2005

DPOLY
Meeting Program

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

APS Division of Polymer Physics
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

Thomas A. P. Seery
Institute of Materials Science, U-136
University of Connecticut
97 N. Eagleville Rd.
Storrs, CT 06269-3136

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-504
Chair: Chang Yeol Ryu, Rensselaer Polytechnic

8:00  A28.00001: Surface Diffusion of Single Polymer Chain Using Molecular Dynamics Simulation
Tapan Desai, Pavel 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

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 Bizuin, 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

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 Yeuthraj

8:24AM A29.00003: Self-Consistent Field Calculations of Polyelectrolytes on Flat Surfaces
Quang 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)
Quang Chen, Klaus Schmidt-Rehr

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, Huijun 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, Alex 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. Gómez, Daniel A. Vega, Enrique M. Valdés

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 γ-gamma-Fe$_2$O$_3$ Nanoparticles
Moon Jeong Park, Jongnam Park, Taeghwan Hyeon, Kookheon Char

9:48AM A30.00010: Nanocellular formation of supercritical COS$_2$S 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
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

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(α-alkylmethacrylate) melt from dynamic NMR and scattering
Invited Speaker: Hans Wolfgang Spiess

SESSION A31. DPOLY: MOLECULAR MOTION IN MISCELLANEOUS 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/Poly-styrene 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 Revisited
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

J. Kevin Rice, Mark Dadmun, Brandon Farmer, Haining Ji, Jimmy Mays

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 Oshima, 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
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, Monsojoy 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
Katsunori 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: Couterion 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

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, Vincent 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
Byoong-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, Y.W. Ballorotto, E.D. Williams

1:15PM B30.00009: N-Type and Ambipolar Charge Transport in Polymer Field-Effect Transistors

1:27PM B30.00010: Water-Dispersible Polyaniiline Electrodes for Thin-Film Transistors
Kwangseok Lee, Yvel-Lin Loo, Graciela Blanchet, Feng Gao
C1.00129 NEXAFS Determinations of "Skin" Orientation of Injection-Molded Thermotropic Liquid Crystalline Copolymers
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, Takanori Koga, Hengbin Wang, Laping 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, Faisal R. Khan, 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, Kuo Chu Huang, Cheng-Hsaun 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 Pathanarath, Woraphon Kataphinan, Ron Eby, Darrell Reneker, Sharon Jones, Rajesh Nath, Barry Farmer

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

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

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

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

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

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

C1.00144 A TEM, SFM and GISAXS investigation of the ordering behavior of a cylinder forming block copolymer

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 Eltoussi, Nitash Balsara

C1.00147 Toroid formation by the co-assembly of charged triblock copolymers with divergent 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 Cadmium Chloride
Jong-Young Lee, Alfred Crosby

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
Dong-Yun Lee, Alfred Crosby

C1.00156 3-Dimensional Imaging of Evolving Block Copolymer Microstructure using Laser Scanning Confocal Microscopy
Woonok 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, Chang Tsu, 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(vinylidene fluoride)-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
Zhixin 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 Via, 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
Laurrette McCormick, Gary Slater

C1.00172 Single clay sheets inside electrospun polymer nanofibers
Zhaozhi San, Darrell Reneker

C1.00173 Equilibrium configurations of self-assembling polymers: An extended parallel tempering approach
Chakravarthy Ayagari, 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. Slater

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

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

C1.00181 Molecular Dynamics Simulations of Protein-Polyelectrolyte Multilayer Assembly
Venkateswarlu Panchagnula, Janhwan 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 Juahat Jing, Zhihao Shen, Shi Jin, Huahin 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
Kirit A. Streletzky, George D.J. Phillies

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

C1.00189 Local mobility of polymer chains with specific interactions
Jutta Luetttmann-Straftmann

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/Donate Composite Fibers
William Sampson, Josefino Ruizal, Steve Collins, Ray Baughman, Alan Dalton

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

C1.00193 Molecular-Level Insulation: An Approach to Controlling Interfacial Charge Transfer
Jong Seung Park, Mohan Srinivasan, 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 Kdже, 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. Moginov, M. Vondrova, S. M. Williams, M. Bahoura, V.I. Gavrilenko, S.M. Black, S. 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, Haiying Ji, Jimmy Mays, Mark Dadmun

C1.00204 Nonlinear optical Spectroscopy of Polymide Surface for homoeotropic 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, Lyndon 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

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 Baralica, Bernard Nysten, Alain M. Jonas

3:18PM D28.00005: Lateral Confinement Effects in Block Copolymer Thin Films
August Boose, 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.

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 Lovnides

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 Hyeon 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

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 acceptor groups  

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 aqueous 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-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
Folasho Oyerokun, Kenneth Schweitzer

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 Vaksin, Gilat Nirzi, Shlomo Magdassi

10:24AM H30.00011: Mesophase Behavior of Polyion-Complexed Azobenzene Chromophores in the Bulk
C. Geraldine Bazzuin, 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(ethylenepyrolylene)l Derivative

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, Monogi 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 Ostrovourov, Yuguang Lian, K. N. Tu, Kang L Wang

10:00AM H31.00011: Effect of Photovoltaic Induced Instabilities in Photorefractive Reflection Gratings in LiNbO$_3$
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, Hyang-Jun Kim, Joo-Young Lee, K. L. Wang
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 Intercatenar 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
Brian DiDonna, Tom Lubensky, Paul Jamney
11:39AM  J30.00003: MD simulations of chemically reacting networks
Dana Rottach, John Curro, Aiden 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 Bouchoad
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 Pershia, 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.
Francisco 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 Biswas Dassgupta, Min Lin, Bo Nyström, 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-505
Chair: Steve Granick, UIUC

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 |
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<td>Upendra Natarajan, M.S. Salatha</td>
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<td>Huangming Xiong, Joseph X. Zheng, Stephen Z.D. Cheng, Ta Guo, Roderic P. Quirk, Bernard Lutz</td>
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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
Aminyda Gholam, Rafena 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, Iorgs Icks

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 Burghardi, 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
Katsumi 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 Hasson, 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 Yen, Adele’e Poyntor, 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 CdFe(001) surface
Rafael A. V’azquez-Nava, B.S. Mendoza, N. Arzate

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

K1.00162 Scaling roughness and transport properties correlation in manganese thin films
Juan Ramirez, Maria Elena Gomez, Wilson L’opez, 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 Bhu, Jason Stone, Jan Genzer, Tao Wu

K1.00165 Drying Mediated Pattern Formation From a Restricted Geometry
Jen 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
Otto Daniel, Luis Cueva-Parrar, 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 F. Pickett

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

K1.00173 Autophobic Dewetting of PS/dPS–text{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 Krishnamoorthy, 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, Hatrice 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 Russel, 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. Chis, David J. Pine, Edward J. Kramer

3:06PM  L30.00004: Synthesis of Ordered FeS₂/FeSO₄ 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 Polystyrene-b-Polyisoprene
        Block Copolymers
        Yong Luu Joo, Timur Ivannikov, Jeanne Panels, Prashant Kakad, Ulrich Wiesner,
        Manuel Marquez

3:42PM  L30.00007: Nanometer scale patterning using di-block copolymer
        Zuoming Zhao, Taik-In 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/CS₂ [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
        Yoko Nakazawa, Sue Carter

4:06PM  L31.00007: Photoconductivity of Hybrid Organic/Inorganic Quantum Dot Composite
        Xiaomei Jiang, William 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 μm Sm 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 Sreifer, 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
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<td>A28: Polymer Surfaces I</td>
<td>A29: Charged and Ion-Containing Polymers I</td>
<td>A30: Block Copolymers I</td>
<td>A31: Molecular Motion in Miscible Blends</td>
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<tr>
<td>Title</td>
<td>B28: Polymer Surfaces II</td>
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Day | Wednesday | Wednesday | Wednesday
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Room | LACC-515A | LACC-505 | LACC-503
Chair | William Graessley | Zhen-Gang Wang | Edward Kramer
8:00 | Sunita Mishra | Julia Kornfeld | Michael Rubinstein
8:12 | Christiane Wenzel | Vladimir Prigodin | Scott Mircea
8:24 | Michael Rehfelder | Sivakumar Nagarajan | Amir Ahsan
8:36 | Michael Rehfelder | Fred MacKintosh | Pui-Man Lam
8:48 | Srikant Shenoy | Tse Yuen Dykes | Ashoutosh Panday
11:00 | \* | \* | \*
Day | Thursday | Thursday | Thursday
--- | --- | --- | ---
Title | U4: Polymer Microstructures | U29: Organic Light Emitting Diodes | U4: Polymer Physics and Simulation II: Interfaces and Confinement
Room | LACC-515A | LACC-505 | LACC-503
Chair | Karen Winters | Svetlana Stoycheva | Edward Kramer
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Day | Thursday | Thursday | Thursday
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Title | V4: Polymer Theory and Simulation I: General | V29: Polymer Theory and Simulation II: General and Confinement | W4: Industrial Challenges in Polymer Physics
Room | LACC-515A | LACC-505 | LACC-503
Chair | Karen Winters | Edward Kramer | Edward Kramer
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Day | Thursday | Thursday | Thursday
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Title | W29: Polymer Theory and Simulation II: General and Confinement | W30: Organic Thin Films | W31: Polymers: Materials, Solutions and Networks II
Room | LACC-515A | LACC-505 | LACC-503
Chair | Karen Winters | Edward Kramer | Edward Kramer
8:00 | \* | \* | \*
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### Title: Wetting & Dewetting Stability of Polymer Thin Films
- Room: LACC-504
- Chair: John Dutcher
- Schedule:
  - 8:00: Amit Sankhe  
  - 8:12: Gang Cheng
  - 8:24: Connie Roth
  - 8:36: Bin Wei
  - 8:48: Lei Zhu

### Title: Polymer Crystallization
- Room: LACC-505
- Chair: Ben Hsiao
- Schedule:
  - 8:00: Gang Cheng  
  - 8:12: Arindam Kundagrami
  - 8:24: Omer Mermer
  - 8:36: Connie Roth
  - 8:48: Rene Androsch

### Title: Organic-based Magnetism and Spintronics
- Room: LACC-503
- Chair: Arthur Epstein
- Schedule:
  - 8:00: Omer Mermer  
  - 8:12: Tingting Guo
  - 8:24: Zhi Guo
  - 8:36: Jie Zhao
  - 8:48: Jun Zou

### Title: Polymer Dynamics and Rheology
- Room: LACC-515
- Chair: Kalman Migler
- Schedule:
  - 11:15: Lynden Archer
  - 11:27: Chad Snyder
  - 11:39: Robert S. Hoy
  - 11:51: Russell Composto
  - 12:03: Arantxa Perez-Murcia
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 Larsee, Mireille Adam, Marinios 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 Chang, 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, Huiwen Nie, Rama Bansil

9:24AM N29.00008: Structure and Properties of PBO-PEO Diblock Copolymer Modified Epoxy
Junsian Wu, Jonathan 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
Zhbin 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 nanoporous silica
Chang Yeol Ryu, Junwonn 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
Panitar 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 Abuzainain, 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 Kawashina, 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, Huobin 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. Fukuada

8:36AM  N30.00004: Thermally Induced Lateral Motion of $\alpha$-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

        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

Mirea Chipara, Ioan Morjan, Rodica Alexandrescu, Jeffrey Zaleski, David Baxter, Nicholas Remmes
N30.00016: Nucleation and Growth in Poly(L-lactic acid)/clay nanocomposites
Yahik 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 Polycetylene Single Fibers

12:39PM  P29.00006: Characterization of the Porphyrin Molecule as an Electronic Component
Sathish Thiruvengadam, 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 Troudet, 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

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

1:03PM ***P30.00010**: Enhanced alignment of Multi-Walled Carbon Nanotubes in Electrospun PS/PMMMA 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
Sudeepo Sen, Sunat Kumar

2:03PM ***P30.00015**: Polymer nanocomposites: permeability, chain dynamics, mechanical properties
Laxmi Sahu, Nandika D'Souza
### Session S31. DPOLY DBP: BIOPOLYMERS: MOLECULES, SOLUTIONS AND NETWORKS I
**Wednesday morning, 11:15AM, LACC-503**

**Chair:** John Crocker, University of Pennsylvania

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>11:51AM</td>
<td>P31.00002: RNA gels with negative Poisson ratio</td>
<td>Amir Ahsan, Joseph Rudnick, Robjijn Bruinsma</td>
<td>University of Pennsylvania</td>
</tr>
<tr>
<td>12:03PM</td>
<td>P31.00003: DNA intercalation by ethidium bromide: A quantitative binding study using DNA stretching and force-induced melting</td>
<td>Mark C. Williams, Ioana Vladescu, Micah McCauley, Iuliana Rouzina</td>
<td></td>
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<tr>
<td>12:15PM</td>
<td>P31.00004: Stretching DNA by a Constant Field</td>
<td>Yakoo Hori, Ashok Prasad, Jane’ Kondev</td>
<td></td>
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<tr>
<td>12:51PM</td>
<td>P31.00006: Semiflexible Chain Networks Formed via Self-Assembly of Beta-Hairpin Molecules</td>
<td>Bulent Ozbas, Darrin Pochan, Karthikan Rajagopal, Joel Schneider</td>
<td></td>
</tr>
<tr>
<td>1:03PM</td>
<td>P31.00008: The nonlinear elasticity of alpha helical polypeptides: Analytical and Monte Carlo studies</td>
<td>Buddhapriya Chakrabarti, Alex Levine</td>
<td></td>
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<tr>
<td>1:15PM</td>
<td>P31.00009: Persistence of single-stranded DNA: the interplay between base sequences and base stacking</td>
<td>Bae-Yeon Ha, Anirban Sain, Jeff Z.Y. Chen</td>
<td></td>
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<tr>
<td>1:27PM</td>
<td>P31.00010: Unzipping DNA from the condensed globule state–effects of unraveling</td>
<td>Pui-Man Lam</td>
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<tr>
<td>1:39PM</td>
<td>P31.00011: Distance measurement along DNA molecules using fluorescent quantum dots</td>
<td>Helmut Strey</td>
<td></td>
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<tr>
<td>1:51PM</td>
<td>P31.00012: AFM Imaging of F-actin Network Formation on a photopolymer surface</td>
<td>Taiji Ikawa, Osamu Watanabe, Youli Li, Cyrus R. Safinya</td>
<td></td>
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<tr>
<td>2:03PM</td>
<td>P31.00013: Microtubule Bundling and Shape Transitions</td>
<td>Daniel Needleman, Miguel Ojeda-Lopez, Uri Raviv, Kai Ewert, Janya Jones, Herbert Miller, Leslie Wilson, Cyrus Safinya</td>
<td></td>
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<td></td>
<td>P31.00014: Higher Order Assembly of Microtubules by Counter-ions</td>
<td>Daniel Needleman, Miguel Ojeda-Lopez, Uri Raviv, Herbert Miller, Leslie Wilson, Cyrus Safinya</td>
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</tbody>
</table>

### Session S30. DPOLY: POLYMER BLENDS
**Wednesday afternoon, 2:30PM, LACC-505**

**Chair:** Alamgir Karim, NIST

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>2:30PM</td>
<td>S30.00001: Thermodynamics and Dynamics of Diblock Copolymers at Polymer/Polymer Interfaces</td>
<td>Benedict J. Reynolds, Megan L. Ruegg, Nitash P. Balsara, C. J. Radke</td>
<td></td>
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<tr>
<td>2:42PM</td>
<td>S30.00002: Thermodynamics of Polymer Blends Organized by Balanced Block Copolymer Surfactants Studied by Mean-field Theories and Scattering</td>
<td>Megan Ruegg, Benedict Reynolds, Nitash Balsara, Timothy Shaffer, Min Lin, David Lukse</td>
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<tr>
<td>2:54PM</td>
<td>S30.00003: Effects of Branch Points and Chain Ends on Interfacial Segregation and Bulk Thermodynamics in Blends of Branched and Linear Polymers</td>
<td>Jae S. Lee, Nam-heui Lee, Alexei P. Sokolov, Roderic P. Quirk, Mark D. Foster, Boualem Hammouda, Charles F. Majkrzak</td>
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</tr>
<tr>
<td>3:06PM</td>
<td>S30.00004: Ultra-low interfacial tensions of a polymer/polymer interface with diblock copolymer surfactant</td>
<td>Kwanho Chang, David Morse, Christopher Macosko</td>
<td></td>
</tr>
<tr>
<td>3:18PM</td>
<td>S30.00005: Kinetic Hindrance during Diffusion-Controlled Reactions at Polymer-Polymer Interfaces</td>
<td>Shane Harton, Frederick Stevie, Harald Ade</td>
<td></td>
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<tr>
<td>3:30PM</td>
<td>S30.00006: Phase Behavior of Ternary Block Copolymer – Homopolymer Blends in Thin Films on Chemically Nanopatterned Surfaces</td>
<td>Mark P. Stoykovich, Harun H. Solak, Paul F. Nealey</td>
<td></td>
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<tr>
<td>3:42PM</td>
<td>S30.00007: Nucleation in Polymer Blends</td>
<td>Timothy Rappl, Nitash Balsara</td>
<td></td>
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<tr>
<td>3:54PM</td>
<td>S30.00008: Discrete combinatorial phase mapping of multicomponent mixtures</td>
<td>Joao Cabral, Alamgir Karim</td>
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<tr>
<td>4:06PM</td>
<td>S30.00009: Small Angle Neutron Scattering Studies on Blends of Poly (Styrene-ran-Vinyl Phenol) with Liquid Crystaline Polyurethane</td>
<td>Rajul Mehta, Mark Dadmun</td>
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<td>4:18PM</td>
<td>S30.00010: Binary Phase Diagrams of Crystalline Polymers</td>
<td>Thein Kyu, Rushikesh Matkar</td>
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<td>4:30PM</td>
<td>S30.00011: Spectroscopic Investigation on Morphology Development of Polymer Blends</td>
<td>Tomoko Hashida, Young Gyu Jeong, Ying Hua, Shaw Ling Hsu</td>
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<tr>
<td>4:42PM</td>
<td>S30.00012: Glassy states and microphase separation in crosslinked homopolymer blends</td>
<td>Paul Goldbart, Christian Wald, Annette Zippelius</td>
<td></td>
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<tr>
<td>4:54PM</td>
<td>S30.00013: Coarse-Grained Description of Polymer Liquids and their Mixtures as Interacting Soft-Colloidal Particles</td>
<td>Marina Guenzu, Galina Tatsenko, Edward Sambriski, Maria Nemirovskaya</td>
<td></td>
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<tr>
<td>5:06PM</td>
<td>S30.00014: Polyolefin blends: Coarse-grained study of melt structures relevant for predicting blend miscibilities</td>
<td>Sandeep Jain, Shekhar Garde, Sanat Kumar</td>
<td></td>
</tr>
</tbody>
</table>
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. Uguwa, 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 Cs$_2$(60)$\text{Cu}$(111) and Cs$_2$(60)$\text{Cu}$(111) thin films
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

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

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 Ferrarisi, Anvar Zakhidov

10:24AM  U29.00009: Chain Conformations and Photoluminescence in Poly(di-$n$-octylfluorene)
Michael Winokur, Withoon Chanwachirasiri, 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 OPLED 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

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<tr>
<th>Time</th>
<th>Presentation</th>
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<tr>
<td>8:00AM</td>
<td><strong>U30.00001:</strong> Rheological Response of Ultrathin Polymer Films</td>
<td>Gregory McKenna, Paul O’Connell</td>
</tr>
<tr>
<td>8:12AM</td>
<td><strong>U30.00002:</strong> Direct measurement of the counterion distribution within swollen polyelectrolyte films</td>
<td>Vivek Prabhu, Bryan Vogt, Wen-li Wu, Jack Douglass, Eric Lin, Sushil Satija, Dario Goldfarb, Hiroshi Ito</td>
</tr>
<tr>
<td>8:24AM</td>
<td><strong>U30.00003:</strong> Crumpling and uncrumpling of thin polymer films</td>
<td>Megan Juszkiewicz, Narayanan Menon, Yao Lin, T.P. Russell</td>
</tr>
<tr>
<td>8:36AM</td>
<td><strong>U30.00004:</strong> Grain Structure in Block Copolymer Thin Films Studied by Guided Wave Depolarized Light Scattering</td>
<td>Jeffrey Wilbur, Amish Patel, David Durkee, Rachel Segalman, Nitash Balsara, Bruce Garett, Maurice Newstein, Alexander Liddle</td>
</tr>
<tr>
<td>8:48AM</td>
<td><strong>U30.00005:</strong> Swelling and surface modification of ultrathin chitosan films</td>
<td>Chris Murray, Oleg Stukalov, Amy Jacina, John Dutcher</td>
</tr>
<tr>
<td>9:00AM</td>
<td><strong>U30.00006:</strong> Surface Tension Driven Laser Lithography of Thin Polymer Films</td>
<td>John M. Hudson, Michael V. Massa, Kari Dalnoki-Veress, John S. Preston, An-Chang Shi</td>
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<tr>
<td>9:12AM</td>
<td><strong>U30.00007:</strong> Photoinduced Trans-Cis Isomerization of Azobenzene Probes Tagged to Polystyrene in Thin and Ultrathin Films</td>
<td>Yohei Tateishi, Keiji Tanaka, Toshihiko Nagamura</td>
</tr>
<tr>
<td>9:24AM</td>
<td><strong>U30.00008:</strong> Single chain structure in thin polymer films: corrections to Flory’s and Silverberg’s hypotheses</td>
<td>A. Cavallo, M. Müller, J.P. Wittmer, K. Binder</td>
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<tr>
<td>9:36AM</td>
<td><strong>U30.00009:</strong> Photoemission studies of the photo-degraded polyethylene and polystyrene ultrathin films</td>
<td>Orhan Kizilkaya, Masaki Ono, Eizi Morikawa</td>
</tr>
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<td>9:48AM</td>
<td><strong>U30.00010:</strong> Crystalline polymer thin films characterized with NEXAFS dichroism microscopy</td>
<td>H. Ade, T. Araki, Y. Zou, Y. Wang, M. Rafailovich, J. Sokolov</td>
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<tr>
<td>10:00AM</td>
<td><strong>U30.00011:</strong> Dynamics of Thin Film Mixtures from Incoherent Neutron Scattering</td>
<td>Brian Besancon, Christopher Soles, Peter Green</td>
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<td>10:12AM</td>
<td><strong>U30.00012:</strong> Diffuse X-ray Scattering from Polystyrene Films</td>
<td>Xuesong Jiao, Jarrett Stark, Laurence Lurio, Suresh Narayanan, Alec Sandy, Zhang Jiang, Sinha Sunil</td>
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<tr>
<td>10:24AM</td>
<td><strong>U30.00013:</strong> Qualitative Discrepancy Between Motion on Different Length Scales in Thin Polymer Films</td>
<td>Zahra Fakhraraai, Girjesh Dubey, James A. Forrest</td>
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<tr>
<td>10:36AM</td>
<td><strong>U30.00014:</strong> In-Situ Hot Stage Atomic Force Microscopy Study of Poly(E-Caprolactone) Crystal Growth in Ultrathin Films</td>
<td>Robert E. Prud’homme, Vincent H. Mareau</td>
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</tbody>
</table>

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, David 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, Wuqing 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 Semiflexible Polymers: A Brownian Dynamics Study
Shriram Ramanathan, David Morse

9:48AM U31.0010: 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

Camilo Guaqueta, Erik Luijten

10:24AM U31.0010: Hierarchical Self Assembly of Actin Bundle Networks
Linda Hirst, Cyrus Safinya

10:36AM U31.0014: Elastic actin comet tails: shape, stresses and propulsion
Ayjay Gopinathan, Andrea Liu

10:48AM U31.0015: The orientational order parameter of nematic liquid crystalline phase of F-actin
Jorge Viamontes, Jay X. Tang

U31.0016: Actin Filamin networks and stress criticality
Brian DiDonna, Alex Levine, John Crocker, Brenton Hoffman

U31.0017: Order-Order Transition of Size-mismatched Ions on F-actin Polyelectrolytes
Robert Coridan, Lori K. Sanders, Wuqing Xian, Brian W. Matthews, Gerard C. L. Wong

U31.0018: 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. Drima, 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 Obstrov, Joachim Wittner, Hendrick Meyer, Jorg Buschmadel, Albert Johner,
   Leticia 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 Uzt

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
   Bharathwaj Narayanan, Victor Pyramitsyn, Venkat Ganeshan

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 Eggleson, 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: BIOPOLYMERS: 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  
Hao Cheng, Joseph A. Libera, Kai Zhang, Michael J. Bedzyk, Monica Olivera 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 Baldem, 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

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

4:18PM  W29.0010: 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
         Dong 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
         Ashoutash 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 PTCD and PTCD/Alq3 multilayers
         F.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 Hurtmann, 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 alkane-thiols 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)

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. Frahuberger, 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 dmyristoylphosphatidylethanolamine  
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, Roxy Kane

5:06PM **W31.00009**: Polymers Slaved Diffusion in Phospholipid Bilayers—A Study Using Single-Molecule Fluorescence  
Liangfang Zhang, Steve Granick

5:18PM **W31.00010**: A Molecular Imprinting Strategy Employing Polyelectrolyte Multilayers  
Solar C. Olugebefola, Anne M. Mayes, Michael F. Rubner

5:24PM **W31.00011**: DNA Molecules Adsorbed on Rippled Supported Cationic Lipid Membranes --- A new way to stretch DNAs  
Leonardo Golubovic

5:30PM **W31.00012**: Stretching Helical Macromolecules  
Gustavo A. Carri, Vikas Varshney

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**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  

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, Kyeoun Shin, Eric Drochenkuller, 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  X30.0001: Reversible Processes Between the Glass and Melting Transition of Poly(oxyethylene)
Wunderlich Bernhard, Wulin Qiu

8:12AM  X30.0002: Theory of Lamellar Growth in Polymer Solutions
Arindam Kundagrami, M Muthukumar

8:24AM  X30.0003: Reversible melting of extended-chain and folded-chain polymer crystals
Rene Androsch, Bernhard Wunderlich, Hans-Joachim Radusch

8:36AM  X30.0004: Modeling of Polymer Melting
Jianning Zhang, Murugappan Muthukumar

8:48AM  X30.0005: Crystallization of ethylene/alpha-olefin copolymers in shear fields
R. Shamsundar, P. Sane, V. Premnath, T.P. Mohandas, Guruswamy Kumaraswamy

9:00AM  X30.0006: 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  X30.0007: Unexpected Shish-Kebab Structure in Shear-Induced Polyethylene Melt
Benjamin Hsiao, Ling Yang, Rajesh Somani, Lei Zhu

9:24AM  X30.0008: Shear-Induced Shish-Kebab Morphology in Polymer Melts - Flow Between Two Parallel Plates versus Coaxial Cylinders
Rajesh Somani, Igor Sics, Benjamin Hsiao

9:36AM  X30.0009: 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  X30.0010: Radial distribution of crystallinity in poly(trimethylene terephthalate) fibers characterized by confocal Raman spectroscopy
Jing Wu

10:00AM  X30.0011: Crystal Nucleation of Polymers Confined to Droplets: Memory Effects
Michael V. Massa, Michelle S.M. Lee, Kari Dalnoki-Veress

10:12AM  X30.0012: 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  X30.0013: 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  X30.0014: Influence of Angular Potentials on the Crystallization of Model Polymer Chains
Hendrik Meyer, Thomas Vettorel, J"org Baschnagel
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 Wohlgemant, Yugang Sheng, Duc Nguyen

8:24AM  X31.00003: Addressing individual metal ion centers in supramolecules by STS

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)$_x$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 Sr(TMTSF)$_2$ClO$_4$
Fan Zhang, Yousuke 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 Superconducting 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$_4$

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

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<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:15AM</td>
<td><strong>Y4.00001:</strong> Nonlinear Flow Behavior of Model Branched Polymers</td>
<td>Lynden Archer</td>
</tr>
<tr>
<td>11:51AM</td>
<td><strong>Y4.00002:</strong> How Nanoparticles Impact Phase Evolution in Polymer Blend Films</td>
<td>Russell Composto</td>
</tr>
<tr>
<td>12:27PM</td>
<td><strong>Y4.00003:</strong> Time-dependent structure of polymer brushes</td>
<td>Jacob Klein</td>
</tr>
<tr>
<td>1:03PM</td>
<td><strong>Y4.00004:</strong> Phonons in Soft Microstructures</td>
<td>George Fytas</td>
</tr>
<tr>
<td>1:39PM</td>
<td><strong>Y4.00005:</strong> Turbulent drag reduction by additives</td>
<td>Daniel Bonn</td>
</tr>
</tbody>
</table>

### Session Y30. DPOLY: Solid Amorphous Polymers

**Friday morning, 11:15AM, LACC-505**

**Chair:** Greg McKenna, Texas Tech

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>11:15AM</td>
<td><strong>Y30.00001:</strong> Effective Medium Theory of the Translation-Rotation Paradox for Probe Diffusion in Glass</td>
<td>Grigori Medvedev, James Caruthers</td>
</tr>
<tr>
<td>11:27AM</td>
<td><strong>Y30.00002:</strong> A Comparison of Techniques for Analyzing Dielectric Relaxation Spectra Containing DC Conductivity</td>
<td>Chad Snyder</td>
</tr>
<tr>
<td>11:39AM</td>
<td><strong>Y30.00003:</strong> Evolution of entanglements in crazing of glassy polymers</td>
<td>Robert S. Hoy, Mark O. Robbins</td>
</tr>
<tr>
<td>11:51AM</td>
<td><strong>Y30.00004:</strong> Heat Capacity of Poly(vinylmethylether) in the Presence and Absence of Water</td>
<td>M. Pyda, K. Van Durme, B. Wunderlich, B. Van Mele</td>
</tr>
<tr>
<td>12:03PM</td>
<td><strong>Y30.00005:</strong> Dynamics of phenylene rings in engineering thermoplastics. A quasielastic neutron scattering study</td>
<td>Arantxa Arbe, Silvia Arrese-Igor, Iban Quintana, Angel Alegría, Juan Colmenero, Bernhard Frick</td>
</tr>
<tr>
<td>12:15PM</td>
<td><strong>Y30.00006:</strong> Chemical Vapor Deposition of Polybenzoxazole Precursors</td>
<td>Mitchell Anthamatten, Xichong Chen</td>
</tr>
<tr>
<td>12:27PM</td>
<td><strong>Y30.00007:</strong> Depletion Effect on Self-Organization of atactic Polymer Chain Segments in Microcells</td>
<td>Zhaoqu Wang, Kaiyi Liu, Bo Che, Gi Xue</td>
</tr>
<tr>
<td>12:39PM</td>
<td><strong>Y30.00008:</strong> Structure Effect on the Crosslinking Behavior of Bismaleimides</td>
<td>Jung Park, Sung Jang</td>
</tr>
<tr>
<td>12:51PM</td>
<td><strong>Y30.00009:</strong> Frontal photopolymerization and applications in complex fabrication</td>
<td>Joao Cabral, Steven D. Hudson, Christopher Harrison, Jack Douglas</td>
</tr>
<tr>
<td>1:03PM</td>
<td><strong>Y30.00010:</strong> Chain Length Dependence of the Thermodynamic Properties of Linear and Cyclic Alkanes and Polymers</td>
<td>Sindee Simon, Dinghai Huang, Gregory McKenna</td>
</tr>
</tbody>
</table>
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, Prashanti 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. Gómez, Marcelo A. Villar, Enrique M. Valentín

12:27PM Y31.00007: Stress Relaxation of 1,4-polypseudorotaxane 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. Streletsy, 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