
1:03	David Hall	Olga Kuksenok	Delphine Gourdon
1:15	Glenn Fredrickson	Toshiaki Ougizawa	Nir Kampf
1:27	Eric Cochran	Bharadwaj Narayanan	Olga S. Latinovic
1:39	Qing Peng	Juan A. Gonzalez Leon	
1:51	Michael Shlesinger	Charles Eggleton	
2:03	Erica Saltzman	Toshiaki Ougizawa	

Day	Thursday	Thursday	Thursday	Thursday
Title	**W4: Industrial Challenges to Polymer Physics**	**W29: Polymer Theory and Simulation II: Interfaces and Confinement**	**W30: Organic Thin Films**	**W31: Focus Session: Interaction of Polymers with Biological Systems**
Room	LACC-515A	LACC-504	LACC-505	LACC-503
Chair	*Edward Kramer*	*John McCoy*	*Yueh Lin Loo*	*Roland Faller*
2:30	Pratima Rangarajan	Roya Zandi	Paulo B. Miranda	Anna C. Balazs
2:42		Sharon M. Loverde	Christopher Barrett	
2:54		Kapileswar Nayak	Jeff Turner	
3:06	Bernd Gotsmann	John McCoy	V.R. Gangilenka	Ka Yee C. Lee
3:18		Claudio Pastorino	Ajith DeSilva	
3:30		Tak Lo	Malgorzata Graca	
3:42	Robert Street	Heping Zhao	Svetlana Stoycheva	Liwei Li
3:54		Pritesh Patel	Joerg Fick	Chun-Chung Chen
4:06		Satheesh Kumar	T.M. Sweeney	Stephen Anthony
4:18	David Lohse	Martin Kenward	David Rigby	Ashok Prasad
4:30		Bong June Sung	Casey W. Miller	Hongjun Liang
4:42		Yongmei Wang	Y. -H. Tang	Chakradhar Padala
4:54	Michel Armand	Wenhua Jiang		Liangfang Zhang
5:06		Yelena Sliozberg		Solar C. Olugebefola
5:18		Ashoutosh Panday		Leonardo Golubovic

Day	**Friday**	**Friday**	**Friday**
Title	**X29: Wetting & Dewetting Stability of Polymer Thin Films**	**X30: Polymer Crystallization**	**X31: Organic-based Magnetism and Spintronics**
Room	LACC-504	LACC-505	LACC-503
Chair	*John Dutcher*	*Ben Hsiao*	*Arthur Epstein*
8:00	Amit Sankhe	Wunderlich Bernhard	P. Frail
8:12	Gang Cheng	Arindam Kundagrami	Omer Mermer
8:24	Connie Roth	Rene Androsch	M.S. Alam
8:36	Bin Wei	Jianing Zhang	Ivan Oleynik
8:48	Hongxia Feng	R. Shamsundar	J.W. Yoo
9:00	Sylvain Gabriele	J. Keum	Konstantin Pokhodnya
9:12	Hui Xu	Benjamin Hsiao	Kyungwha Park
9:24	Jamie Kropka	Rajesh Somani	Harukazu Yoshino
9:36	Hyunjung Kim	Feng Zuo	Heon-Ick Ha
9:48	Yong Jian Wang	Jing Wu	Weida Wu
10:00	Du Yeol Ryu	Michael V. Massa	Natalia Bagmet
10:12	Diego Pontoni	Joseph X. Zheng	Fan Zhang
10:24		Lei Zhu	Stuart Brown
10:36		Hendrik Meyer	J. Shinagawa
10:48		Shujun Chen	S. Takahashi

Day	**Friday**	**Friday**	**Friday**
Title	**Y4: Polymer Dynamics and Rheology**	**Y30: Solid Amorphous Polymers**	**Y31: Polymer Melts and Solutions**
Room	LACC-515 A	LACC-505	LACC-503
Chair	*Kalman Migler*	*Greg McKenna*	*Howard Wang*
11:15	Lynden Archer	Grigori Medvedev	Howard Wang
11:27		Chad Snyder	Jian Wang
11:39		Robert S. Hoy	Yn-Hwang Lin
11:51	Russell Composto	M. Pyda	Harald Pleiner
12:03		Arantxa Arbe	Xiangfu Shi
12:15		Mitchell Anthamatten	Daniel A. Vega
12:27	Jacob Klein	Zhaoqu Wang	Jung Hun Lee
12:39		Jung Park	Yifu Ding
12:51		Joao Cabral	Dvora Perahia
1:03	George Fytas	Sindee Simon	Yong Lak Joo
1:15			Kiril A. Streletzky
1:27			Weijun Zhou
1:39	Daniel Bonn		Vasileios Symeonidis

SESSION N29. DPOLY: BLOCK COPOLYMERS II

Wednesday morning, 8:00AM, LACC-504

Chair: Thomas Epps, NIST

8:00AM **N29.00001:** The melt, lyotropic and aqueous phase behavior of poly(ethylene oxide)-poly(butadiene) block copolymers
Sumeet Jain, Frank Bates

8:12AM **N29.00002:** Visualizing worm micelle dynamics and phase transitions of a charged diblock copolymer in water
Dennis Discher, Yan Geng

8:24AM **N29.00003:** Platelet self-assembly of a tetrablock copolymer in pure water
Enrique Gomez, Timothy Rappl, Vivek Agarwal, Arijit Bose, Carlos Marques, Nitash Balsara

8:36AM **N29.00004:** Effect of the Soluble Block Size on Spherical Diblock Polymer Micelles
Isaac Larue, Mireille Adam, Marinos Pitsikalis, Nikos Hadjichristidis, Sergei Sheiko, Ekaterina Zhulina, Michael Rubinstein

8:48AM **N29.00005:** Phase Behavior and Local Dynamics of Concentrated Triblock Copolymer Micelles
Hasan Yardimci, Brian Chung, James L. Harden, Robert L. Leheny

9:00AM **N29.00006:** Multicompartment Micelles from ABC Star Terpolymers
Zhibo Li, Marc Hillmyer, Timothy Lodge

9:12AM **N29.00007:** Brownian Dynamics Simulation of Multiblock Copolymers in Selective Solvents
Yongsheng Liu, Huifen Nie, Rama Bansil

9:24AM **N29.00008:** Structure and Properties of PBO-PEO Diblock Copolymer Modified Epoxy
Junxian Wu, Yonathan Thio, Frank S. Bates

9:36AM **N29.00009:** Complex Micelle Morphologies Constructed by Charged Block Copolymer Self-assembly
Darrin Pochan

9:48AM **N29.00010:** The Effect of Counterion Valency and Solvent Properties on Charged Amphiphilic Triblock Copolymer Assembly into Disks, Cylinders, or Spheres
Zhibin Li, Zhiyun Chen, Honggang Cui, Kelly Hales, Kai Qi, Karen Wooley, Darrin Pochan

10:00AM **N29.00011:** Separation of PS-PMMA block copolymers from PS precursors via selective adsorption on nanoprous silica
Chang Yeol Ryu, Junwon Han

10:12AM **N29.00012:** Influence of Grain Boundaries on the Deformation Behavior of Block Copolymers: In Situ SAXS Tensile Deformation and Simulation of Bicrystals
Panitarn Wanakamol, Theodora Tzianetopoulou, Mary C. Boyce, Edwin L. Thomas

10:24AM **N29.00013:** Grain Growth Kinetics of AnBn Star Block Copolymers in Supercritical Carbon Dioxide
Xiaochuan Hu, Samuel Gido, Thomas Russell, Hermis Iatrou, Nikos Hadjichristidis, Ferass Abuzaina, Bruce Garetz

10:36AM **N29.00014:** A Mesoscopic Archimedean Tiling Having a New Complexity in ABC Star-shaped Block Terpolymers
Tomonari Dotera, Atsushi Takano, Wataru Kawashima, Atsushi Noro, Yoshinobu Isono, Nobuo Tanaka, Yushu Matsushita

10:48AM **N29.00015:** Nanotransforming Assemblies
Dennis Discher, Yan Geng

11:00AM **N29.00016:** Mesophase formation of block copolymer in cylindrical nanopore
June Huh, Won Ho Jo, Kyusoon Shin, Hongqi Xiang, Jiun-Tai Chen, Thomas P. Russell

SESSION N30. DPOLY: POLYMER - INORGANIC COMPOSITES II

Wednesday morning, 8:00AM, LACC-505

Chair: Joao Cabral, Imperial College

8:00AM **N30.00001:** Control of the Dynamic Behavior of The Particle-Copolymer Nanocomposites
Gang He, Anna Balazs

8:12AM **N30.00002:** Network formation in sheared polymer nanocomposites
Eihab Jaber, Haobin Luo, Wentao Li, Dilip Gersappe

8:24AM **N30.00003:** Phase Separation Dynamics of Polymer Blend Films Containing Polymer-Grafted Nanoparticles
H.-J. Chung, R.J. Composto, K. Ohno, T. Fukuda

8:36AM **N30.00004:** Thermally Induced Lateral Motion of α-Zirconium Phosphate Layers Intercalated with Hexadecylamines
Kookheon Char, Bongwoo Ha

8:48AM **N30.00005:** Molecular Dynamics Simulations of Poly(dimethylsiloxane) - Silica Interfaces
James Smith, Oleg Borodin, Grant Smith

9:00AM **N30.00006:** First Observation of an ``Anomalous Mullins Effect'' in Silica Filled PDMS
Marilyn Hawley, Debra Wrobleski, E. Bruce Orler, Robert Houlton, Kiran Chitanvis, Geoffrey Brown, David Hanson

9:12AM **N30.00007:** A physical mechanism for the Mullins Effect in silica-filled polydimethylsiloxane
David Hanson, Marilyn Hawley

9:24AM **N30.00008:** SANS studies of polymer chain conformation in the presence of nanofillers
Sanat Kumar, Rebecca Godlaski, Sudeepto Sen, Yuping Xie

9:36AM **N30.00009:** Nanosphere Embedment into Polymer Surfaces: A Viscoelastic Contact Mechanics Analysis
Stephen Hutcheson, Gregory McKenna

9:48AM **N30.00010:** Influence of Nanoparticles on the Miscibility in Binary Polymer Blends – A Simple Theory
Valeriy Ginzburg

10:00AM **N30.00011:** Surfaces of Fluoroelastomer Nanocomposites
David Pan

10:12AM **N30.00012:** Bulk and Interfacial Behavior of Nanoparticle/Polymer Blends
A.L. Frischknecht, R.S. Krishnan, A. Tuteja, M.A. Holmes, M.E. Mackay

10:24AM **N30.00013:** Interactions between nano-particles in solutions of adsorbing polymers
Megha Surve, Victor Pryamitsyn, Venkat Ganesan

N30.00014: Models of the viscoelasticity of polymer nanocomposites
Catalin Picu, Alireza Sarvestani, Abhik Rakshit

N30.00015: Magnetic Investigations of Titanium Doped Gamma Iron Oxides Dispersed in Polymers
Mircea Chipara, Ioan Morjan, Rodica Alexandrescu, Jeffrey Zaleski, David Baxter, Nicholas Remmes

N30.00016: Nucleation and Growth in Poly(L-lactic acid)/clay nanocomposites
Vahik Krikorian, Darrin Pochan

SESSION P4. DPOLY: STRUCTURE IN SOLUTIONS AND MELTS

Wednesday morning, 11:15AM, LACC-515A

Chair: Zhen-Gang Wang, California Institute of Technology

11:15AM **P4.00001:** Self-Assembled Liquid Crystalline Gels Designed from the Bottom Up
Invited Speaker: Julia Kornfield

11:51AM **P4.00002:** Telechelic amphiphilic polymers: assembly in water and at the air/water interface
Invited Speaker: Francoise M. Winnik

12:27PM **P4.00003:** Network Phases of ABC Triblock Copolymers
Invited Speaker: Travis Bailey

1:03PM **P4.00004:** Conformations and Structure in Aqueous Poly(ethylene oxide) Solutions
Invited Speaker: Grant Smith

1:39PM **P4.00005:** Control of contents and release kinetics in block copolymer vesicles
Invited Speaker: Adi Eisenberg

SESSION P29. DPOLY FIAP: TRANSPORT AND ELECTRONIC STRUCTURE OF ORGANIC ELECTRONIC MATERIALS

Wednesday morning, 11:15AM, LACC-504

Chair: Arthur Epstein, Ohio State University

11:15AM **P29.00001:** Theory of Quantum Hopping In Metallic Polymers and Applications in Electronics
Invited Speaker: Vladimir Prigodin

11:51AM **P29.00002:** Charge injection, transport and trapping in nanoparticle based memory devices
J. Campbell Scott, Luisa Bozano, Ryan Chiechi, Jodi Iwata

12:03PM **P29.00003:** Local EFM measurements of organic conducting materials at various temperatures
Tse Nga Ng, William Silveira, John Marohn

12:15PM **P29.00004:** On the electronic transport in doped polyaniline/polyethylene oxide nanofibers prepared via electrospinning
Natalya A. Zimbovskaya, Alan T. Johnson Jr., Nicholas J. Pinto

12:27PM **P29.00005:** Dispersion and Current-Voltage Characteristics of Helical Polyacetylene Single Fibers
Y.W. Park, H.J. Lee, A.N. Aleshin, J.Y. Lee, Y.S. Kim, D.W. Kim, Z.X. Jin, M.J. Goh, K. Akagi

12:39PM **P29.00006:** Characterization of the Porphyrin Molecule as an Electronic Component
Sathish Thriuvengadam, Kim Lewis, Raghu Ramachandran, Royston Siow, Theda Daniels-Race

12:51PM **P29.00007:** CP-AFM Study of Current Transport Through Porphyrin – Based Molecules
Raghu Ramachandran, Kim Lewis, Sathish Thiruvengadam, Royston Siow, Theda Daniels-Race

1:03PM **P29.00008:** The injection barrier at a metal/organic interface
D. H. Dunlap, Tianjian Lu

1:15PM **P29.00009:** Charge Injection into Cathode-Doped Amorphous Organic Semiconductors
Benjie Limketkai, Marc Baldo

1:27PM **P29.00010:** Spectroscopy and Imaging of Metal-Organic Interfaces using BEEM
Cedric Troadec, Linda Kunardi, Natarajan Chandrasekhar

SESSION P30. DPOLY: POLYMERS - INORGANIC COMPOSITES III

Wednesday morning, 11:15AM, LACC-505

Chair: Mark Dadmun, University of Tennessee

11:15AM **P30.00001:** Novel Route to Mesoporous silica with perpendicular nanochannels from polymer/inorganic nanocomposite films
Sivakumar Nagarajan, Mingqi Li, Rajaram Pai, Craig Weinman, Christopher Ober, Thomas Russell, James Watkins

11:27AM **P30.00002:** A Fracture Resisting Molecular Interaction in Trabecular Bone: Sacrificial Bonds and Hidden Length Dissipate Energy as Mineralized Fibrils Separate
Georg E. Fantner, Tue Hassenkam, Johannes H. Kindt, James C. Weaver, Henrik Birkedal, Leonid Pechenik, Jacqueline A. Cutroni, Laura S. Golde, Marquesa M. Finch, Philipp Thurner, Geraldo A.G. Cidade, Galen D. Stucky, Danie E. Morse, Paul K. Hansma

11:39AM **P30.00003:** Self-assembled anisotropic polymer particles by polycondensation in lyotropic surfactant mesophases
Guruswamy Kumaraswamy, Mohan Wadekar

11:51AM **P30.00004:** Electron spin resonance on carbon nanotubes-polymer composites
Mircea Chipara, Zaleski Jeffrey, David Hui, Ning Pan

12:03PM **P30.00005:** Flow Based Control of Conductivity in Nanotube Composites
Kalman Migler, Sam Kharchenko, Jan Obrzut, Jack Douglas

12:15PM **P30.00006:** Effect of Carbon Nanotube Alignment in Polymer Nanocomposites on the Electrical Conductivity
Fangming Du, John E. Fischer, Karen I. Winey

12:27PM **P30.00007:** Thermal Conductivity of Single-Walled Carbon Nanotube / Polyethylene Nanocomposites
Reto Haggenmueller, John E. Fischer, Karen I. Winey, Jesse J. Cugliotta, Jennifer R. Lukes

12:39PM **P30.00008:** Controlling the Dispersion and Properties of Single-Walled Carbon Nanotube-Polymer Nanocomposite
Asif Rasheed, Mark Dadmun, Phillip Britt, David Geohegan, Ilia Ivanov

12:51PM **P30.00009:** From Carbon Nanotube Dispersion to Composite Nanofibers
Yachin Cohen, Yael Dror, Wael Salalha, Alexander L. Yarin, Eyal Zussman, Wim Pyckhout-Hintzen

1:03PM **P30.00010:** Enhanced alignment of Multi-Walled Carbon Nanotubes in Electrospun PS/PMMA Polymer Blends
Jaemin Kim, Kwanwoo Shin

1:15PM **P30.00011:** Processing Phase Diagram of Polymer Carbon-Nanotube Composites
Erik K. Hobbie, Dan Fry, Howard Wang

1:27PM **P30.00012:** Measurements of particle orientation in simple shear and channel flows of polypropylene/clay nanocomposites
Laura Dykes, Wesley Burghardt, Kosmas Kasimatis, John Torkelson

1:39PM **P30.00013:** Rheology of Non-dilute Polystyrene/Cloisite/Toluene Solutions
Jun Li, Vladimir Zaitsev, Steven Schwarz, Jonathan Sokolov, Miriam Rafailovich

1:51PM **P30.00014:** Melt rheology studies of polymer chain dynamics in the presence of nanofillers
Sudeepto Sen, Sanat Kumar

2:03PM **P30.00015:** Polymer nanocomposites: permeability, chain dynamics, mechanical properties
Laxmi Sahu, Nandika D'Souza

SESSION P31. DPOLY DBP: BIOPOLYMERS: MOLECULES, SOLUTIONS AND NETWORKS I

Wednesday morning, 11:15AM, LACC-503

Chair: John Crocker, University of Pennsylvania

11:15AM **P31.00001:** Nonlinear elasticity of semiflexible polymer networks
Invited Speaker: Fred MacKintosh

11:51AM **P31.00002:** RNA gels with negative Poisson ratio
Amir Ahsan, Joseph Rudnick, Robijn Bruinsma

12:03PM **P31.00003:** DNA intercalation by ethidium bromide: A quantitative binding study using DNA stretching and force-induced melting
Mark C. Williams, Ioana Vladescu, Micah McCauley, Ioulia Rouzina

12:15PM **P31.00004:** Stretching DNA by a Constant Field
Yuko Hori, Ashok Prasad, Jane' Kondev

12:27PM **P31.00005:** Beyond Wormlike Chain: An effective theory of mesoscale DNA mechanics
Philip Nelson, Paul Wiggins, Rob Phillips

12:39PM **P31.00006:** Semiflexible Chain Networks Formed via Self-Assembly of Beta-Hairpin Molecules
Bulent Ozbas, Darrin Pochan, Karthikan Rajagopal, Joel Schneider

12:51PM **P31.00007:** The Rheological Properties of the Biopolymers in Synovial Fluid
Wendy E. Krause, Rebecca R. Klossner, Julie Wetsch, Katherine M. N. Oates, Ralph H. Colby

1:03PM **P31.00008:** The nonlinear elasticity of alpha helical polypeptides: Analytical and Monte Carlo studies
Buddhapriya Chakrabarti, Alex Levine

1:15PM **P31.00009:** Persistency of single-stranded DNA: the interplay between base sequences and base stacking
Bae-Yeun Ha, Anirban Sain, Jeff Z.Y. Chen

1:27PM **P31.00010:** Unzipping DNA from the condensed globule state--effects of unraveling
Pui-Man Lam

1:39PM **P31.00011:** Distance measurement along DNA molecules using fluorecent quantum dots
Helmut Strey

1:51PM **P31.00012:** AFM Imaging of F-actin Network Formation on a photopolymer surface
Taiji Ikawa, Osamu Watanabe, Youli Li, Cyrus R. Safinya

2:03PM **P31.00013:** Microtubule Bundling and Shape Transitions
Daniel Needleman, Miguel Ojeda-Lopez, Uri Raviv, Kai Ewert, Janya Jones, Herbert Miller, Leslie Wilson, Cyrus Safinya

P31.00014: Higher Order Assembly of Microtubules by Counter-ions
Daniel Needleman, Miguel Ojeda-Lopez, Uri Raviv, Herbert Miller, Leslie Wilson, Cyrus Safinya

SESSION S30. DPOLY: POLYMER BLENDS

Wednesday afternoon, 2:30PM, LACC-505

Chair: Alamgir Karim, NIST

2:30PM **S30.00001:** Thermodynamics and Dynamics of Diblock Copolymers at Polymer/Polymer Interfaces
Benedict J. Reynolds, Megan L. Ruegg, Nitash P. Balsara, C. J. Radke

2:42PM **S30.00002:** Thermodynamics of Polymer Blends Organized by Balanced Block Copolymer Surfactants Studied by Mean-field Theories and Scattering
Megan Ruegg, Benedict Reynolds, Nitash Balsara, Timothy Shaffer, Min Lin, David Lohse

2:54PM **S30.00003:** Effects of Branch Points and Chain Ends on Interfacial Segregation and Bulk Thermodynamics in Blends of Branched and Linear Polymers
Jae S. Lee, Nam-heui Lee, Alexei P. Sokolov, Roderic P. Quirk, Mark D. Foster, Boualem Hammouda, Charles F. Majkrzak

3:06PM **S30.00004:** Ultra-low interfacial tensions of a polymer/polymer interface with diblock copolymer surfactant
Kwanho Chang, David Morse, Christopher Macosko

3:18PM **S30.00005:** Kinetic Hindrance during Diffusion-Controlled Reactions at Polymer-Polymer Interfaces
Shane Harton, Frederick Stevie, Harald Ade

3:30PM **S30.00006:** Phase Behavior of Ternary Block Copolymer – Homopolymer Blends in Thin Films on Chemically Nanopatterned Surfaces
Mark P. Stoykovich, Harun H. Solak, Paul F. Nealey

3:42PM **S30.00007:** Nucleation in Polymer Blends
Timothy Rappl, Nitash Balsara

3:54PM **S30.00008:** Discrete combinatorial phase mapping of multicomponent mixtures
Joao Cabral, Alamgir Karim

4:06PM **S30.00009:** Small Angle Neutron Scattering Studies on Blends of Poly (Styrene-ran-Vinyl Phenol) with Liquid Crystalline Polyurethane
Rujul Mehta, Mark Dadmun

4:18PM **S30.00010:** Binary Phase Diagrams of Crystalline Polymers
Thein Kyu, Rushikesh Matkar

4:30PM **S30.00011:** Spectroscopic Investigation on Morphology Development of Polymer Blends
Tomoko Hashida, Young Gyu Jeong, Ying Hua, Shaw Ling Hsu

4:42PM **S30.00012:** Glassy states and microphase separation in crosslinked homopolymer blends
Paul Goldbart, Christian Wald, Annette Zippelius

4:54PM **S30.00013:** Coarse-Grained Description of Polymer Liquids and their Mixtures as Interacting Soft-Colloidal Particles
Marina Guenza, Galina Yatsenko, Edward Sambriski, Maria Nemirovskaya

5:06PM **S30.00014:** Polyolefin blends: Coarse-grained study of melt structures relevant for predicting blend miscibilities
Sandeep Jain, Shekhar Garde, Sanat Kumar

5:18PM **S30.00015:** Miscible polyethylene glycol-citric acid gels
Justin Barone

S30.00016: Quantitative Predictions of the Enthalpic Component of the Interaction Parameter in Mixtures: An Assessment of the Accuracy and Precision Required From Molecular Simulations
David Rigby

S30.00017: Three-Dimensional Modeling of Holographic Polymer-Dispersed Liquid Crystal Formation via Various Interference Techniques
Thein Kyu, Gregory Yandek, Scott Meng

SESSION S31. DPOLY FIAP: ORGANIC ELECTRONICS MATERIALS CHARACTERIZATION

Wednesday afternoon, 2:30PM, LACC-503

Chair: Graciela Blanchet, DuPont

2:30PM **S31.00001:** Optical characterization of single crystals of the organic semiconductor rubrene
J.R. Weinberg-Wolf, L.E. McNeil, Shubin Liu, Christian Kloc

2:42PM **S31.00002:** Crystal Structures and Band Structures of Acene Chalcogenides: Their Application for OFET.
A. Ugawa, T. Kunikiyo, Y. Ohta, M. Murakami, J. Kasahara

2:54PM **S31.00003:** Microscopic evidence for spatially inhomogeneous charge trapping in pentacene.
Erik Muller, John Marohn

3:06PM **S31.00004:** Optical properties of pentacene clusters and ultra-thin films (*)
Rui He, Nancy G. Tassi, Graciela B. Blanchet, Aron Pinczuk

3:18PM **S31.00005:** Raman spectroscopic studies of polyfluorenes upon thermal cycling
M. Arif, S. Guha, B. Tanto, M.J. Winokur

3:30PM **S31.00006:** Intermolecular bonding in conjugated polymers
Jeremy D. Schmit, Alex J. Levine

3:42PM **S31.00007:** Resonant Soft X-Ray Emission (SXE) and Resonant Inelastic X-Ray Scattering (RIXS) study of the Electronic Structure of Thin Film Vanadium Oxide Phthalocyanine (VO-Pc).
Kevin E. Smith, Yufeng Zhang, Lukasz Plucinski, Shancai Wang, Sarah Bernardis, Timothy Learmonth, James Downes

3:54PM **S31.00008:** Two-dimensional dispersion of image electrons on C$_{60}$ thin films on Au(111) and Cu(111)
Daniel Quinn, Gregory Dutton, Chad Lindstrom, Xiaoyang Zhu

4:06PM **S31.00009:** DMRG study of pi-conjugated polymers with additional pi-conjugation in the transverse direction
Yongguo Yan, Sumit Mazumdar

4:18PM **S31.00010:** Optical Coherent Control of Lattice Deformations in Organic Semiconductors
M. V. Katkov, C. Piermarocchi

4:30PM **S31.00011:** Density functional theory and Molecular Dynamics Studies on Energetics and Kinetics for Electro-Active Polymers: PVDF and P(VDF-TrFE)
Haibin Su, A. Strachan, William Goddard III

4:42PM **S31.00012:** Force Field Parameterization and Property Calculation of Aminofluorene-Based Chromophores
David Rigby, Rajiv Berry

SESSION U4. DPOLY: POLYMER MICROSTRUCTURES

Thursday morning, 8:00AM, LACC-515A

Chair: Karen Winey, University of Pennsylvania

8:00AM **U4.00001:** On the Formation of an Ordered Array of Holes in a Polymer Film:What can Dew Formation Teach Us?
Invited Speaker: Mohan Srinivasarao

8:36AM **U4.00002:** Block Copolymer Lithography
Invited Speaker: Paul Nealey

9:12AM **U4.00003:** Microstructures of Polymer-Inorganic Hybrids
Invited Speaker: Ulrich Wiesner

9:48AM **U4.00004:** Use of Polymer Micro-Structures for Drug & Gene Delivery
Invited Speaker: Ben Chu

10:24AM **U4.00005:** Functional Microstructures from Iron-Containing Block Copolymers
Invited Speaker: Nitash Balsara

SESSION U29. DPOLY FIAP: ORGANIC LIGHT EMITTING DIODES

Thursday morning, 8:00AM, LACC-504

Chair: Eric Lin, NIST

8:00AM **U29.00001:** High Efficiency Organic Light-Emitting Devices Having Charge Generation Layers
Invited Speaker: Junji Kido

8:36AM **U29.00002:** White polymer LED and its integration with polymer transistor
Hsin-Fei Meng

8:48AM **U29.00003:** High Performance White Organic Light-Emitting Diodes
Samson Jenekhe, Maksudul Alam, Lloyd Rhoads

9:00AM **U29.00004:** Highly Efficient Blue Electroluminescence from n-Type Conjugated Oligoquinolines
Abhishek Kulkarni, Angela Gifford, Christopher Tonzola, Samson Jenekhe

9:12AM **U29.00005:** Electroluminescent devices from ionic transition metal complexes
Invited Speaker: George Malliaras

9:48AM **U29.00006:** A Time-Dependent Density Functional Theory Study of One-and Two-Photon Absorption: Stilbene- and Fluorene-Based Donor-Acceptor Chromophores
Ruth Pachter, Paul Day, Kiet Nguyen

10:00AM **U29.00007:** Optically Detected Magnetic Resonance (ODMR) Studies Critical to the Determination of the Yield of Singlet Excitons in Fluorescence-Based OLEDs
Joseph Shinar

10:12AM **U29.00008:** Quenching of Photoluminescence and Electroluminescence in OLEDs by Exciton-Charge and Exciton-Dopant Interactions
Christopher Williams, William Sampson, Sergey Lee, John Ferraris, Anvar Zakhidov

10:24AM **U29.00009:** Chain Conformations and Photoluminescence in Poly(di-n-octylfluorene)
Michael Winokur, Withoon Chunwachirasiri, Boy Tanto, David Huber

10:36AM **U29.00010:** Enhanced triplet formation in polyfluorene blends
Thomas Ford, Neil Greenham

10:48AM **U29.00011:** Aggregation can enhance the O/PLED efficiency
Zhigang Shuai

U29.00012: Field-induced switch from heterojunction to bulk charge recombination in bilayer light-emitting diodes
Carlos Silva, Arne Morteani, Richard Friend

U29.00013: Physics of Electroluminescent Devices Based on Ionic Transition Metal Complexes
George Malliaras, Jason Slinker

SESSION U30. DPOLY: POLYMER THIN FILMS: GENERAL

Thursday morning, 8:00AM, LACC-505

Chair: Azar Alizadeh, GE

8:00AM **U30.00001:** Rheological Response of Ultrathin Polymer Films
Gregory McKenna, Paul O'Connell

8:12AM **U30.00002:** Direct measurement of the counterion distribution within swollen polyelectrolyte films
Vivek Prabhu, Bryan Vogt, Wen-li Wu, Jack Douglas, Eric Lin, Sushil Satija, Dario Goldfarb, Hiroshi Ito

8:24AM **U30.00003:** Crumpling and uncrumpling of thin polymer films
Megan Juszkiewicz, Narayanan Menon, Yao Lin, T.P. Russell

8:36AM **U30.00004:** Grain Structure in Block Copolymer Thin Films Studied by Guided Wave Depolarized Light Scattering
Jeffrey Wilbur, Amish Patel, David Durkee, Rachel Segalman, Nitash Balsara, Bruce Garetz, Maurice Newstein, Alexander Liddle

8:48AM **U30.00005:** Swelling and surface modification of ultrathin chitosan films
Chris Murray, Oleg Stukalov, Amy Jacina, John Dutcher

9:00AM **U30.00006:** Surface Tension Driven Laser Lithography of Thin Polymer Films
John M. Hudson, Michael V. Massa, Kari Dalnoki-Veress, John S. Preston, An-Chang Shi

9:12AM **U30.00007:** Photoinduced Trans-Cis Isomerization of Azobenzene Probes Tagged to Polystyrene in Thin and Ultrathin Films
Yohei Tateishi, Keiji Tanaka, Toshihiko Nagamura

9:24AM **U30.00008:** Single chain structure in thin polymer films: corrections to Flory's and Silverberg's hypotheses
A. Cavallo, M. M\"uller, J.P. Wittmer, K. Binder

9:36AM **U30.00009:** Photoemission studies of the photo-degraded polyethylene and polystyrene ultrathin films
Orhan Kizilkaya, Masaki Ono, Eizi Morikawa

9:48AM **U30.00010:** Crystalline polymer thin films characterized with NEXAFS dichroism microscopy
H. Ade, T. Araki, Y. Zou, Y. Wang, M. Rafailovich, J. Sokolov

10:00AM **U30.00011:** Dynamics of Thin Film Mixtures from Incoherent Neutron Scattering
Brian Besancon, Christopher Soles, Peter Green

10:12AM **U30.00012:** Diffuse X-ray Scattering from Polystyrene Films
Xuesong Jiao, Jarrett Stark, Laurence Lurio, Suresh Narayanan, Alec Sandy, Zhang Jiang, Sinha Sunil

10:24AM **U30.00013:** Qualitative Discrepancy Between Motion on Different Length Scales in Thin Polymer Films
Zahra Fakhraai, Girjesh Dubey, James A. Forrest

10:36AM **U30.00014:** In-Situ Hot Stage Atomic Force Microscopy Study of Poly(E-Caprolactone) Crystal Growth in Ultrathin Films
Robert E. Prud'homme, Vincent H. Mareau

10:48AM **U30.00015:** Polymer Crystallization in Ultrathin Films
Alan Esker, Suolong Ni, Bingbing Li, Melinda Ferguson-McPherson, John Morris

SESSION U31. DPOLY DBP: POLYMERS AND FILAMENTS FOR THE CYTOSKELETON

Thursday morning, 8:00AM, LACC-503

Chair: David Morse, U Minnesota

8:00AM **U31.00001:** The response to point forces in cytoskeletal networks
Alex J. Levine, Davd Head, Fred C. MacKintosh

8:12AM **U31.00002:** Mechanical Response Study of Collagen by means of Molecular Simulation
Pieter J. in 't Veld, Mark J. Stevens

8:24AM **U31.00003:** Forced unfolding of protein domains determines cytoskeletal rheology
John Crocker, Brenton Hoffman, Gladys Massiera

8:36AM **U31.00004:** Structure and Interactions in Neurofilament Networks
Jayna Jones, M. Ojeda-Lopez, C.R. Safinya

8:48AM **U31.00005:** Electrostatic self-assembly between biological polymers & macroions: Interactions of F-actin & DNA with lysozyme
Lori K. Sanders, Thomas E. Angelini, Wujing Xian, Brian W. Matthews, Gerard C.L. Wong

9:00AM **U31.00006:** Phase Behavior of F-actin
Glenna Z. Sowa, David S. Cannell, Andrea J. Liu, Emil Reisler

9:12AM **U31.00007:** Phase behavior of semidilute polyelectrolyte mixtures of F-actin and DNA
Scott Slimmer, John C. Butler, Olena V. Zribi, Ramin Golastanian, Gerard C. L. Wong

9:24AM **U31.00008:** Fluorescent Speckle Microrheology of F-actin Networks
Margaret Gardel, Dinah Loerke, Gaudenz Danuser, Clare Waterman-Storer

9:36AM **U31.00009:** Entanglement of Semiflexiible Polymers: A Brownian Dynamics Study
Shriram Ramanathan, David Morse

9:48AM **U31.00010:** Polyelectrolyte Bundles: Finite size at thermodynamic equilibrium?
Mehmet Sayar, Hans J. Limbach, Christian Holm

10:00AM **U31.00011:** Growth of Attached Actin Filaments
Jie Zhu, A. E. Carlsson

10:12AM **U31.00012:** Structure and stability of self-assembled actin-lysozyme complexes studied via computer simulation
Camilo Guaqueta, Erik Luijten

10:24AM **U31.00013:** Hierarchical Self Assembly of Actin Bundle Networks
Linda Hirst, Cyrus Safinya

10:36AM **U31.00014:** Elastic actin comet tails: shape, stresses and propulsion
Ajay Gopinathan, Andrea Liu

10:48AM **U31.00015:** The orientational order parameter of nematic liquid crystalline phase of F-actin
Jorge Viamontes, Jay X. Tang

U31.00016: Actin Filamin networks and stress criticality
Brian DiDonna, Alex Levine, John Crocker, Brenton Hoffman

U31.00017: Order-Order Transition of Size-mismatched Ions on F-actin Polyelectrolytes
Robert Coridan, Lori K. Sanders, Wujing Xian, Brian W. Matthews, Gerard C. L. Wong

U31.00018: Fingers and Comet Tails--Motility and Morphology in growing actin gels
Ariel Balter, Allan Bower, Jay Tang

SESSION V29. DPOLY: POLYMER THEORY AND SIMULATION I: GENERAL

Thursday morning, 11:15AM, LACC-504

Chair: Cameron Abrams, Drexel University

11:15AM **V29.00001:** Assessing the Application of the Flory Interaction Parameter
Michael Tambasco, Jane Lipson, Julia Higgins

11:27AM **V29.00002:** Optimizing a Mesoscale Model for Polyisoprene-Polystyrene Melts
Qi Sun, Roland Faller

11:39AM **V29.00003:** Chemical structure-optical property understanding in bisphenyls and substituted polycarbonates by molecular simulations: Role of polarizabilities and conformations
Upendra Natarajan, M.S. Sulatha

11:51AM **V29.00004:** Semiflexible chain statistics with fixed end orientations
Andrew Spakowitz, Lei Zhang, Niles Pierce, Zhen-Gang Wang

12:03PM **V29.00005:** Characterizing knots in polymer coil and globule phases
Peter Virnau, Mehran Kardar, Yacov Kantor

12:15PM **V29.00006:** Cyclization of Rouse Chains at Long and Short Time Scales
Chuck Yeung, Barry Friedman

12:27PM **V29.00007:** A Minimal Model for the Helix-Coil Transition of Worm-like Polymers
Gustavo A. Carri, Vikas Varshney, Taner E. Dirama, Taner Z. Sen

12:39PM **V29.00008:** Solvent-induced collapse of a helical semiflexible polymer
Vikas Varshney, Gustavo A. Carri

12:51PM **V29.00009:** Long Range Bond-Bond Correlations in Polymer Melts
Sergei Obukhov, Joachim Wittmer, Hendrick Meyer, Jorg Baschnagel, Albert Johner, Letitia Mattioni, Marcus M\"uller, Alexander Semenov

1:03PM **V29.00010:** Hydrodynamic Self Consistent Field Theory
David Hall, Turab Lookman, Sanjoy Banerjee

1:15PM **V29.00011:** Variable Cell Shape Methods in Polymer Field Theory Simulations
Glenn Fredrickson, Jean-Louis Barrat, Scott Sides

1:27PM **V29.00012:** Unit cell relaxation with the SCFT of block copolymers
Eric Cochran, Scott Sides, Dave Morse, Glenn Fredrickson

1:39PM **V29.00013:** Novel Approach to Study of the Localization of Plastic Relaxation Events in Plastic Deformation of Amorphous Polymers
Qing Peng, Marcel Utz

1:51PM **V29.00014:** Defect Diffusion, Free Volume and Positron Annihilation Spectroscopy
Michael Shlesinger, John Bendler, John Fontanella, J. Bartos, O. Sausa, J. Kristiak

2:03PM **V29.00015:** Dynamic Heterogeneity and Glassy Dynamics of Polymer Melts
Erica Saltzman, Kenneth Schweizer

SESSION V30. DPOLY: FLOW OF IMMISCIBLE POLYMER BLENDS

Thursday morning, 11:15AM, LACC-505

Chair: Gary Leal, University of California-Santa Barbara

11:15AM **V30.00001:** Slip at Polymer-Polymer Interfaces
Invited Speaker: Chris Macosko

11:51AM **V30.00002:** Stretching and colliding surfactant-coated drops
Invited Speaker: Steven Hudson

12:27PM **V30.00003:** Theoretical Studies of Flow-Induced Coalescence
L. Gary Leal, Fabio Baldessari

12:39PM **V30.00004:** Rheology and flow-induced structure in a polystyrene-polyisoprene biocontinuous microemulsion
Kristin Brinker, Wesley Burghardt

12:51PM **V30.00005:** An Experimental Investigation of the Effects of Copolymer Surfactants on Coalescence
Yosang Yoon, Adam Hsu, L. Gary Leal

1:03PM **V30.00006:** Local control of periodic pattern formation in driven binary immiscible fluid
Olga Kuksenok, David Jasnow, Anna C. Balazs

1:15PM **V30.00007:** Effect of Shear Flow on Morphology Development near Critical Point of Phase Diagram in Polymer Blend
Toshiaki Ougizawa, Machiko Naito

1:27PM **V30.00008:** Multi-scale simulation of dynamical properties of polymer blend interfaces
Bharadwaj Narayanan, Victor Pryamitsyn, Venkat Ganesan

1:39PM **V30.00009:** Low Temperature Processing of Core-Shell Baroplastics
Juan A. Gonzalez Leon, Sang-Woog Ryu, Sheldon A. Hewlett, Jeffrey A. Borowitz, Anne M. Mayes

1:51PM **V30.00010:** Surfactant effects on drop breakup and tip streaming
Charles Eggleton, Kathleen Stebe

2:03PM **V30.00011:** Effect of the Shear Rate on the Morphology Development for Compatibilized PA6/SAN25 Blends
Toshiaki Ougizawa, Naoyuki Kitayama

SESSION V31. DPOLY DBP: BIOPLOYMERS: MOLECULES, SOLUTIONS AND NETWORKS II

Thursday morning, 11:15AM, LACC-503

Chair: Jay Tang, Brown University

11:15AM **V31.00001:** Membrane Transport Mechanisms
Mihail Mihailescu, Anna Balazs

11:27AM **V31.00002:** Polynucleotide Adsorption onto Negatively Charged Surfaces
Hao Cheng, Joseph A. Libera, Kai Zhang, Michael J. Bedzyk, Monica Olvera de la Cruz

11:39AM **V31.00003:** Characterization of Surface-Tethered Particles by TIRFM
Arivalagan Gajraj, Seth Blumberg, Matthew Pennington, Jens-Christian Meiners

11:51AM **V31.00004:** DNA monolayers: Charging behavior and capacitance response
Rastislav Levicky, Gang Shen, Youlei Weng

12:03PM **V31.00005:** Water at a Janus Interface: An Exception to a Basic Assumption of Rheology
Yingxi Elaine Zhu, Steve Granick

12:15PM **V31.00006:** Light Regulated Anchoring of Biomolecules Via Photoactive Polyelectrolytes
Jason Benkoski, Aldo Jesorka, Fredrik Hook

12:27PM **V31.00007:** Amphiphilic Diblock Copolypeptides that Controllably Self-Assemble into Hydrogels and Vesicles
Lisa Pakstis, Andrew Nowak, Eric Holowka, Jeffery Thompson, Timothy Deming, Darrin Pochan

12:39PM **V31.00008:** Design of artificial proteins to incorporate non-biological cofactors
Ting Xu, Shixin Ye, Joe Strzalka, Sophia Wu, Andrey Tronin, Michael Therien, J. Kent Blasie

12:51PM **V31.00009:** On the Structure of Gum Arabic in Aqueous Solution
Yael Dror, Yachin Cohen, Rachel Yerushalmi-Rozen

1:03PM **V31.00010:** Superlubricity of a natural polysaccharide from the alga Porphyridium sp.
Delphine Gourdon, Qi Lin, Emin Oroudjev, Helen Hansma, Jacob Israelachvili

1:15PM **V31.00011:** Dynamical and physical changes of chitosan solutions during storage
Nir Kampf, Ellen J. Wachtel, Anton Zilman, Jacob Klein, Noah Ben-Shalom

1:27PM **V31.00012:** Inhomogeneity of Type I Collagen Gels
Olga S. Latinovic, H. Daniel Ou-Yang

V31.00013: Dynamics of Polyalanine in Water and in Glycerol
Alper Buldum, Sharon R. Stefanovic

V31.00014: Blends of cysteine-containing proteins
Justin Barone, Walter Schmidt

SESSION W4. DPOLY: INDUSTRIAL CHALLENGES TO POLYMER PHYSICS

Thursday afternoon, 2:30PM, LACC-515A

Chair: Edward Kramer, University of California-Santa Barbara

2:30PM **W4.00001:** Blurring the Line: Polymers and Optics
Invited Speaker: Pratima Rangarajan

3:06PM **W4.00002:** Scaling down polymer thermomechanics for data storage applications
Invited Speaker: Bernd Gotsmann

3:42PM **W4.00003:** Polymer thin film transistors - from transport mechanisms to display backplanes
Invited Speaker: Robert Street

4:18PM **W4.00004:** Controlling Polymer Rheology and Blend Thermodynamics Through Chain Architecture
Invited Speaker: David Lohse

4:54PM **W4.00005:** Lithium and proton conducting membranes: Two sets of challenges for the polymer physicist
Invited Speaker: Michel Armand

SESSION W29. DPOLY: POLYMER THEORY AND SIMULATION II: INTERFACES AND CONFINEMENT

Thursday afternoon, 2:30PM, LACC-504

Chair: John McCoy, NMT

2:30PM **W29.00001:** Apex Exponents for Polymer-Probe Interactions
Roya Zandi, Michael Slutsky, Mehran Kardar, Yacov Kantor

2:42PM **W29.00002:** Charge Induced Pattern Formation on Surfaces
Sharon M. Loverde, Yury Velichko, Monica Olvera de la Cruz

2:54PM **W29.00003:** RIS-Monte Carlo Based Molecular Modeling of Elasticity and Photoelasticity of SBS Thermoplastic Elastomer
Kapileswar Nayak

3:06PM **W29.00004:** The Colloidal Force of Bead-Spring Chains in a Good Solvent
John McCoy, John Curro

3:18PM **W29.00005:** Molecular dynamics simulations of a polymer brush-melt interface under shear
Claudio Pastorino, Marcus Müller, Kurt Binder

3:30PM **W29.00006:** Capillary Waves, Chain Conformations, and Viscoelasticity at Sheared Blend Interfaces: DSCF - MD Comparison.
Tak Lo, Maja Mihaljovic, Yitzhak Shndiman, Wentao Li, Dilip Gersappe

3:42PM **W29.00007:** Instability of Polymer Films by Complete Dispersion Forces
Heping Zhao, Yong Jian Wang, Ophelia K.C. Tsui

3:54PM **W29.00008:** Molecular dynamics simulations of electrostatic layer-by-layer assembly of polyelectrolytes near charged planar surface
Pritesh Patel, Junhwan Jeon, Patrick Mather, Andrey Dobrynin

4:06PM **W29.00009:** Dynamical properties of DNA under confinement
Satheesh Kumar, Wokyung Sung

4:18PM **W29.00010:** Modelling polymer-obstacle collisions: Molecular Dynamics simulations and theory
Martin Kenward, Gary W. Slater

4:30PM **W29.00011:** Monte Carlo simulation and self-consistent integral equation theory for polymers in quenched random media
Bong June Sung, Arun Yethiraj

4:42PM **W29.00012:** The Equilibrium Partitioning of Block Copolymer at Critical Condition
Yongmei Wang, Shazia Khan, Wenhua Jiang

4:54PM **W29.00013:** What is the critical condition for equilibrium partitioning of SAW chains into pores?
Wenhua Jiang, Scott Orelli, Yongmei Wang

5:06PM **W29.00014:** Thermodynamics of Heteropolymers in Confinement: A Wang-Landau Monte Carlo Study
Yelena Sliozberg, Cameron Abrams

5:18PM **W29.00015:** Shape Templating Effects Among Growing Anisotropic Particles
Ashoutosh Panday, Samuel Gido

SESSION W30. DPOLY: ORGANIC THIN FILMS

Thursday afternoon, 2:30PM, LACC-505

Chair: Yueh Lin Loo, University of Texas

2:30PM **W30.00001:** Molecular orientation in self-assembled azo-polymer thin films studied by second-harmonic generation
Paulo B. Miranda, Fabio J. S. Lopes, Cleber R. Mendonca, Sergio C. Zilio

2:42PM **W30.00002:** Polyelectrolytes with Azobenzene for Self-Assembled Smart Materials
Christopher Barrett, Kevin Yager, Oleh Tanchak

2:54PM **W30.00003:** Beyond Force Measurements: Molecular Diffusion in Confined Fluida
Jeff Turner, Ashis Mukhopadhyay, Sung Chul Bae, Sangmin Jeon, Steve Granick

3:06PM **W30.00004:** Exciton absorption in thin PTCDA and PTCDA/Alq3 multilayers
V.R. Gangilenka, Ajith DeSilva, H.P. Wagner

3:18PM **W30.00005:** Strain Modified Exciton Emision in Organic Multilayers
Ajith DeSilva, H.P. Wagner, T.U. Kampen

3:30PM **W30.00006:** Enhancement of Raman signal for nanoconfined samples
Malgorzata Graca, Sang Chul Bae, Steve Granick

3:42PM **W30.00007:** The self-assembly of alkyl-trichlorosilanes on model surfaces of biphenylthiols
Svetlana Stoycheva, Joerg Fick, Steffen Franzka, Nils Hartmann, Alexander Kornviakov, Avi Ulman, Michael Himmelhaus, Michael Grunze

3:54PM **W30.00008:** Influence of lateral packing density and tailgroup hydrophilicity on the protein resistance of oligoether-terminated alkanethiols studied by IR-vis sum frequency generation (SFG)
Joerg Fick, Rongyao Wang, Sascha Herrwerth, Wolfgang Eck, Michael Himmelhaus, Michael Grunze

4:06PM **W30.00009:** Low Energy Electron Diffraction and Photoemission Study of Dodecanethiol on Pt(111) and Pt(100)
T.M. Sweeney, P.S. Robbert, J.W. Hobson, S.M. Huston, C.A. Ventrice, Jr., H. Geisler

4:18PM **W30.00010:** Molecular Simulation of Oligomeric Nanofilms Confined Between Iron and Iron Oxide Surfaces
David Rigby, Rajesh Khare

4:30PM **W30.00011:** Structural characterization of iron phthalocyanine thin films by X-ray diffractometry
Casey W. Miller, A. Sharoni, G. Liu, C. N. Colesniuc, B. Fruhberger, Ivan K. Schuller

4:42PM **W30.00012:** Electronic structures of self-assembled monolayer of molecules of symmetric disulfides of benzoic acid
Y. -H. Tang, M. -H. Tsai

SESSION W31. FIAP DPOLY: FOCUS SESSION: INTERACTION OF POLYMERS WITH BIOLOGICAL SYSTEMS

Thursday afternoon, 2:30PM, LACC-503

Chair: Roland Faller, University of California-Davis

2:30PM **W31.00001:** Modeling the Dynamic Interactions between Polymeric Membranes and Target Species
Invited Speaker: Anna C. Balazs

3:06PM **W31.00002:** Lipid Corralling and Polymer Squeeze-out in Membranes
Invited Speaker: Ka Yee C. Lee

3:42PM **W31.00003:** Computer simulation of C60 permeation crossing dimyristoylphosphatidylethanolamine
Liwei Li, Dmitry Bedrov, Grant Smith

3:54PM **W31.00004:** Towards Improving the Targeting Efficiency of End-Functionalized Polymer Brushes
Chun-Chung Chen, Elena E. Dormidontova

4:06PM **W31.00005:** Connect the Dots: Tracking the Motion of Single Particles
Stephen Anthony, Liangfang Zhang, Steve Granick

4:18PM **W31.00006:** Polymer Diffusion in Lipid Membranes
Ashok Prasad, Jane' Kondev

4:30PM **W31.00007:** Self-assembly between DNA and anionic membranes
Hongjun Liang, Daniel Harries, Gerard Wong

4:42PM **W31.00008:** Mobility of DNA on Supported Lipid Bilayers
Chakradhar Padala, Sanat Kumar, Ravi Kane

4:54PM **W31.00009:** Polymers Slaved Diffusion in Phospholipid Bilayers---A Study Using Single-Molecule Fluorescence
Liangfang Zhang, Steve Granick

5:06PM **W31.00010:** A Molecular Imprinting Strategy Employing Polyelectrolyte Multilayers
Solar C. Olugebefola, Anne M. Mayes, Michael F. Rubner

5:18PM **W31.00011:** DNA Molecules Adsorbed on Rippled Supported Cationic Lipid Membranes -- A new way to stretch DNAs
Leonardo Golubovic

W31.00012: Stretching Helical Macromolecules
Gustavo A. Carri, Vikas Varshney

SESSION X29. DPOLY: WETTING & DEWETTING-STABILITY OF POLYMER THIN FILMS

Friday morning, 8:00AM, LACC-504

Chair: John Dutcher, University of Guelph

8:00AM **X29.00001:** Drop-on-Demand Based Inkjet Printing for Making Patterned Surfaces with Controlled Surface Wetting.
Amit Sankhe, Michael Kilbey

8:12AM **X29.00002:** Role of molecular motion in the Dewetting of Diblock Copolymer Thin Films
Gang Cheng, Dvora Perahia

8:24AM **X29.00003:** Probing molecular mobility in freely-standing polystyrene films using hole growth
Connie Roth, John Dutcher

8:36AM **X29.00004:** Instability of Polymer Films on a Polymer Substrate with Interfacial Heterogeneities
Bin Wei, Peter G. Lam, Jan Genzer, Richard J. Spontak

8:48AM **X29.00005:** Suppression of Dewetting in Polystyrene Thin Films by Polymer Nanoparticles
Hongxia Feng, R. M. Briber, Victor Y. Lee, Robert D. Miller, Ho-Cheol Kim

9:00AM **X29.00006:** `Finger-like' instabilities of the moving rim during the dewetting of thin polymers films
Sylvain Gabriele, Pascal Damman

9:12AM **X29.00007:** Molecular Visualization of the Spreading Process
Hui Xu, David Shirvanyants, Kathryn Beers, Krzysztof Matyjaszewski, Michael Rubinstein, Sergei Sheiko

9:24AM **X29.00008:** Morphological stability of thin film PS/TMPC mixtures on SiOx-Si substrates
Jamie Kropka, Peter Green

9:36AM **X29.00009:** Dynamics of thin liquid polystyrene films
Hyunjung Kim, Young Joo Lee, Heeju Lee, Zhang Jiang, S. K. Sinha, Xuesong Jiao, L. B. Lurio, A. Ruehm, K. Shin, C. Li, M. Rafailovich

9:48AM **X29.00010:** Time Evolution Study on the Spinodal Dewetting of Polymer Films
Yong Jian Wang, Fengchao Xie, Ophelia K.C. Tsui

10:00AM **X29.00011:** A Generalized Approach to Surface Modification using Random Copolymers
Du Yeol Ryu, Kyusoon Shin, Eric Drockenmuller, Craig Hawker, Thomas Russell

10:12AM **X29.00012:** Structural evolution of thiol-capped gold nanoparticle monolayers undergoing controlled nanowetting
Diego Pontoni, Kyle Alvine, Antonio Checco, Oleg Gang, Ben Ocko, Peter Pershan, Francesco Stellacci

SESSION X30. DPOLY: POLYMER CRYSTALLIZATION

Friday morning, 8:00AM, LACC-505

Chair: Ben Hsiao, Stonybrook

8:00AM **X30.00001:** Reversible Processes Between the Glass and Melting Transition of Poly(oxyethylene)
Wunderlich Bernhard, Wulin Qiu

8:12AM **X30.00002:** Theory of Lamellar Growth in Polymer Solutions
Arindam Kundagrami, M Muthukumar

8:24AM **X30.00003:** Reversible melting of extended-chain and folded-chain polymer crystals
Rene Androsch, Bernhard Wunderlich, Hans-Joachim Radusch

8:36AM **X30.00004:** Modeling of Polymer Melting
Jianing Zhang, Murugappan Muthukumar

8:48AM **X30.00005:** Crystallization of ethylene/alpha-olefin copolymers in shear fields
R. Shamsundar, P. Sane, V. Premnath, T.P. Mohandas, Guruswamy Kumaraswamy

9:00AM **X30.00006:** Examination of Flow-Induced Crystallization Precursor Structures in Polyethylene Blend Films by Reversed Melting Method
J. Keum, R. Somani, F. Zuo, L. Yang, I. Sics, B. Hsiao, H. Chen, R. Kolb, C.-T. Lue

9:12AM **X30.00007:** Unexpected Shish-Kebab Structure in Shear-Induced Polyethylene Melt
Benjamin Hsiao, Ling Yang, Rajesh Somani, Lei Zhu

9:24AM **X30.00008:** Shear-Induced Shish-Kebab Morphology in Polymer Melts - Flow Between Two Parallel Plates versus Coaxial Cylinders
Rajesh Somani, Igors Sics, Benjamin Hsiao

9:36AM **X30.00009:** Thermal Stability of Shear-Induced Precursors of Shish-Kebab in a Model Polyethylene Blend by in-situ Rheo-SAXS and -WAXD
Feng Zuo, JongKahk Keum, Ling Yang, Rajesh Somani, Benjamin Hsiao

9:48AM **X30.00010:** Radial distribution of crystallinity in poly(trimethylene terephthalate) fibers characterized by confocal Raman spectroscopy
Jing Wu

10:00AM **X30.00011:** Crystal Nucleation of Polymers Confined to Droplets: Memory Effects
Michael V. Massa, Michelle S.M. Lee, Kari Dalnoki-Veress

10:12AM **X30.00012:** Study of Onsets of Tethered Chain Overcrowding and Highly Stretched Regime of Brushes via Crystalline-Amorphous Diblock Copolymers
Joseph X. Zheng, Huiming Xiong, KyungMin Lee, Christopher Y. Li, Lei Zhu, Ping Huang, Ya Guo, Qing Ge, Roderic P. Quirk, Bernard Lotz, Edwin L. Thomas, Stephen Z.D. Cheng

10:24AM **X30.00013:** Molecular Architecture Induced Chain-Folding in Polymeric Amphiphilic Unimolecular Micelles
Lei Zhu, Jianjun Miao, Guoqiang Xu, Lu Tian, Kathryn Uhrich, Carlos Avila-Orta, Benjamin Hsiao

10:36AM **X30.00014:** Influence of Angular Potentials on the Crystallization of Model Polymer Chains
Hendrik Meyer, Thomas Vettorel, J\"org Baschnagel

10:48AM **X30.00015:** Long-range Periodic Structure in Porous High Density Polyethylene Crystallized from the Gel State
Shujun Chen, Samuel P. Gido, Souvik Nandi, H. Henning Winter

SESSION X31. DPOLY FIAP: ORGANIC-BASED MAGNETISM AND SPINTRONICS

Friday morning, 8:00AM, LACC-503

Chair: Arthur Epstein, Ohio State University

8:00AM **X31.00001:** Charge and Spin Delocalization in Novel Porphyrin Oligomers
P. Frail, K. Susumu, M.J. Therien, P.J. Angiolillo, J.M. Kikkawa

8:12AM **X31.00002:** Large Magnetoresistance (\%10 at 10 Mt, 300k) in Semiconducting Polymer Thin Film Devices
Omer Mermer, Govindarajan Veeraraghavan, Thomas Francis, Markus Wohlgenannt, Yugang Sheng, Duc Nguyen

8:24AM **X31.00003:** Addressing individual metal ion centers in supramolecules by STS
M.S. Alam, S. Str\"omsd\"orfer, V.V. Dremov, P. M\"uller, A.M. Ako, R.W. Saalfrank, M. Ruben, L.K. Thompson, J.-M. Lehn

8:36AM **X31.00004:** Atomic, electronic and spin-density structure of cobalt/polythiophene/cobalt magnetic tunnel junction
Ivan Oleynik

8:48AM **X31.00005:** Photoinduced magnetism in chemical vapor deposited V(TCNE)$_{x}$, $x\sim2$ films
J.W. Yoo, R. Shima Edelstein, P.I. Pokhodnya, A.J. Epstein, Joel S. Miller

9:00AM **X31.00006:** Magnetic properties of a molecule-based Fe[TCNE]2 magnet
Konstantin Pokhodnya, Arthur J. Epstein, Michael Bonner, Joel S. Miller

9:12AM **X31.00007:** Effect of incommensurate transverse magnetic anisotropy on tunneling rate in Mn12-acetate
Kyungwha Park, Mark Pederson, Noam Bernstein, Tunna Baruah, Steven Richardson

9:24AM **X31.00008:** Pulsed Field Studies of Unconventional Magnetoresistance in Q1D Conductors
Harukazu Yoshino, Zeynel Bayindir, Joydeep Roy, Ben Shaw, Heon-ick Ha, Andrei Lebed, M.J. Naughton

9:36AM **X31.00009:** Unconventional Field Dependent Magnetoresistance in Q1D Conductors
Heon-Ick Ha, Andrei Lebed, M.J. Naughton

9:48AM **X31.00010:** Giant Nernst Effect in (TMTSF)$_2$PF$_6$
Weida Wu, Paul Chaikin

10:00AM **X31.00011:** Theory of FICDW-FISDW Phases in Organic Superconductors
Natalia Bagmet, Andrei Lebed

10:12AM **X31.00012:** NMR evidence for very slow spin density fluctuations in the organic metal $(TMTSF)_2ClO_4$
Fan Zhang, Yosuke Kurosaki, Jun Shinagawa, Barakat Alavi, Stuart E. Brown

10:24AM **X31.00013:** Magnetic excitations probed by ^{77}Se T$_1$ at Magic angles in (TMTSF)$_2$PF$_6$
Stuart Brown, Weida Wu, Jun Shinagawa, Paul Chaikin

10:36AM **X31.00014:** Probing Spin Pairing of Superconductiing State in (TMTSF)$_2$ClO$_4$ with ^{77}Se Knight Shift Measurement
J. Shinagawa, C. Parker, F. Zhang, B. Alavi, S.E. Brown

10:48AM **X31.00015:** Study of the Fermi velocity and scattering time by periodic orbit resonance in the quasi-one-dimensional conductor (TMTSF)$_2$ClO$_4$
S. Takahashi, S. Hill, S. Takasaki, J. Yamada, H. Anzai

X31.00016: Comparison of Organic and Inorganic Semiconductors for Spin Injection and Transport
J.D. Albrecht, P.P. Ruden, D.L. Smith

X31.00017: Angular Magnetoresistance Oscillations in Organic Conductors
Heon-Ick Ha, Andrei Lebed, Michael Naughton

X31.00018: Observation of Spin-flop Transition in Antiferromagnetic Organic Molecular Conductors using AFM Micro-cantilever
Madoka Tokumoto, Shigeo Hara, Hisashi Tanaka, Takeo Otsuka, Hayao Kobayashi, Akiko Kobayashi

SESSION Y4. DPOLY: POLYMER DYNAMICS AND RHEOLOGY

Friday morning, 11:15AM, LACC-515 A

Chair: Kalman Migler, NIST

11:15AM **Y4.00001:** Nonlinear Flow Behavior of Model Branched Polymers
Invited Speaker: Lynden Archer

11:51AM **Y4.00002:** How Nanoparticles Impact Phase Evolution in Polymer Blend Films
Invited Speaker: Russell Composto

12:27PM **Y4.00003:** Time-dependent structure of polymer brushes
Invited Speaker: Jacob Klein

1:03PM **Y4.00004:** Phonons in Soft Microstructures
Invited Speaker: George Fytas

1:39PM **Y4.00005:** Turbulent drag reduction by additives
Invited Speaker: Daniel Bonn

SESSION Y30. DPOLY: SOLID AMORPHOUS POLYMERS

Friday morning, 11:15AM, LACC-505

Chair: Greg McKenna, Texas Tech

11:15AM **Y30.00001:** Effective Medium Theory of the Translation-Rotation Paradox for Probe Diffusion in Glass
Grigori Medvedev, James Caruthers

11:27AM **Y30.00002:** A Comparison of Techniques for Analyzing Dielectric Relaxation Spectra Containing DC Conductivity
Chad Snyder

11:39AM **Y30.00003:** Evolution of entanglements in crazing of glassy polymers
Robert S. Hoy, Mark O. Robbins

11:51AM **Y30.00004:** Heat Capacity of Poly(vinylmethylether) in the Presence and Absence of Water
M. Pyda, K. Van Durme, B. Wunderlich, B. Van Mele

12:03PM **Y30.00005:** Dynamics of phenylene rings in engineering thermoplastics. A quasielastic neutron scattering study
Arantxa Arbe, Silvia Arrese-Igor, Iban Quintana, Angel Alegria, Juan Colmenero, Bernhard Frick

12:15PM **Y30.00006:** Chemical Vapor Deposition of Polybenzoxazole Precursors
Mitchell Anthamatten, Xichong Chen

12:27PM **Y30.00007:** Depletion Effect on Self-Organization of atactic Polymer Chain Segments in Microcells
Zhaoqu Wang, Kaiyi Liu, Bo Che, Gi Xue

12:39PM **Y30.00008:** Structure Effect on the Crosslinking Behavior of Bismaleimides
Jung Park, Sung Jang

12:51PM **Y30.00009:** Frontal photopolymerization and applications in complex fabrication
Joao Cabral, Steven D. Hudson, Christopher Harrison, Jack Douglas

1:03PM **Y30.00010:** Chain Length Dependence of the Thermodynamic Properties of Linear and Cyclic Alkanes and Polymers
Sindee Simon, Dinghai Huang, Gregory McKenna

SESSION Y31. DPOLY: POLYMER MELTS AND SOLUTIONS

Friday morning, 11:15AM, LACC-503

Chair: Howard Wang, Michigan Tech

11:15AM **Y31.00001:** Shear SANS Study of Entangled Polymer Solutions
Howard Wang, Lionel Porcar, Derek L. Ho, Prashant Tapadia, Shi-Qing Wang, Michael Olechnowicz, Roderic Quirk

11:27AM **Y31.00002:** Molecular Weight Dependence of the Viscosity of Polyethylene Macrocycles
Jian Wang, Gregory McKenna, Diego Benitez, Irina Gorodetskaya, Robert Grubbs

11:39AM **Y31.00003:** Thermorheological Complexity in Polystyrene Melt
Yn-Hwang Lin

11:51AM **Y31.00004:** Nonlinear hydrodynamic description of non-Newtonian fluids
Harald Pleiner, Mario Liu, Helmut R. Brand

12:03PM **Y31.00005:** Mechanical Hole Burning Spectroscopy of Branched and Linear Polymers
Xiangfu Shi, Gregory McKenna

12:15PM **Y31.00006:** Stress relaxation of polymer networks containing low concentrations of dangling chains and star shaped polymers
Daniel A. Vega, Leopoldo R. G\'omez, Marcelo A. Villar, Enrique M. Vall\'{e}s

12:27PM **Y31.00007:** Stress Relaxation of 1,4-polyisoprene T- and Y-shaped Star Polymers
Jung Hun Lee, Lynden A. Archer

12:39PM **Y31.00008:** When does a molecule become a polymer?
Yifu Ding, Alexander Kisliuk, Vladimir Novikov, Alexei Sokolov

12:51PM **Y31.00009:** Pressure effects on Solutions of Diblock Copolymers: Small Angle Neutron Study
Dvora Perahia, Gang Cheng

1:03PM **Y31.00010:** Brownian Dynamics Study on the Dynamics of Asymmetric and Symmetric Star-Branched Polymers in Dilute Solutions
Yong Lak Joo, Yongmin Lee

1:15PM **Y31.00011:** Diffusive Transport in Hydroxypropylcellulose:Water
Kiril A. Streletzky, George D.J. Phillies, Robert O'Connell, Paul Whitford, Helen Hanson

1:27PM **Y31.00012:** Multiple Light Scattering Probes of Polyurethane Foam Structure
Weijun Zhou, Dwight Latham, Anne Leugers

1:39PM **Y31.00013:** Scaling laws for polymer chains using mesoscopic simulations
Vasileios Symeonidis, Bruce Caswell, George Karniadakis

Special DPOLY Events

Sunday March 20, 2005

DPOLY Reception

Bonaventure Brewing Company

Westin Bonaventure Complex

404 South Figueroa Street

6:00-9:00 pm

This DPOLY reception recognizes Tom Russell (recipient of the 2005 Polymer Physics Prize) and Jan Genzer (recipient of the 2005 Dillon Medal).

Tuesday March 22, 2005:

DPOLY Business Meeting

LA Convention Center, Room 408A

5:30 – 6:30 PM