

DPOLY Short Course
Polymer Chemistry for Physicists
Saturday March 1, 2003 - 8:00 am - 5:00 pm
Sunday March 2, 2003 - 8:00 am - 5:00 pm

You must pre-register for this course. There is no on-site registration.

Course description:

The preparation of macromolecules with controlled molecular weights, narrow molecular weight distributions, specific comonomer sequences, prescribed end groups, and precise architectures is critically important to polymer physics. Major preparative routes to model polymeric materials will be covered, and the range of materials accessible by a variety of polymerization techniques will be addressed. The goal of this course is to take the mystery out of polymer chemistry.

Who should attend:

The material in the course will be useful to academic and industrial scientists with an interest in polymer science and engineering. Students, postdocs, and faculty interested in contemporary methods of polymer synthesis relevant to macromolecular physics will benefit by attending. The instructors will assume that attendees have a B.S. training in the physical sciences or engineering.

Topics to be covered

Living anionic polymerization controlled free radical polymerization (e.g., Atom Transfer Radical Polymerization, nitroxide mediated, and Radical Addition Fragmentation chain Transfer polymerization), surface initiated polymerization, polymer modification (e.g., hydrogenation, oxidation, and halogenation), metal-catalyzed polymerizations (e.g., Ring-Opening Metathesis Polymerization, and metallocene polymerizations), protein synthesis (via recombinant DNA techniques), specifically functionalized polymers (e.g., endgroup control and isotopic labeling). These methods will be connected to current issues in Polymer Physics.

Confirmed speakers:

Kristoffer Almdal (Risø National Laboratory), Frank Bates (University of Minnesota), Bill Brittain (University of Akron), Vince Conticello (Emory University), Bryan Coughlin (University of Massachusetts, Amherst), Barney Grubbs (Dartmouth University), Steve Hahn (Dow Chemical Company), Jimmy Mays (University of Tennessee)

Registration fees:

Registration fees: \$400 (\$200 for students)

Organizer:

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Special DPOLY events can be found on the inside back cover of this pamphlet.

Session A3. DPOLY: Controlled Architecture Polymers

Monday morning, 08:00, Ballroom C, Austin Convention Center

Chair: Jimmy Mays, University of Tennessee

08:00 **A3.001** The Role of Structure and Shape in Controlling the Physical and Chemical Properties of Polymeric Materials
Craig Hawker (IBM Almaden Research Center)

08:36 **A3.002** Reactive Block Copolymers as Precursors to Functional Nanoporous Materials
Marc Hillmyer (University of Minnesota)

09:12 **A3.003** Controlled Architecture Polymers by Anionic Polymerization
Nikos Hadjichristidis (Department of Chemistry, University of Athens, Panepistimiopolis Zografou, 157 71 Athens, Greece)

09:48 **A3.004** Physical and Chemical Manipulation of Shell Crosslinked Nanostructures
Karen Wooley (Washington University, Department of Chemistry, One Brookings Drive, Saint Louis, MO 63130)

10:24 **A3.005** Adsorption Tuned Rearrangement of Macromolecules
Martin Moeller (Institut of Technical and Macromolecular Chemistry, Aachen University of Technology,

Disclaimer: The information contained within this booklet is unofficial and is accurate as of 01/21/02. For all official information, please refer to the APS March Meeting Proceedings or the website (<http://www.aps.org/meet/MAR02/baps/index.html>)

Session A16. DPOLY: Electronic Properties of Organic Materials.

Monday morning, 08:00, Room 9C, Austin Convention Center

Chair: Lynn Loo, University of Texas

- 08:00 **A16.001** Effect of Electrical Doping on Energy Level Alignment at Interfaces with Organic Materials
Weiyang Gao, Antoine Kahn (Princeton University)
- 08:12 **A16.002** Effect of dopants on electron localization length in emeraldine-base polyaniline
Pawan Kahol (Wichita State University), K.K. Satheesh Kumar, S. Geetha, D.C. Trivedi (Central Electrochemical Research Institute, India)
- 08:24 **A16.003** In-Situ Studies of Electrochromism of Dioxathiophene-Based Conjugated Polymers
Maria Nikolou, Matthew Cornick, David B. Tanner (Department of Physics, University of Florida, Gainesville, Florida 32611), Irina G. Schwendeman, Avni Argun, John R. Reynolds (Department of Chemistry, Center of Macromolecular Science and Engineering, University of Florida, Gainesville, Florida 32611)
- 08:36 **A16.004** Nonlinear transport effects in organic crystals
Vladimir Butko, Arthur Ramirez, Xiaoliu Chi (Los Alamos National Lab, Los Alamos, NM 87545), Christian Kloc (Bell Laboratories, Lucent Technologies, New Jersey, 07974)
- 08:48 **A16.005** Electronic transport through tetracene single crystals
A.F. Morpurgo, R.W.I. de Boer, M. Jochemsen, T.M. Klapwijk (Department of NanoScience and DIMES, Delft University of Technology, Lorentzweg 1, 2628 CJ Delft, The Netherlands)
- 09:00 **A16.006** Screening of Electric field in a Variable Range Hopping System
Vladimir Prigodin, Arthur Epstein (The Ohio State University, Columbus, OH 43210-1106)
- 09:12 **A16.007** Anisotropic Polythiophene Films with High Conductivity and Good Mechanical Properties via a New Electrochemical Synthesis
Shi Jin, Shuxin Cong (Affiliation), Stephen Cheng (Maurice Morton Institute and Department of Polymer Science, The University of Akron, Akron, OH 44325)
- 09:24 **A16.008** Nondestructive Characterization of Orientation in Thick Polyaniline Films
Runqing Ou, Robert Samuels (School of Chemical Engineering, Georgia Institute of Technology, Atlanta, Georgia 30332-0100)
- 09:36 **A16.009** Electrostrictive properties of P(VDF-TrFE) polymers at cryogenic temperatures
Yu Zhi (Department of Polymer Engineering, The University of Akron, Akron, OH 44325), Ang Chen (Department of Physics, The University of Akron, Akron, OH 44325)
- 09:48 **A16.010** Synthesis, Crystal Structure and Physical Properties of a new Charge-Transfer Salt ETPtMt2
X. Chi, B. Scott, G. Lawes, A.P. Ramirez (LANL)
- 10:00 **A16.011** Metal-Insulator transition at very high magnetic fields in an organic conductor
D. Graf, E.S. Choi, J.S. Brooks (NHMFL/FSU), C. Mielke, N. Harrison (LANL), K. Murata, T. Konoike (Osaka City University), G.C. Papavassiliou (Nat. Hellenic Research Foundation)
- 10:12 **A16.012** Very High Field Magnetization and ac Susceptibility of Native Horse Spleen Ferritin
R. P. Guertin (Tufts Univ.), N. Harrison (Los Alamos National Laboratory), Z. X. Zhou, S. McCall, F. Dymytrious (NHMFL/FSU)
- 10:24 **A16.013** Confirmation of the metallic character of a single component molecular metal
H. Tanaka, M. Tokumoto (NRI, AIST, JST CREST), H. Kobayashi (IMS, JST CREST), A. Kobayashi (Uni. of Tokyo), D. Graf, E.S. Choi, J.S. Brooks (NHMFL/FSU), S. Uji, S. Yasuzuka (NIMS)

- 10:36 **A16.014** Mobility of Gold Nanoparticles in Ultrathin Polymer Films Monitored by X-Ray Standing Waves with Angstrom Spatial Resolution
Rodney S. Guico (Department of Materials Science and Engineering, Northwestern University), Suresh Narayanan (Experimental Facilities Division, Advanced Photon Source, Argonne National Laboratory), Jin Wang (Experimental Facilities Division, Advanced Photon Source, Argonne National Laboratory), Kenneth R. Shull (Department of Materials Science and Engineering, Northwestern University)

Session A17. DPOLY: Theory and Simulation.

Monday morning, 08:00, Room 10A, Austin Convention Center

Chair: Valeriy Ginzburg, Dow

- 08:00 **A17.001** Improved United Atom Force Field and Surface Structure of Poly(dimethylsiloxane) Melts
Amalie L. Frischknecht, John G. Curro (Sandia National Labs, Albuquerque, NM)
- 08:12 **A17.002** Structure and Correlation Length in Polymer Fluids
R. Koshy, T.G. Desai, P. Koblinski (Rensselaer Polytechnic Institute), J. Hooper, K.S. Schweizer (University of Illinois)
- 08:24 **A17.003** Anomalous Mixing Behavior of Polyisobutylene/Polypropylene Blends: Molecular Dynamics Simulation Study
John G. Curro (Sandia National Laboratories, Albuquerque, NM 87185), Eugenio Jaramillo (Colorado School of Mines, Golden, CO 80401), Gary S. Grest (Sandia National Laboratories, Albuquerque, NM 87185), David T. Wu (Colorado School of Mines, Golden, CO 80401)
- 08:36 **A17.004** Large-Scale Molecular Dynamics Simulation of Polyolefin Blends
Eugenio Jaramillo (Colorado School of Mines, Golden CO 80401), Gary S. Grest, John G. Curro (Sandia National Laboratories, Albuquerque, NM 87185), David T. Wu (Colorado School of Mines, Golden CO 80401)
- 08:48 **A17.005** Modeling Polyethylene / Benzene Solutions with an Integral Equation Theory
Sergio Mendez (University of New Mexico), John Curro (Sandia National Laboratories)
- 09:00 **A17.006** Molecular Dynamics Simulations of Mechanical and Tribological Behavior of Polymeric Systems
Witold Brostow, Ricardo Simoes (LAPOM - Dept. Materials Science, University of North Texas)
- 09:12 **A17.007** Effects of Elastic Coupling on Polymer Morphologies
T. Lookman, R. Ahluwalia, A. Saxena (Los Alamos National Lab.), S.R. Shenoy (International Centre for Theoretical Physics, Trieste, Italy)
- 09:24 **A17.008** Simulating the Morphology and Mechanical Properties of Filled Diblock Copolymers
Gavin Buxton, Anna Balazs (Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh PA 15261, US.)
- 09:36 **A17.009** Modeling of nanostructured polymer materials
Kim Rasmussen (Theoretical Division, Los Alamos National Laboratory)
- 09:48 **A17.010** Phase segregation in gradient copolymer melts
Michelle Lefebvre, Kenneth Shull, Monica Olvera de la Cruz (Department of Materials Science and Engineering, Northwestern University)
- 10:00 **A17.011** Conformational Properties of a Polymer Chain in Supercritical CO₂
Guillermo Ramirez-Santiago (Instituto de Fisica, UNAM), Isaac Sanchez (University of Texas)
- 10:12 **A17.012** The Generalized Borel Transform, a new theoretical tool to compute the statistical properties of single polymer chains
Marcelo D. Marucho, Gustavo A. Carri (The Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH 44325-3909)
- 10:24 **A17.013** Monte Carlo Investigation of Lattice Models of Polymer Collapse in Five Dimensions
Thomas Prellberg (Technische Universität Clausthal), Aleks L. Owczarek (University of Melbourne)
- 10:36 **A17.014** Off-lattice Monte Carlo Simulations of the Helix-Coil Transition in Wormlike Polymer Chains.
Taner Z. Sen, Gustavo A. Carri (College of Polymer Science and Polymer Engineering, The University of Akron, Akron, OH 44325-3909.)
- 10:48 **A17.015** Born-Green-Yvon Lattice and Continuum Descriptions of n-Alkane Fluids
James A. Porter, Jane E. G. Lipson (Dept. of Chemistry, Dartmouth College)

Session B16. DMP/DPOLY: Focus Session: Transport in Molecules I.

Monday morning, 11:15, Room 9C, Austin Convention Center

Chair: Dan Ralph, Cornell University.

- 11:15 **B16.001** Single-Molecule Transistors Incorporating Individual Inorganic Clusters
Hongkun Park (Harvard University)
- 11:51 **B16.002** Single-Molecule Electronic Devices
Abhay Pasupathy (Cornell University, Ithaca NY)
- 12:27 **B16.003** Potential profile across a biased molecular wire
G.-L. Ingold (Augsburg), M. Galperin (Tel Aviv), H. Grabert (Freiburg), A. Nitzan (Tel Aviv), Stephane Pleutin (Freiburg)
- 12:39 **B16.004** Three-terminal electron transport measurements on phenylene-based conjugated molecules
Günther Lientschnig, Jeong-O Lee, Frank Wiertz, Peter Hadley, Cees Dekker (Department of NanoScience, TU Delft)
- 12:51 **B16.005** A first-principles study of Spin Polarized Transport in a Molecular wire
R. Pati, L. Senapati (Department Physics, Applied Physics, and Astronomy), P.M. Ajayan (Department of Materials Science), S.K. Nayak (Department Physics, Applied Physics, and Astronomy, Rensselaer Polytechnic Institute Troy, NY 12180)
- 13:03 **B16.006** Electrical Transport through Organic Molecules
C.N. Lau, Shun-chi Chang, Stan Williams (Hewlett-Packard Labs, Palo Alto, CA USA), Quantum Science Group Team
- 13:15 **B16.007** Transport Measurement on Few-Molecules Devices
Lam Yu, Douglas Natelson (Rice University, Physics and Astronomy), David Price, Jake Ciszek, James Tour (Rice University, Chemistry)
- 13:27 **B16.008** Shot noise in tunneling transport through molecules
Matthias H. Hettler, Axel Thielmann (Forschungszentrum Karlsruhe, Institut für Nanotechnologie), Jürgen König, Gerd Schön (Institut für Theoretische Festkörperphysik, Universität Karlsruhe)
- 13:39 **B16.009** Self assembly and tunneling spectroscopy of molecular wires
Geetha Dholakia, Wendy Fan, Jessica Koehne, Silvia Asano, Jie Han (Affiliation), M Meyyappan (NASA Ames Research Center, Moffett Field, CA 94035)
- 13:51 **B16.010** Semiclassical Model for Single Molecule Tunnel Junctions
Tianjian Lu, Anita Parmar, David Dunlap (University of New Mexico), George Malliaras (Cornell University)

Session B17. DPOLY: Novel Polymer Architectures.

Monday morning, 11:15, Room 10A, Austin Convention Center

Chair: Michael Fasolka, NIST

- 11:15 **B17.001** Quenched and Annealed Disorder in Randomly Grafted Copolymer Melts
Deena Patel (Department of Physics, University of California, Santa Barbara), Glenn Fredrickson (Departments of Chemical Engineering and Materials, University of California, Santa Barbara)
- 11:27 **B17.002** Order-Disorder Transition in Randomly Grafted Copolymers
Tim Rapp (UC Berkeley), Hany Eitouni (UC Berkeley, LBNL), John Pople (SSRL), Jean Frechet (UC Berkeley, LBNL), Arup Chakraborty (UC Berkeley), Nitash Balsara (UC Berkeley, LBNL)
- 11:39 **B17.003** Novel Gradient Copolymers Yielding an Unusual Glass Transition Temperature (T_g) Depression
Maisha Gray, John Torkelson (Northwestern University, Evanston, IL 60208-3120)
- 11:51 **B17.004** Morphologies and tensile property study on multigraft copolymers with tri-, tetra-, and hexafunctional junction points
Roland Weidisch (Institut für Polymerforschung Dresden (IPF), Teilinstitut Physikalische Chemie und Physik der Polymere, Hohe Strasse 6, 01069 Dresden, Germany), Yuqing Zhu, Engin Burgaz, Samuel P. Gido (Department of Polymer Science & Engineering, University of Massachusetts, Amherst, MA 01003)
- 12:03 **B17.005** Dependence of Order-Disorder Transition on the Number of Blocks for Multiblock Copolymers
Lifeng Wu, Eric W. Cochran, Timothy P. Lodge (Affiliation), Frank S. Bates (Department of Chemical Engineering and Materials Science, University of Minnesota)
- 12:15 **B17.006** Order-disorder transitions in cross-linked block copolymer networks
Hyeok Hahn, Hany Eitouni, Nitash Balsara (University of California, Bekeley)
- 12:27 **B17.007** How to Prepare Long Multi-Block Heteropolymer Chains With an Ordered Sequence and Controllable Block Lengths
Chi Wu, Zuowei Xie (Department of Chemistry, The Chinese University of Hong Kong, Shatin, N.T. Hong Kong)
- 12:39 **B17.008** Association Behavior of Heptablock Copolymers in Selective Solvents
Huifeng Nie, Rama Bansil (Boston University), Jyotsana Lal (Argonne National Laboratory)
- 12:51 **B17.009** Polydispersity in a self-consistent field theory for block copolymers
Scott Sides, Glenn Fredrickson (University of California at Santa Barbara), UCSB Team
- 13:03 **B17.010** Linear Gradient Copolymer Melt Brushes
Galen T. Pickett (CSU Long Beach Physics and Astronomy)
- 13:15 **B17.011** Novel Sphere Phases of Diblock Copolymer Micelles
Gregory Grason, Randall Kamien (Department of Physics and Astronomy, University of Pennsylvania)
- 13:27 **B17.012** Cylindrical Micelles of Polystyrene-Polyisoprene Diblock Copolymers in Dilute Heptane Solutions
Isaac LaRue, Mireille Adam, Sergei Sheiko, Michael Rubinstein (University of North Carolina at Chapel Hill)
- 13:39 **B17.013** "Hollow-core" dendrimers revisited
Galen T. Pickett, Thomas C. Zook (CSU Long Beach, Physics and Astronomy)
- 13:51 **B17.014** A Monte Carlo Simulation Scheme for Nonideal Dendrimers Satisfying Detailed Balance
Giovanni Giupponi, Martin Buzza (University of Leeds)
- 14:03 **B17.015** Self-Organization of "Spherical" Supramolecular Dendrimers: A New Perspective from Molecular Dynamics Simulation
Eung-Gun Kim, Michael L. Klein (Department of Chemistry, University of Pennsylvania)

Session B18. DPOLY: Semi-Crystalline and Liquid Crystal Polymers.

Monday morning, 11:15, Room 10B, Austin Convention Center

Chair: Peggy Cebe, Tufts University

- 11:15 **B18.001** Evidence for Coupling and Decoupling of Parts of Macromolecules by Temperature-modulated Calorimetry
Bernhard Wunderlich (University of Tennessee, Knoxville, and ORNL, Oak Ridge, TN)
- 11:27 **B18.002** The Role of Crosslinks in PDMS Crystallization Enhancement
Jenny Naim, Rachel Yerushalmi-Rozen, Moshe Gottlieb (Chemical Engineering Department and Stadler Minerva Center for Mesoscopic Macromolecular Engineering, Ben-Gurion University, Beer Sheva, 84105 ISRAEL), Andreas Maus, Kay Saalwaechter (Institut für Makromolekulare Chemie, Universitaet Freiburg, 79104 Freiburg, GERMANY)
- 11:39 **B18.003** The Role of Linear Polyethylene Molecular Weight into the Enhancement in Crystallisation Behavior of Branched Polyethylene
Cristián Puig (Grupo de Polímeros USB, Departamento de Ciencias de los Materiales, Universidad Simón Bolívar, Apartado Postal 89000, Caracas 1080-A, Venezuela)
- 11:51 **B18.004** Reversible and Irreversible Heat Capacity of Poly(Lactic acid) Analyzed by Temperature-Modulated Differential Scanning Calorimetry
(1)Marek Pyda, (2)Richard C Bopp, (1)Bernhard Wunderlich ((1)The University of Tennessee, Knoxville, and ORNL, Oak Ridge,TN;(2)Cargill Dow LLD, Minnetonka, MN)
- 12:03 **B18.005** Determination of Equilibrium Dissolution Temperatures for Linear Polyethylene Using the Non-linear Hoffman-Weeks Approach
Herve Marand (Virginia Tech)
- 12:15 **B18.006** S.A.X.S studies of the lamellar morphology of piezoelectric poly(vinylidene fluoride) and a new method for the analysis of 4-lobe 2D S.A.X.S patterns
Niloy Mukherjee, Gregory Beaucage, Rodney Roseman (Department of Chemical and Materials Engineering, Univ. of Cincinnati, Cincinnati, OH 45221), Structure-Property Studies on Electroactive Polymers Team
- 12:27 **B18.007** Probing Amorphous Structure of Semicrystalline Poly(ethylene terephthalate) and Poly(ethylene naphthalate)
Sergei Nazarenko, Jun Lin, Alexander Jamieson (Department of Macromolecular Science, Case Western Reserve University, Cleveland, Ohio 44106), Brian Olson (Department of Physics, Case Western Reserve University, Cleveland, Ohio 44106)
- 12:39 **B18.008** Tunable single crystal morphology of Nylon 6, 6
Christopher Li (Department of Materials Engineering, Drexel University, Philadelphia PA 19104), Wenwen Cai (Department of Polymer Science, The University of Akron, Akron OH 44325), Bernard Lotz (Institute Charles Sadron, 6 Rue Bousisingault, Strasbourg 67083)
- 12:51 **B18.009** Spatio-temporal Simulations of Axialitic Morphology in Syndiotactic Polypropylene Crystals
Rujul Mehta, Thein Kyu (Institute of Polymer Engineering, The University of Akron, Akron, OH 44325)
- 13:03 **B18.010** Shear-induced alignment of smectic side-chain liquid crystalline polymers
Stanley Rendon, Wesley Burghardt (Northwestern University), Maria Lujan Auad, Julia Kornfield (California Institute of Technology)
- 13:15 **B18.011** Rheological Studies of Side-Chain Liquid Crystal Polymers in Nematic Solvents
Alex. M. Jamieson, Yen Ching Chiang, Yiqiang Zhao (Department of Macromolecular Science & Engineering, Case Western Reserve University, Cleveland, Ohio 44106)
- 13:27 **B18.012** Photopolymerized Elastomer Stripes in the Freely Suspended Liquid Crystal Films
Nattaporn Chatham, Christian Tolksdorf, Rudolf Zentel (Department of Chemistry, University of Mainz, Duesbergweg 10-14, D-55099 Mainz, Germany), Noel Clark (Department of Physics and Ferroelectric Liquid Crystal Research Center, University of Colorado, Boulder, CO, 80309 USA)

- 13:39 **B18.013** Liquid Crystallinity, Structure and Thermodynamics of Rod Polymer Fluids in Two Dimensions
Justin Hooper, K. S. Schweizer (University of Illinois)
- 13:51 **B18.014** Broadening Miscibility in Liquid Crystalline Polymer Blends by Optimizing Intermolecular Hydrogen Bonding
Mark Dadmun, Sriram Viswanathan (University of Tennessee)
- 14:03 **B18.015** Role of molecular tacticity on the plastic deformation behavior of semi-syndiotactic polypropylenes
R. M. Kannan, M. Sevegney, Gautam Parthasarthy (Chemical Engineering and Materials Science, Wayne State University, Detroit, MI), Allen Siedle (3M Science Research Center, 3M, St. Paul, MN)

Session B35. DPOLY: Bulk: Networks and Dynamics.

Monday morning, 11:15, Room 9B, Austin Convention Center

Chair: Sonja Krause, Rensselaer Polytechnic Institute

- 11:15 **B35.001** Segmental Dynamics in Poly(ethylene oxide)/ Poly(methyl methacrylate) Miscible Blends: A Quasi-Elastic Neutron Scattering Investigation
Victoria Garcia Sakai, Chunxia Chen, Janna Maranas (Dept. of Chemical Engineering, Penn State University), Zema Chowdhuri (NIST Center for Neutron Research) Collaboration
- 11:27 **B35.002** Effect of Carbon Black on Elastomer Blends
MAYU SI, Tadanori Koga, Yuan Ji, Young-Soo Seo, Miriam Rafailovich, Jonathan Sokolov (Department of Materials Science and Engineering, Stony Brook University, Stony Brook, NY, 11794), M. Gerspacher (Sid Richardson Co. Research Center, 4825 North Freeway, Fort Worth, TX 76106), A. J. Dias, Kriss R. Karp (Exxon Mobile Chemical Company, Polymer Science and Butyl Technology Divisions, Baytown, Texas, 77520), Sushil Sattija, Min Y. Lin (Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland 20899-8562)
- 11:39 **B35.003** Absolute Heat Capacity Measurements in Equilibrium of Poly(alpha-Methylstyrene)/Pentamer Mixtures: The Kauzmann Paradox Unresolved
Gregory B. McKenna, Sinee L. Simon, Dinghai Huang (Texas Tech University)
- 11:51 **B35.004** Thermoplastic Polyurethanes Phase Segregation Kinetics Study
T. Mace, H. Hristov, O. Thomas (Kimberly Clark Corporation), B. Hsiao, C. Avila-Ortega, R. Somani, L. Yang (SUNY at Stony Brook)
- 12:03 **B35.005** Determination of Proton Spin-Diffusion Coefficients in Amorphous Polymers
Xin Jia, Justyna Wolak, Xingwu Wang (Affiliation), Jeffery White (Department of Chemistry, North Carolina State University)
- 12:15 **B35.006** Simulation of polymeric network formation with atomic level interactions for the study of templated and recognitive materials
David B. Henthorn, Ebru Oral (Purdue Univ., School of Chemical Engineering), Kinam Park (Purdue Univ., Dept. of Industrial and Physical Pharmacy), Nicholas A. Peppas (Univ. Texas at Austin, Dept. of Chemical Engineering)
- 12:27 **B35.007** Collapsing/Expanding Transition in Network Glasses
Xiaorong Wang (Bridgestone/Firestone Research Center, Akron, Ohio 44317)
- 12:39 **B35.008** Molecular Dynamics Simulation of PDMS Networks: Structure and Relaxation
D. R. Heine, M. Tsigie, C. D. Lorenz, M. J. Stevens, G. S. Grest (Sandia National Laboratories)
- 12:51 **B35.009** Theory of elasticity of granular networks
Sergey Panyukov (P.N. Lebedev Physics Institute, Moscow, Russia)
- 13:03 **B35.010** Depinning of semiflexible polymers in (1+1) dimensions
Panayotis Benetatos (Hahn-Meitner-Institute, Theoretische Physik, Glienicker Str. 100, D-14109, Berlin, Germany), Erwin Frey (Hahn-Meitner-Institute, Theoretische Physik, Glienicker Str. 100, D-14109, Berlin, Germany and Fachbereich Physik, Free University Berlin, Arnimallee 14, D-14195, Berlin, Germany)
- 13:15 **B35.011** Dynamic Self-Consistent Field Theory for Polymer Fluids: Scaling from Unentangled to Entangled Regimes
Tak Shing Lo, Maja Mihajlovic, Yitzhak Shnidman (Dept of Chemical Engineering, Chemistry & Materials Science, Polytechnic University and NSF MRSEC on Polymers at Engineered Interfaces)
- 13:27 **B35.012** Application of Density Functional Theory to Tethered Polymer Chains
John D. McCoy, Yuan Ye (New Mexico Institute of Mining & Technology, Socorro, NM 87801), John G. Curro (Sandia National Laboratories, Albuquerque, NM 87185)

- 13:39 **B35.013** Anomalous Behavior of Structural Recovery in Plasticized Polymers: Comparison of RH-jumps and T-jumps to the same final state
Yong Zheng, Gregory B. McKenna (Texas Tech University)
- 13:51 **B35.014** An effective-colloid model for Lennard-Jones colloid-polymer mixtures
Orlando Guzman, Juan de Pablo (University of Wisconsin-Madison)
- 14:03 **B35.015** Influence of Solvent Quality on Phase Behavior and Spatial Correlations in Polymer-Colloid Mixtures
Yeng-Long Chen, Kenneth S. Schweizer (University of Illinois at Urbana-Champaign)

Session C1. DPOLY: Poster Session I.

Monday afternoon, 14:00, Room Exhibit Hall 2/3, Austin Convention Center

Chair: Joao Cabral, NIST

- C1.110** Polymer Physics I
- C1.111** Real Space Structure of Associating Polymer with Selective Solvents
Kathleen Kolbet, Matthew Russell (Lebanon Valley College)
- C1.112** A Light Scattering Investigation of a Sol-gel/melt Transition: the Poly(ethylene oxide) (PEO)/methanol/LiClO₄ System
S. Peng, J. C. Selser, R. Bogoslovov, G. Piet, Physics Department Team
- C1.113** Slow Dynamics and the Glass Transition in Colloidal Suspensions and Polymer Melts
Erica J. Saltzman, Kenneth S. Schweizer (University of Illinois)
- C1.114** Study of Carrageenan Conformation Using Time-Dependent Light Scattering and Viscometry
Erica Sharp, David Norwood (Southeastern Louisiana University)
- C1.115** The structure factor of poly(1-butene) and poly(4-methyl-1-pentene) from wide angle X-ray scattering, molecular dynamics and PRISM
Anton Habenschuss (Oak Ridge National Laboratory), Man-Ho Kim (National Institute of Standards and Technology), John G. Curro, David R. Heine (Sandia National Laboratories)
- C1.116** The photochemical properties of dye rotaxane
Jong S. Park, Jung O. Park, Mohan Srinivasarao (Georgia Institute of Technology)
- C1.117** Phase Separation, Structure and Gelation in Polymer-Particle Suspensions
Y.L. Chen, S.A. Shah, K.S. Schweizer, C.F. Zukoski (University of Illinois at Urbana-Champaign)
- C1.118** Observation of E-relaxation Process in Polybutadiene
Yifu Ding, Alexander Kisluk, Alexei Sokolov (Department of Polymer Science, University of Akron, Ohio, 44325-3909)
- C1.119** Nanocrystal Formation under Confinement in a Rubbery Polymer: Large Melting Point Depression in Telechelic, Pyrene-End-Labeled PDMS as a Function of PDMS Molecular Weight
Bryce Jones, John Torkelson (Northwestern University, Evanston, IL 60208-3120)
- C1.120** Oriental Order and Mechanical Response in Strained Polymer Liquids and Networks
Folusho Oyerokun, Kenneth Schweizer (University of Illinois, Urbana-Champaign)
- C1.121** Adsorption of Polyelectrolytes onto Like-Charged and Oppositely Charged Surfaces
Hao Cheng, Monica Olvera de la Cruz (Department of Materials Science and Engineering, Northwestern University, Evanston, Illinois 60208.)
- C1.122** Polyelectrolyte Dynamics Studied by Neutron Spin-Echo Spectroscopy
V.M. Prabhu, E.J. Amis (Polymers Division, National Institute for Standards and Technology, Gaithersburg, MD 20899), D. Bossev, N. Rosov (NIST Center for Neutron Research, Gaithersburg, MD 20899)
- C1.123** Modeling Electrostatic Forces Between Opposing Polyelectrolyte Brushes: Interdigitation versus Compression
Delphine Dean, Joonil Seog, Christine Ortiz, Alan Grodzinsky (Massachusetts Institute of Technology, Cambridge MA)
- C1.124** Dissolved charged linear macromolecules of finite volume: counterion distribution and effective forces
Joerg Mertins, Reiner Kree (Institute for Theoretical Physics, University of Goettingen, Germany)

C1.125 Effect of Solution Conditions on Nanoscale Interactions Between Opposing Glycosaminoglycan Brushes

Joonil Seog, Dean Delphine (MIT), Shirley Wong-Palms, Anna Plaas (University of South Florida), Alan Grodzinsky, Christine Ortiz (MIT)

C1.126 Molecular Modeling of Nanostructure and Water Transport in Nafion

Seung Soon Jang (MSC - California Institute of Technology (Caltech)), Valeria Molinero, Tahir Cagin, William A. Goddard (MSC - Caltech)

C1.127 Phase behavior of solutions of flexible oppositely charged polyelectrolytes

Alexander Kudlay, Monica Olvera de la Cruz (Department of Materials Science and Engineering, Northwestern University, Evanston, IL 60208)

C1.128 Control of Surface Properties Using Fluorinated Polymer Brushes

A. Hexemer, E. J. Kramer (UCSB), L. Andruzzi, X. Li, C. K. Ober (Cornell Univ.), G. Galli, E. Chiellini (Pisa Univ.)

C1.129 Remarkable Differences Between the Flow Orientation and Mechanical Properties of Pentablock and Triblock Copolymers by Solution Extrusion

Tamotsu Harada, Lisa S. Lim, Marc A. Hillmyer, Frank S. Bate, Timothy P. Lodge (Department of Chemical Engineering and Materials Science, University of Minnesota)

C1.130 An improved algorithm for spectral self-consistent field theory

Christopher Tyler, David Morse (Chemical Engineering and Materials Science, University of Minnesota)

C1.131 Phase structure and liquid crystal orientation in a series of rod coil block copolymers

Christoph Li, Lingyu Li (Department of Materials Engineering, Drexel University, Philadelphia PA 19104), Hailiang Zhang, Xinhua Wan, Qi-Feng Zhou (Department of Polymer Science, Peking University, P. R. China)

C1.132 Size Effect on Crystal Orientation Changes in Nano-Confined Lamellae of PEO-b-PS Block Copolymer

Ping Huang, Lei Zhu, Alexander J. Jing, William Y. Chen, Stephen Z. D. Cheng, Ya Guo, Qing Ge, Roderic P. Quirk (Dept. of Polymer Science, Univ. of Akron, Akron, OH44325), Edwin L. Thomas (Dept. of Materials Science and Engineering, MIT, Cambridge, MA 02139), Bernard Lotz (Institute Charles Sadron, 6 Rue Boussingault, Strasbourg 67083, France), Benjamin S. Hsiao, Fengji Yeh, Lizhi Liu (Dept. of Chemistry, SUNY, Stony Brook, NY11794)

C1.133 A continuously branched model for the dendrimer-melt brush

Thomas C. Zook, Galen T. Pickett (CSU Long Beach, Physics and Astronomy)

C1.134 EUV Sensitive Chemically Amplified Imaging Layers for use with Diblock Copolymer Thin Films

Erik Edwards (University of Wisconsin Madison and Center for Nanotechnology), Paul Nealey (University of Wisconsin Madison and Center for Nanotechnology)

C1.135 Achieving long range order in diblock copolymer thin films by the use of thermal gradients

Judith Waller (Oxford University), Dan Angelescu, Matthew Trawick, Douglas Adamson, Richard Register, Paul Chaikin (Princeton University)

C1.136 Imaging the morphology of block copolymer films using scanning electron microscopy

Shuaigang Xiao, Sang Ouk Kim, Paul Nealey (University of Wisconsin)

C1.137 Structure Formation in Crystallization of Crystalline-Crystalline Block Copolymers

Hiroki Takeshita, Katsuhiko Takenaka, Tomoo Shiomi (Department of Chemistry, Nagaoka University of Technology)

C1.138 An effective χ parameter for block copolymer melts with finite compressibility

Junhan Cho (Dept. of Polymer Sci & Eng, Dankook University)

C1.139 Semi-invariants and Landau free energy

Sergey Panyukov (P.N. Lebedev Physics Institute, Moscow, Russia)

C1.140 Nano Structure of Liquid Crystalline Poly(benzyl L-glutamate) – X Diblock Copolymer Cast Films

Elizabeth Minich (University of Delaware), Andrew Nowak, Timothy Deming (University of California at Santa Barbara), Darrin Pochan (University of Delaware), University of Delaware and University of California at Santa Barbara Collaboration

C1.141 Microphase-Separation of Cyclic Block Copolymers of Styrene and Butadiene and of Their Corresponding Linear Triblock Copolymers

Yuqing Zhu, Samuel P. Gido (Department of Polymer Science & Engineering, University of Massachusetts, Amherst, MA 01003), Hermis Iatrou, Nikos Hadjichristidis (Department of Chemistry, University of Athens, Panepistimiopolis Zografou 15771, Athens, Greece)

C1.142 Measurement of Grain Growth Rates for Order-Order Transitions in Block Copolymers

Thomas Chastek, Timothy Lodge (University of Minnesota)

C1.143 Molecular Weight Effect of End-Functionalized Polymers on Reaction at the Interface between Immiscible Polymers

B. J. Kim, E. J. Kramer (UCSB), H. Kang, K. Char (SNU)

C1.144 Deformation and Fracture of Lamellar PCHE-PE Block Copolymers: Effect of Chain Architecture

V. Khanna, J. Ruokolainen, G. H. Fredrickson, E. J. Kramer (Materials Department, University of California, Santa Barbara), S. F. Hahn (Dow Chemical)

C1.145 Evolution of Surface Morphology in Thin Block Copolymer Films

Cheng Gang, Dvora Perahia (Chemistry Department, School of Material Science and Engineering, Clemson University, Clemson SC 29634-0973)

C1.146 Clustering and Continuum Percolation in Macromolecular Systems

Xiaoling Wang, Avik Chatterjee (State University of New York-College of Environmental Science and Forestry)

C1.147 Enhanced Diffusion in a Polymer-Silica Nanocomposite Viewed by Pulse Field Gradient NMR

Junyan Zhong, Wen-Yang Wen, Alan A. Jones (Chemistry Department, Clark University, Worcester MA 01610)

C1.148 The Application of Two-dimensional Correlation Infrared Spectroscopy to the Study of Polymer Blends with Relatively Weak Intermolecular Interactions.

He Huang, Sergei Malkov, Michael M. Coleman, Paul C. Painter (Department of Materials Sci. & Eng., Pennsylvania State University, University Park, PA16802)

C1.149 Shear coalescence studies of compatibilized polymer blends

Kristin Brinker, Wesley Burghardt (Northwestern University)

C1.150 Transport controlled segregation in a single-phase regime of mixtures of Liquid crystal and Polymer

Scott Meng, Thein Kyu (Department of Polymer Engineering, The University of Akron, Akron, OH 44325-0301), Timothy J. Bunning (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLPJ, Wright-Patterson Air Force Base, Ohio 45433), Collaborative Center for Polymer Photonics Collaboration

C1.151 POSS-PDMS Blends at the Air/Water Interface

John Hottle, Jianjun Deng, Hyong-Jun Kim, Alan Esker (Department of Chemistry, Virginia Tech), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)

C1.152 Thickness of Spin-Cast Polystyrene/Clay Nanocomposite Films

Jun Li, Vladimir Shapovalov, Maryana Isakova, Sandhu Bhupinder, Steven Schwarz (Physics, Queens College CUNY, Flushing, NY 11367), Vladimir Zaitsev, Miriam Rafailovich, Jonathan Sokolov (Materials Science, SUNY, Stony Brook, NY 11794)

C1.153 Ultrathin POSS-Polymer Blends

Joe Polidan, Ben Vastine, Jianjun Deng, Alan Esker (Department of Chemistry, Virginia Tech), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)

C1.154 Improving the Properties of Polymer Blends with Supercritical Carbon Dioxide

Edmund Palermo (Cornell University, Ithaca, NY 14850), Mitchell Fourman (Ward Melville High School, NY), Steven Lubin (West Islip High School, NY), Mayu Si, Miriam Rafailovich, Jonathan Sokolov (Department of Materials Science and Engineering, Stony Brook University, Stony Brook, NY, 11794)

- C1.155** Near Field Spectroscopic Investigation of Fluorescence Quenching by Charge Carriers in Pentacene-Doped Tetracene
Doo Y. Kim (Department of Chemistry and Biochemistry, University of Texas at Austin), Jason D. McNeill, Paul F. Barbara (Department of Chemistry and Biochemistry, University of Texas at Austin)
- C1.156** A Broadband Dielectric Investigation of the Dynamics of Miscible Polymer Blends with Intermolecular Hydrogen Bonding
Shihai Zhang, Paul Painter, James Runt (Penn State University)
- C1.157** Broadband Dielectric Investigation of Semi-Crystalline Poly(ethylene oxide) - Poly(styrene-co-hydroxystyrene) Blends
Xing Jin, James Runt (Penn State University)
- C1.158** The behavior of PS-PMMA block copolymer blends in thin films on rough substrates.
Yoshihiro Hayashi, Shinya Matsubara, Shinya Kiyono, Easan Sivaniah, Takeji Hashimoto (Department of Polymer Chemistry, Kyoto University, Kyoto 606-8501, Japan), Kenji Fukunaga (UBE Industries Ltd., Ichihara, Chiba 290-0045, Japan.)
- C1.159** Organoclays Effect on Crystallization of Semicrystalline Poly(L-lactic acid)
Vahik Krikorian, Cui Honggang (Dept. of Materials Science and Engineering and Delaware Biotechnology Institute), Jerold Schultz (Dept. of Materials Science and Engineering), Darrin Pochan (Dept. of Materials Science and Engineering and Delaware Biotechnology Institute)
- C1.160** Carbon Nano Tube Composites with Chemically Functionalized Plant Oils
Wim Thielemans, Richard P. Wool (Department of Chemical Engineering, University of Delaware, Newark DE 19716-3144), Werner Blau, Valerie Barron (Physics Department, Trinity College Dublin, Dublin 2, Ireland)
- C1.161** Synthesis And Single Molecule Force Spectroscopy Of Poly(hydroxyethyl methacrylate-g-ethylene glycol)
Dong Zhang, Christine Ortiz (Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA)
- C1.162** Defect-Mediated Plastic Deformation Near Scratches and Indentations in Thermally Evaporated Pentacene Thin Films
Lawrence Drummy, Paul Miska, David Martin (Department of Materials Science and Engineering and the Macromolecular Science and Engineering Center, University of Michigan)
- C1.163** New Experiments with (Colloidal Probe) Labeled Actin Filaments and Motor Proteins: 3D Motility Assay, Thermodynamic Analysis and Induced Reptation
J. Uhde, M. Keller, E. Sackmann (Biophysik/E22, TU Muenchen)
- C1.164** Percolation clusters in sheared polymer nanocomposites
Eihab Jaber, Haobin Luo, Wentao Li, Dilip Gersappe (Dept of Materials Science and Engineering, SUNY at Stony Brook)
- C1.165** Noncircular Pores on the Surface of Asymmetric Polymer Membranes: Evidence of Pore Formation via Spinodal Demixing
Ariya Akthakul, William McDonald, Anne Mayes (MIT)
- C1.166** On the formation of multi-generation buckles in elastomeric films
Kirill Efimenko, Jan Genzer (NC State University)
- C1.167** Surface Grafted Copolymer Assemblies with Gradient in Molecular Weight and Composition
Michael Tomlinson, Jan Genzer (NC State University)
- C1.168** Effect of Solution Conditions on the Nanoscale Intermolecular Interactions Between Human Serum Albumin and Low Grafting Density Surfaces of Poly(ethylene oxide)
Monica Rixman, Celia Macias (Dept. of Materials Science and Engineering), Delphine Dean (Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA), Christine Ortiz (Dept. of Materials Science and Engineering)
- C1.169** Direct Imaging of Nanoparticle Embedding into Thin PS Films
J.H. Teichroeb, J.A. Forrest (Department of Physics, University of Waterloo, Waterloo, ON, N2L 3G1, Canada)
- C1.170** Chain end effect on the surface glass transition temperature
Y Pu, D Gersappe, J Sokolov, M Rafailovich (Dept of Materials Science and Engg, SUNY at Stony Brook)

- C1.171** Influence of Chain End Groups on Surface Segregation in Miscible Blends of Polystyrene and Poly (vinyl methyl ether)
Daisuke Kawaguchi, Keiji Tanaka (Faculty of Engineering, Kyushu University, Fukuoka 812-8581, Japan), Seiji Tasaki (Research Reactor Institute, Kyoto University, Osaka 590-0494, Japan), Atsushi Takahara (Institute for Fundamental Research of Organic Chemistry, Kyushu University, Fukuoka 812-8581, Japan), Tisato Kajiyama (Kyushu University, Fukuoka 812-8581, Japan)
- C1.172** Ultramicroindentation at Silk Membranes Surfaces
I Puente Orench, FJ Balta Calleja (Inst de Estructura de la Materia, Madrid, ES), S Puthanarat, RK Eby (Inst Polymer Sci, U Akron, USA)
- C1.173** Topographically Tuning Polymer Adhesion
Alfred Crosby (Polymer Science and Eng., University of Massachusetts, Amherst, MA)
- C1.174** Isotherm Studies of Telechelic POSS-PEO Polymers
Woojin Lee, Jianjun Deng, Alan Esker (Department of Chemistry, Virginia Tech), Byoung-Suhk Kim, Patrick Mather (Polymer Program and Department of Chemical Engineering, University of Connecticut)
- C1.175** The Mobility of Polymer Chains Confined at a Free Surface
Y Pu, D. Gersappe, J Sokolov, M Rafailovich (Dept of Materials Science and Engg, SUNY at Stony Brook), T Petersen (Ward Melville High School, Setauket, NY), W. L. Wu (National Institution of Standards & Technology, Gaithersburg, MD 20899), S.A. Schwarz (Dept. of Physics, Queens College of CUNY, NY)
- C1.176** Modification of Gold Surfaces with Ultrathin Polyacrylonitrile Films
Rituparna Paul, Rolf Schmidt, Daniel Dyer (Department of Chemistry and Biochemistry, Southern Illinois University at Carbondale)
- C1.177** Generation and characterization of three-dimensional nanoparticle assemblies on molecular weight gradients of surface-anchored macromolecules
Rajendra R. Bhat, Jan Genzer (NC State University)
- C1.178** Crystallization of Ultra-thin Film of Polyethylene and Its Copolymers
Yantian Wang, Shouren Ge, Miriam Rafailovich, Jonathan Sokolov (Dept. of Materials Sci. & Eng., State University of New York at Stony Brook), Gad Marom (The Hebrew University of Jerusalem), Arnold Lustiger (ExxonMobil Research and Engineering Company), Mike Gelfer (Dept. of Chemistry, State University of New York at Stony Brook)
- C1.179** Parallel and Perpendicular Diffusion of Polymer into Its Confined Matrix
Clive Li, Jonathan Sokolov, Miriam Rafailovich (Stony Brook University), Vladimir Zaitsev, Steven Schwarz (Queens College)
- C1.180** Control of Surface Morphology in PS-b-PMMA/PPO Blend Thin Films
Sangcheol Kim, Jeong Yeon Park, Kookheon Char (School of Chemical Engineering, Seoul National University)
- C1.181** Late Stage of Dewetting of Inverted PVP/PS Bilayer Films
Huiman Kang (School of Chemical Engineering, Seoul National University, Seoul 151-744, Korea), Seung-Heon Lee (Materials Research Laboratory, University of California, Santa Barbara, CA 93106.), Sangcheol Kim, Kookheon Char (School of Chemical Engineering, Seoul National University, Seoul 151-744, Korea)
- C1.182** Effect of Ge-overlayers on the resistivity of ultra thin metal films
Klaus Schroder, Sean Novak (Syracuse University), Jonathan Hollander (University of Illinois, Champaign)
- C1.183** Nano-Calorimetric Studies of Polymeric Phase Transitions in Confined Geometries
Azar Alizadeh, Anis Zribi, Surya Ganti, Pradeep Sharma, Ken Conway, Loucas Tsakalacos, Patrick R.L. Malenfant, Julie Teetsov (General Electric, Global Research Center, Niskayuna, NY 12309)
- C1.184** The effect of nanoscale fillers on the tracer diffusion in polymers
Jean Harry Xavier, Jonathan Sokolov, Miriam Rafailovich, Tadanori Koga (Stony Brook University), Kwanwoo Shin Team
- C1.185** Influence of mobile nanoparticles on phase separation dynamics in thin film polymer blends
Ranjana Deshmukh, Hyun-joong Chung, Andreas H. Taubert, Russell J. Composto (Materials Science and Engineering, LRSN, University of Pennsylvania, Philadelphia, PA 19104-6272)

- C1.186** Synthesis and characterization of polymer brushes that can be cleaved from the substrate by photo-generated acid
Martha Montague, Erik Edwards, Paul Nealey (University of Wisconsin - Madison)
- C1.187** Dynamic Separation of Polymer Thin Blend Film on Au/Si
John Jerome, Y.S. Seo, S. Zu (Materials, SUNY at Stony Brook), Y. Vladimir (Physics, Queens College, NY), M. Rafailovich, J. Sokolov (Materials, SUNY at Stony Brook)
- C1.188** Contrasting viscoelasticity with atomically rough and smooth surfaces in molecularly-thin fluid films
Zhiqun Lin, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, IL 61801)
- C1.189** The effect of nano-confinement on the mechanical properties of thin polymer films
Paul O'Connell, Greg McKenna (Texas Tech University)
- C1.190** Radial thickness profiles of spincoated polymer wedge films
Jason Thomas, Bernie Nickel, John Dutcher (Dept. of Physics, Univ. of Guelph, Guelph, ON, Canada N1G 2W1)
- C1.191** Experimental and theoretical investigation of hole growth in freely-standing polymer films
Connie Roth, Ben Deh, Bernie Nickel, John Dutcher (Dept. of Physics, Univ. of Guelph, Guelph, ON, Canada N1G 2W1)
- C1.192** Effect of Annealing of Polystyrene Films in the Freely-Standing State
Chris Murray, John Dutcher (Dept. of Physics, Univ. of Guelph, Guelph, ON, Canada N1G 2W1)
- C1.193** Moisture absorption in thin polymer films
Christopher Soles (NIST Polymers Division), Joseph Lenhart (Sandia National Labs), Ronnie Jones, Vivek Prabhu, Eric Lin, Wen-li Wu (NIST Polymers Division)
- C1.194** Coil to brush-like transition of polymer thin films in supercritical CO₂
Young-Soo Seo, J. Jerome, T. Koga, J. Sokolov, M. Rafailovich (Materials, SUNY at Stony Brook), S. Satija (NIST)
- C1.195** Micro-shearing of Block Copolymer Thin Film
Hoichang Yang, Chansu Kim, Chang Y. Ryu (Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180), Kilwon Cho (Chemical Engineering, POSTECH, Korea)
- C1.196** Ultrastructural and Nanomechanical Studies of Fresh Bovine and Human Cortical Bone
Kuangshin Tai, Christine Ortiz (Department of Materials Science and Engineering, Massachusetts Institute of Technology)
- C1.197** Adsorption of myoglobin to metal-chelating lipid monolayers by neutron and X-ray reflectivity and GIXD
Michael Kent, Hyun Yim, Darryl Sasaki (Sandia National Laboratories), Sushil Satija (National Institute of Standards and Technology), Jaroslaw Majewski (Los Alamos National Laboratory)
- C1.198** Self-Assembling Diblock Polypeptide Hydrogels: Effects of Salt and Cell-Growth Media on the Self-assembly Process and Material Properties
Lisa Pakstis, Bulent Ozbas, Darrin Pochan (University of Delaware), Andrew Nowak, Timothy Deming (University of California, Santa Barbara)
- C1.199** Mechanical Properties of freely suspended quasi two-dimensional model actin cortex on microfabricated three-dimensional Pillar Substrates
Alexander Roth (Institut für Biophysik E22 Technische Universität Muenchen), Wouter Roos, Joachim Spatz (Institut für physikalische Chemie Universität Heidelberg), Erich Sackmann (Institut für Biophysik E22 Technische Universität Muenchen), Institut für Biophysik E22 Technische Universität Muenchen Team, Institut für physikalische Chemie Universität Heidelberg Team
- C1.200** Magnetic Nanoparticle-Phospholipid Interactions in Monolayer Films
Jennifer Stockdill, John Goff, Kristen Wilson, Judy Riffle, Alan Esker (Department of Chemistry, Virginia Tech)
- C1.201** Structure of Individual Cartilage Aggrecan Macromolecules and Their Constituent Glycosaminoglycan Chains Visualized via Atomic Force Microscopy
Laurel Ng (Massachusetts Institute of Technology (MIT)), Alan Grodzinsky (MIT), John Sandy (University of South Florida (USF)), Anna Plaas (USF), Christine Ortiz (MIT)

- C1.202** X-ray scattering and optical ellipsometric studies of collagen-model peptides
Georgie Georgiev, Peggy Cebe (Physics and Astronomy Department, Tufts University), Regina Valluzzi, David Kaplan (Chemical and Biological Engineering Department, Tufts University)
- C1.203** Characterization of Hydrogels Formed Via Intramolecular Folding and Consequent Self-Assembly of Beta-Hairpin Peptides
Bulent Ozbas, Lisa Pakstis, Darrin J Pochan (University of Delaware, Materials Science and Engineering Department), Karthikan Rajagopal, Juliana Gill, Joel P. Schneider (University of Delaware, Department of Chemistry and Biochemistry)
- C1.204** Phase behavior of Crosslinked Diblock Copolymers
Jayajit Das, Arup Chakraborty, Nitash Balsara (Dept. of Chemical Engineering, UC-Berkeley)
- C1.205** Block Copolymer Thin Films and the Double Gyroid Motif - A Combinatorial Study
Michael J. Fasolka, Alamgir Karim (Polymers Division, National Institute of Standards and Technology, Gaithersburg, MD 20899), Augustine M. Urbas, Edwin L. Thomas (Dept. of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge MA 02139)

Session D3. DPOLY: Polymer-templated Nanostructures.

Monday afternoon, 14:30, Ballroom C, Austin Convention Center

Chair: Peter Green, University of Texas

- 14:30 **D3.001** Predicting The Self-Assembly and Mechanical Properties of Diblock/Nanoparticle Mixtures
Anna Balazs (Chemical Engineering Dept., University of Pittsburgh, Pittsburgh, PA)
- 15:06 **D3.002** Directed Self-Assembly in Thin Block Copolymer Films
Thomas P. Russell (Polymer Science and Engineering Department, University of Massachusetts Amherst, Amherst, MA 01003)
- 15:42 **D3.003** Functional Nanostructured Materials Based on Polymerized Surfactant Liquid Crystal Assemblies Liquid Crystal Assemblies
Douglas Gin (Dept. of Chemistry & Biochemistry, and Dept. of Chemical Engineering, University of Colorado, Boulder, CO (USA) 80309)
- 16:18 **D3.004** Supramolecular Nanophases and Templating: Bone, Semiconductors and Magnets
Samuel Stupp (Northwestern University)
- 16:54 **D3.005** Virus Based Self-assembled Magnetic and Semiconductor Nanostructures
Angela Belcher (Massachusetts Institute of Technology)

Session G1. DPOLY: Polymer Physics Ford Prize Symposium.

Tuesday morning, 08:00, Ballroom A, Austin Convention Center

Chairs: Frank Bates, University of Minnesota and Ralph Colby, The Pennsylvania State University

- 08:00 **G1.001** Structural and Morphological Understanding and Property Optimization of Technologically Important Polymeric Materials
Andrew J. Lovinger (Bell Laboratories, Lucent Technologies)
- 08:36 **G1.002** Enhanced Polymer Properties via Structural Control
Edwin L. Thomas (Massachusetts Institute of Technology)
- 09:12 **G1.003** Molecular Manipulation and Molecular Coding on the Nano-Length Scale via Crystal Templates
Stephen Cheng (Maurice Morton Institute and Department of Polymer Science, The University of Akron, Akron, Ohio 44325-3909)
- 09:48 **G1.004** Observation and Analysis of Polymer Crystal Structures at the Stem Level. Implications Regarding Polymer Crystallization Processes.
Bernard Lotz (Institut Charles Sadron, 67083 Strasbourg, France)
- 10:24 **G1.005** High Resolution Imaging of Defect Structures in Polymer and Organic Molecular Crystals
David Martin (The University of Michigan)

Session G17. DPOLY: Wetting and Adsorption Dynamics.

Tuesday morning, 08:00, Room 10A, Austin Convention Center

Chair: Jan Genzer, North Carolina State University

08:00 **G17.001** Ford Prize Break

08:36 **G17.002** Self-Assembled and Micro-Contact Printed Monolayers to Direct Surface Diffusion
Carla Heitzman, Huilin Tu, Sudha Srinivasan, Paul Braun (University of Illinois, Department of Materials Science and Engineering)

08:48 **G17.003** Surface Morphology of Annealed Polystyrene and Poly(Methyl Methacrylate) Thin Film Blends and Bilayers
M. Harris, G. Appel, H. Ade (Dept. of Physics, NCSU, Raleigh, NC 27695)

09:00 **G17.004** Coarsening of Droplets on the Surface of a Structured Fluid Film
Peter F. Green (Chemical Engineering, University of Texas at Austin), Ratchana Limary (Materials Science and Eng., University of Texas at Austin)

09:12 **G17.005** The Effect of Single Wall Carbon Nanotubes on Thin Film Dewetting
J. S. Koo, K. Shin, K. E. Geckeler (Kwangju Institute of Science and Technology, Korea), S. Ge, S. Li, M. H. Rafailovich, J. Sokolov (SUNY at Stony Brook)

09:24 **G17.006** Interface mediated growth of thin pentacene films on the silicon substrates
Jerzy T. Sadowski, Tadaaki Nagao, Toshio Sakurai (Institute for Materials Research, Tohoku University, Sendai, Japan), Ruid M. Tromp (IBM T. J. Watson Research Center, Yorktown Heights, New York 10598, USA)

09:36 **G17.007** Smoothing Polymer Surfaces by Solvent-Vapor Exposure
Mitchell Anthamatten (Lawrence Livermore National Laboratory), Steven A. Letts, Robert C. Cook

09:48 **G17.008** Direct Ellipsometric Measurement of Vapor Films When Water Meets a Hydrophobic Surface
Adele Poynor (Department of Physics UIUC), Ashis Mukhopadhyay, Steve Granick (Department of Materials Science and Engineering)

10:00 **G17.009** Effects of Alternating Hydrogenated and Protonated Segments in polymers on their Wettability.
Dennis Smith, Rakchart Traiphol, Gang Cheng, Dvora Perahia (Department of Chemistry and The School of Material Science and Engineering Program Clemson University, Clemson, SC 29634-0973)

10:12 **G17.010** Dewetting of Thin Film Blends Containing Block Copolymer: Effects of Non-Adsorbing Block Length and Substrate Hydrophobicity
Ana C. Costa, Russell J. Composto (Univ. of Pennsylvania, Dept. of Mat. Sci. & Eng.), Petr Vlcek (Inst. of Macrom. Chem., Prague)

10:24 **G17.011** Block Copolymer Adsorption to the Substrate from a Homopolymer Melt Film: Effects of Non-Adsorbing Block Length and Adsorbing Block-Substrate Interactions
Russel J. Composto, Ana C. Costa (Mat. Sci. & Eng., Univ. of Pennsylvania), Mark Geoghegan (Phys. & Astronomy, Univ. of Sheffield)

10:36 **G17.012** Particle adsorption on surfaces with grafted polyelectrolytes
Igal Schleifer (Purdue University)

10:48 **G17.013** Surface Diffusion and Jamming of Adsorbed Polymers
Jiang Zhao, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, IL 61801)

Session G18. DPOLY: Bio Rheology.

Tuesday morning, 08:00, Room 10B, Austin Convention Center

Chair: Maria Santore, University of Massachusetts, Amherst

08:00 **G18.001** Ford Prize Break

08:48 **G18.002** Principles that Govern the Performance of Molecular Motors
Jon Eide (UC Berkeley, Department of Chemical Engineering), Arup Chakraborty (UC Berkeley, Department of Chemical Engineering and Chemistry), George Oster (UC Berkeley, Departments of Molecular and Cellular Biology & ESPM)

09:00 **G18.003** Filament Twist in F-Actin Bundles
Tommy Angelini (Department of Physics, University of Illinois at Urbana-Champaign), Lori Sanders (Department of Materials Science, University of Illinois at Urbana-Champaign), Gerard Wong (Departments of Materials Science, Physics, and Bioengineering, University of Illinois at Urbana-Champaign)

09:12 **G18.004** Counterion Dynamics on Condensed F-Actin Rods
Lori K. Sanders, Thomas E. Angelini (University of Illinois at Urbana-Champaign), Jay X. Tang (Indiana University), Gerard C.L. Wong (University of Illinois at Urbana-Champaign)

09:24 **G18.005** Anomalous diffusion of thermally driven tracer particles in F-Actin networks
Ian Y. Wong, Margaret L. Gardel (Department of Physics & DEAS, Harvard University, Cambridge MA 02138), Eric R. Weeks (Department of Physics, Emory University, Atlanta GA 30322.), Megan T. Valentine (Department of Physics & DEAS, Harvard University, Cambridge MA 02138), Andreas R. Bausch (Lehrstuhl für Biophysik - E22, Technische Universität München, Garching, GERMANY), David A. Weitz (Department of Physics & DEAS, Harvard University, Cambridge MA 02138)

09:36 **G18.006** Internal friction within F-actin bundles crosslinked by multivalent ions
Olena Rudko, Thomas Angelini (Department of Physics, University of Illinois at Urbana-Champaign), Chee Xiong (Department of Bioengineering, University of Illinois at Chicago), John Marko (Department of Physics, University of Illinois at Chicago), Gerard C.L. Wong (Departments of Materials Science and Engineering, Physics, Bioengineering, University of Illinois at Urbana-Champaign)

09:48 **G18.007** Cell adhesion on nanotopography
Irene Tsai, Masahiro Kimura, Rebecca Stockton, Bruce Jacobson, Thomas Russell (University of Mass. Amherst PSE)

10:00 **G18.008** Synthetic Cell Elements from Block Copolymers. Dynamic Aspects
Dennis Discher (Univ. Pennsylvania), Frank S. Bates & Paul Dalhaimer Collaboration

10:12 **G18.009** Silk Fibroin under Osmotic Stress
Sungyun Sohn, Helmut H. Strey, Samuel P. Gido (Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA 01003)

10:24 **G18.010** Microrheology, stress fluctuations and active behavior of living cells
Andy W.C. Lau, Brenton D. Hoffman, John C. Crocker, Tom C. Lubensky (UPenn)

10:36 **G18.011** Microstructure and Mechanical Properties of Composite Actin Networks
Margaret Gardel (Harvard University), Jennifer Shin (M.I.T.), L. Mahadevan (Cambridge University), Paul Matsudaira (M.I.T.), D.A. Weitz (Harvard University)

10:48 **G18.012** Cytoskeleton rheology and fluctuations with magnetic twisting cytometry
Gladys Massiera, Brenton Hoffman, John Crocker (University of Pennsylvania: Chemical and Biomolecular Engineering)

Session H16. DPOLY: Padden Award Symposium.

Tuesday morning, 11:15, Room 9C, Austin Convention Center

Chair: Richard A Register, Princeton University

- 11:15 **H16.001** Effect of Cation Size and Valency on the Ionic Aggregates in Poly(styrene-ran-methacrylic acid) Ionomers
Brian P. Kirkmeyer, Karen I. Winey (University of Pennsylvania)
- 11:27 **H16.002** Dynamics of Adsorbed Polymer Layers: The Number and Strength of Bound Segments.
Nanthiya Hansupalak (Lehigh University), Maria Santore (University of Massachusetts Amherst)
- 11:39 **H16.003** Preparation of Hydrophilic Poly(Vinylidene Fluoride) Membranes for Molecular-Scale Separation
Ariya Akthakul (MIT), Jonathan Hester (3M), Jane Park, William McDonald, Anne Mayes (MIT)
- 11:51 **H16.004** Dynamic Self-Consistent Field Theory of Inhomogeneous Complex Fluids Under Shear
Maja Mihajlovic, Tak Shing Lo, Yitzhak Shnidman (Polytechnic University, Brooklyn, NY and the NSF MRSEC on Polymers at Engineered Interfaces)
- 12:03 **H16.005** Strongly charged flexible polyelectrolytes in poor solvents: Molecular dynamics simulations with explicit solvent
Rakwoo Chang, Arun Yethiraj (Department of Chemistry, University of Wisconsin-Madison)
- 12:15 **H16.006** Programs for Effective Integration of High School and Undergraduate Students into Research Programs
Miriam Rafailovich (SUNY Stony Brook, Stony Brook, NY 11794-2275), Ronald Occirosso (Locust Valley High School), Steven A Schwarz (Queens College, CUNY, Flushing, NY 11367)
- 12:27 **H16.007** Filling the Graduate Student Pipeline
Karen I. Winey (Materials Science and Engineering, University of Pennsylvania)
- 12:39 **H16.008** The Materials Partnership
Julia A. Kornfield (California Institute of Technology)

Session H17. DMP/DPOLY: Focus Session: Transport in Molecules II.

Tuesday morning, 11:15, Room 10A, Austin Convention Center

Chair: George G. Malliaras, Cornell University

- 11:15 **H17.001** Transport investigations of single-metalloocene transistors
Wenjie Liang (Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA 02138, USA), Qian Gu, Lisa Carlvati, Moon-Ho Jo, Hongkun Park (Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA 02138, USA)
- 11:27 **H17.002** Current enhancement by an interstage vibrational mode in single C140 transistors
Jiwoong Park, Abhay N. Pasupathy, Connie Chang, Radoslaw C. Bialczak, James P. Sethna, Daniel C. Ralph, Paul L. McEuen (LASSP, Cornell Univ), Alexander V. Soldatov (PhYSICS Dept, Harvard Univ), Sergei Lebedkin (INT, Forschungszentrum Karlsruhe, Germany)
- 11:39 **H17.003** Influence of Electron-Phonon Coupling on Transport in Molecular Quantum Dots
Aditi Mitra, Andrew J. Millis (Columbia University)
- 11:51 **H17.004** Electronic-vibrational coupling in single-molecule devices
Vivek Aji, Joel Moore (Material Sciences Division, Lawrence Berkeley National Laboratory; Department of Physics, University of California, Berkeley), Chandra Varma (Bell Labs, Lucent Technologies)
- 12:03 **H17.005** Electrical Transport through Molecular Wires
Chao-Cheng Kaun, Brian Larade, Hong Guo (Center for the Physics of Materials and Department of Physics, McGill University, Montreal, PQ, Canada H3A 2T8.)
- 12:15 **H17.006** Exponential Temperature Dependence and Low-Bias Conductance Anomaly in Transport through Molecular Monolayers
D.R. Stewart, D.A.A. Ohlberg, P. Beck, C.N. Lau, R. Stanley Williams (Hewlett-Packard Labs, Palo Alto, CA USA)
- 12:27 **H17.007** Electron transport through self-assembled molecular monolayers
Yong-Hoon Kim, Jamil Tahir-Kheli, Seung Soon Jang, Weiqiao Deng (Materials and Process Simulation Center, California Institute of Technology, Pasadena, CA 91125-7400), Peter Schultz (Sandia National Laboratories, Albuquerque, NM 87185), William A. Goddard III (Materials and Process Simulation Center, California Institute of Technology, Pasadena, CA 91125-7400)
- 12:39 **H17.008** Mechanism of Electron Conduction In Self-Assembled Alkanethiol Monolayer Devices
Wenyong Wang, Takhee Lee, Mark A. Reed (Departments of Electrical Engineering, Applied Physics, and Physics, Yale University)
- 12:51 **H17.009** Contact Effects in Molecular Junctions
Vince Engelkes, Jeremy Beebe, Dan Frisbie (University of Minnesota)
- 13:03 **H17.010** Characterization of organic monolayers on Au
Weirong Jiang (Rutgers Univ.), Nikolai Zhitenev, Bert Boer (Bell Laboratories), Martin Frank (Rutgers Univ), David Abush-Magder, Shu Yang (Bell Laboratories), Yves Chabal (Rutgers Univ), Zhenan Bao (Bell Laboratories), Eric Garfunkel (Rutgers Univ), Rutgers Univ Collaboration, Bell Laboratories Collaboration
- 13:15 **H17.011** Electronic Transport through Molecular Wires
James Williams, Geetha Dholakia, Wendy Fan (Eloret Corporation, Moffett Field, CA 94035 USA), Jessica Koehne (NASA Ames Research Center), Jie Han (Eloret Corporation, Moffett Field, CA 94035 USA), M. Meyyappan (NASA Ames Research Center)
- 13:27 **H17.012** Electronic Properties of Self-Assembled Sexi-Phenyl Monolayer on Ag(111): An LT-STM Investigation
Saw-Wai Hla (Nanoscale & Quantum Phenomena Institute, Physics & Astronomy Dept., Ohio University, Athens, OH 45701, USA.), Kai-Felix Braun (Institut fuer Experimentalphysik, Freie Universitaet, Arnimallee 14, D-14195 Berlin, Germany.)

13:39 **H17.013** Annealing Effects on the Self - Assembly of Synthesized Organic Molecules on Au (111) Substrates
Robert Friedfeld (Stephen F. Austin State University), Neil Mulchan (Florida International University), Rolando Branly (Broward Community College), Oladipo Ogunjimi, Steve Scurlock, Herbey Solis (Stephen F. Austin State University)

13:51 **H17.014** Thiolates on copper surfaces: equilibrium, dynamical, and stress-induced properties
M. M. Konopka (CCMS, Slovak University of Technology (FEI STU), Bratislava, Slovakia), R. Rousseau (Ruhr-Universitaet Bochum, 44780 Bochum, Germany), I. Stich (CCMS, Slovak University of Technology (FEI STU), Bratislava, Slovakia), D. Marx (Ruhr-Universitaet Bochum, 44780 Bochum, Germany)

14:03 **H17.015** Dielectric Relaxation of Molecular Dipolar Rotors
L. Clarke, R. Horansky, T. Hinderer, J. Price (Department of Physics, University of Colorado, Boulder), J. Nunez, T. Khuong, M. Garcia-Garibay (Department of Chemistry and Biochemistry, University of California, Los Angeles), D. Horinek, G. Kottas, N. Varaska, T. Magnera, J. Michl (Department of Chemistry and Biochemistry, University of Colorado, Boulder)

Session H18. DPOLY: Nanocomposites I.

Tuesday morning, 11:15, Room 10B, Austin Convention Center

Chair: Rahmi Ozisik, Rensselaer Polytechnic Institute

- 11:15 **H18.001** Disorientation Kinetics of Aligned Polymer Layered Silicate Nanocomposites
Ramanan Krishnamoorti, Jiaxiang Ren, Fabiola Casanueva, Cynthia A. Mitchell (University of Houston)
- 11:27 **H18.002** Controlling Morphological Behavior on Polymer-Layered Silicate Nanocomposites
Rick Beyer, Phil Madison (U.S. Army Research Laboratory, Aberdeen Proving Ground, MD), Mary Kurian, Mary E. Galvin (University of Delaware, Newark, DE)
- 11:39 **H18.003** Bio-Based Nano Composites from Plant Oil and Nano Clay
Jue Lu, Chang K. Hong, Richard P. Wool (Dept of Chemical Engineering and Center for Composite Materials, University of Delaware, Newark DE 19716-3144)
- 11:51 **H18.004** Polyacrylonitrile-Single Wall Carbon Nanotube Composite Fibers and Films
T.V. Sreekumar, B.G. Min, H. Guo, T. Liu, S. Kumar (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA 30332), L.M. Ericson, R.H. Hauge, R.E. Smalley (Center for Nanoscale Science and Technology, Rice University, Houston, TX 77005)
- 12:03 **H18.005** Nanocomposites of functionalized layered silicates and block copolymers
Thomas Breiner, Young-Hoon Ha, Edwin Chan, Edwin L. Thomas (Massachusetts Institute of Technology), Department of Materials Science and Engineering Team
- 12:15 **H18.006** Characterization of SWNT based Polystyrene Nanocomposites
Cynthia Mitchell (U of Houston), Jeffrey Bahr, James Tour (Rice U), Sivaram Arepalli (G. B. Tech./NASA-Johnson Space Center), Ramanan Krishnamoorti (U of Houston)
- 12:27 **H18.007** Using Particles to Create Percolating Pathways in Polymer Blends
B.Y. Asoo, G.H. Fredrickson, E.J. Kramer (University of California, Santa Barbara)
- 12:39 **H18.008** P(VDF-TrFE) - Layered Silicate Nanocomposites: Influence of Composition on Phase Transitions
Peggy Cebe (Tufts University, Physics Department), James Runt (Pennsylvania State University, Department of Materials Science and Engineering)
- 12:51 **H18.009** Structure, Depletion Forces and Thermodynamics in Polymer Nanocomposites
T.G. Desait, R. Koshy, P. Keblinski (Rensselaer Polytechnic Institute), J. Hooper, K.S. Schweizer (University of Illinois)
- 13:03 **H18.010** Dielectric Measurement of Particle Dispersion in Polymer Nanocomposites
Chad Snyder, Anthony Bur, Steven Hudson, Natsuko Noda, Vivek Prabhu, Steven Roth, David Vanderhart (NIST Polymers Division), Charles Glinka, Derek Ho (NIST Center for Neutron Research)
- 13:15 **H18.011** Flame-retardant Elvacite Acrylic Resin Nanocomposites Using Melt Blending
Jonathan Hefter (Davis Renov Stahler Yeshiva for Boys, NY), Andrew Song (Jericho High School, NY), Mayu Si, Miriam Rafailovich, Jonathan Sokolov (Department of Materials Science and Engineering, Stony Brook University, Stony Brook, NY, 11794), Michael Goldman (Harvard University, Cambridge, MA 02163), Michael Smith (Fire Science Division, Polymers Building, National Institute of Standards and Technology, Gaithersburg, Maryland 20899), Gregory Rudomen (University Microscopy Imaging Center, Stony Brook University, Stony Brook, NY, 11794)
- 13:27 **H18.012** Filler dependent transition phenomena in block copolymer based nanocomposites
Anurag Jain, Jochen Gutmann (Physics Dept., MPI for Polymers Research, Mainz, Germany), Carlos Garcia, Yuanming Zhang, Mark Tate, Sol Gruner (Department of Physics, Clark Hall, Cornell University, Ithaca, NY 14853, USA), Ulrich Wiesner (Department of Materials Science and Engineering, Bard Hall, Cornell University, Ithaca, NY 14853, USA)

13:39 **H18.013** Functionalized Nanoparticles as Non-specific Compatibilizers for Polymer Blends
R. Fisher (HANC High School, Uniondale, New York), M Si, W. Zhang, X. Hu, M. Lin, D Gersappe, J Sokolov, M Rafailovich (Dept of Materials Science and Engg, SUNY at Stony Brook), M Rubenstein (Dept of Chemistry, University of North Carolina, NC 27599), A. Winesett, H. Ade (Physics Dept, North Carolina State University Raleigh NC)

13:51 **H18.014** Shape Recovery of Elastomeric Carbon-Nanotube Nanocomposites
Richard Vaia, Max Alexander, Nathan Pearce (Air Force Research Laboratory), Hilmar Koerner, Chyi-Shan Wang (University of Dayton Research Institute), Benjamin Hsiao, Igor Sics (State University of New York at Stony Brook)

14:03 **H18.015** Highly Exfoliated/Dispersed Polymer Nanocomposites Made via Nonequilibrium, Solid-State Processing
Kosmas Kasimatis, John Torkelson (Northwestern University, Evanston, IL 60208-3120)

Session H35. DPOLY: New Techniques - Crystals to Liquids.

Tuesday morning, 11:15, Room 9B, Austin Convention Center

Chair: Chris White, NIST

11:15 **H35.001** Electrostatic AFM nanolithography in polymers
Sergei Lyuksyutov (Department of Physics, The University of Akron, Akron OH 44325), Richard Vaia (Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH), Grigori Sigalov (Department of Polymer Engineering, The University of Akron, Akron OH 44325), Pavel Paramonov, Robert Ralich (Department of Physics, The University of Akron, Akron OH 44325), Shane Juhl (Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson AFB OH), Erol Sancaktar (Department of Polymer Engineering, The University of Akron, Akron OH 44325)

11:27 **H35.002** Characterization of Local Physical Degradation and Thickness Changes in Polymeric Coatings using Laser Scanning Confocal microscopy
Li-Piin Sung, Joan Jasmin, Xiaohong Gu, Tinh Nguyen, Joonathan Martin (National Institute of Standards and Technology)

11:39 **H35.003** A method to measure transport of field-induced charge at the surface of organic molecular crystals
C. Goldmann, J. Takeya, K.P. Pernstich, S. Haas, B. Batlogg (ETH Zurich, Switzerland), B. Ketterer (PSI Villigen, Switzerland)

11:51 **H35.004** Ultrafast conductivity dynamics in pentacene probed using terahertz time-domain spectroscopy
Verner Thorsmolle, Richard Averitt, Xiaoliu Chi, Darryl Smith, Arthur Ramirez, Taylor Antoinette (Los Alamos National Laboratory)

12:03 **H35.005** NIST Research in Chemical Force Microscopy for Polymer Surfaces
Michael J. Fasolka, Alamgir Karim (Polymers Division, National Institute of Standards and Technology, Gaithersburg MD 20899), Xiaohong Gu, Mark VanLandingham, Tinh Nguyen (Materials and Construction Research Division, NIST), Kimberly Briggman, Jeeseong Hwang (Optical Technology Division, NIST)

12:15 **H35.006** Strain Induced Elastomer Buckling Instability for Mechanical Measurements (SIEBIMM)
Christopher Harrison, Christopher M. Stafford, Eric J. Amis, Alamgir Karim (National Institute of Standards and Technology)

12:27 **H35.007** Mechanical Hole Burning Spectroscopy: A New Method to Investigate Material Heterogeneity
Xiang Fu Shi, Gregory B. McKenna (Texas Tech University)

12:39 **H35.008** Measurements of the Bulk and Nano-scale Spatially Resolved Mechanical Properties of a Series of Polyurethane Samples
Chris White, Mark VanLandingham (National Institute of Standards and Technology)

12:51 **H35.009** Characterization of Homopolymer and Polymer Blend Films by Phase Sensitive Acoustic Microscopy
Wilfred Ngwa, Reinhold Wannemacher (Affiliation), Wolfgang Grill (Institute of Experimental Physics II, University of Leipzig, 04103 Leipzig, Germany)

13:03 **H35.010** Rapid Prototyping Technique for the Fabrication of Millifluidic Devices for Polymer Formulations
Joao Cabral, Christopher Harrison, Amis Eric, Alamgir Karim (Polymers Division, NIST, Gaithersburg, MD 20899)

13:15 **H35.011** Confocal Raman Studies of Nanometer-Thick Polymer Liquid
Sung Chul Bae, Hyunjung Lee, Steve Granick (Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign)

13:27 **H35.012** Ultrasonic Spectrometer for the Measurement of Dynamic Viscoelastic Properties of Liquid Films
Ilan Zeroni, Moshe Gottlieb (Chemical Engineering Department and Stadler Minerva Center for Mesoscopic Macromolecular Engineering, Ben-Gurion University, Beer Sheva, 84105 ISRAEL)

- 13:39 **H35.013** Measurement of Flow Induced Coating of Fluoropolymers Additives during Capillary Extrusion via Frustrated- Total Internal Reflection
S. B. Kharchenko, P. M. McGuiggan, K. B. Migler (NIST)
- 13:51 **H35.014** Measurements of rheological and structural properties of thin lubricant films at high shear rates
Khaled S. Mriq (Physics Department, University of Tennessee, Knoxville, TN37996), Mark D. Dadmun (Chemistry Department, University of Tennessee, Knoxville, TN37996), Hank D. Cochran (Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN37831)
- 14:03 **H35.015** Measurement of solution concentration by optical interferometry
Luke Woodside, Steven Coppock, Sanichiro Yoshida, David Norwood (Dept of Chemistry and Physics, Southeastern Louisiana University)

Session K1. DPOLY: John H. Dillon Medal Symposium.

Tuesday afternoon, 14:30, Ballroom A, Austin Convention Center

Chair: M. Muthukumar and D. Hoagland, University of Massachusetts

- 14:30 **K1.001** Biopolymer Physics: Semiflexibility with a Twist
Helmut Strey (University of Massachusetts Amherst)
- 15:06 **K1.002** Microscopic interactions and mesoscopic elasticity in flexible polyelectrolytes
Rudolf Podgornik (Laboratory of Physical and Structural Biology, National Institute of Child Health and Human Development, National Institutes of Health)
- 15:18 **K1.003** Onsager Theory for a Mixture of Linkers and Charged Rods
Tamar Borukhov, Andrea J. Liu, William M. Gelbart (Dept. of Chemistry and Biochemistry, UCLA), Robijn F. Bruinsma (Department of Physics, UCLA)
- 15:30 **K1.004** The Effect of Length on the Phase Behavior of Colloidal Liquid Crystals
Seth Fraden (Complex Fluids Group, MS 057, Brandeis University, Waltham, MA 02454), Kirstin Purdy, Eric Grelet
- 15:42 **K1.005** Confinement-Mediated Pairwise Macroionic Attractions: New Results
David G. Grier (Dept. of Physics, JFI, and IBD, The University of Chicago)
- 15:54 **K1.006** Molecular Motors Fluidize Polymer Networks
Josef A. Kas (Institute of Soft Matter Physics, University of Leipzig, Germany), David Humphrey, Cynthia Duggan, Devi Saha (Center for Nonlinear Dynamics, University of Texas at Austin), David Smith (Institute of Soft Matter Physics, University of Leipzig, Germany)
- 16:06 **K1.007** Polyelectrolyte Phase Behavior
Sanat Kumar, G Orkulas (Rensselaer Polytechnic Institute), A Panagiotopoulos (Princeton University)
- 16:18 **K1.008** Flory-Huggins Model of Dynamic Clustering and Phase Behavior in the Stockmayer Fluid
Jack F. Douglas (Polymers Division, NIST, Gaithersburg, MD 20899), Jacek Dudowicz, Karl F. Freed (James Franck Institute, University of Chicago, Chicago, IL 60637)
- 16:30 **K1.009** Glassy Behavior in a Micellar Polyelectrolyte System
Surita Bhatia, Mark Crichton (Department of Chemical Engineering, University of Massachusetts), Ahmed Mourchid (CNRS/Rhodia Complex Fluids Laboratory)
- 16:42 **K1.010** Particle Adhesion on Polyelectrolyte Layers and Patchy Surfaces
Maria Santore, Natalia Kozlova (Polymer Science --- UMass)
- 16:54 **K1.011** How does Electrophoretic Mobility Reflect Polyelectrolyte Charge?
David Hoagland, Alexei Popov (U. Massachusetts Amherst)
- 17:06 **K1.012** Geometric Approach to Self-Assembly
Randall Kamien (University of Pennsylvania)
- 17:18 **K1.013** Twists, Straights and Crossovers: DNA, lipids and dollars
A. Parsegian, NICHD/NIH, Bethesda, MD

Session K17. DPOLY: Crystallization in Shear and Confinement.

Tuesday afternoon, 14:30, Room 10A, Austin Convention Center

Chair: Christopher Soles, NIST

14:30 **K17.001** Dillon Medal Break

15:06 **K17.002** Proton NMR Study of Room Temperature Aging in Isotactic Polypropylene and Ethylene/Octene Copolymers
David VanderHart, Chad Snyder (NIST), Rufina Alamo (FAMU/FSU College of Engineering)

15:18 **K17.003** Shear-Induced Precursor Structures for Crystallization in Isotactic Polypropylene Melt by Rheo-SAXS and -WAXD Studies
Benjamin Hsiao, Rajesh Somani, Ling Yang (Chemistry Department, Stony Brook University), Hitesh Fruitwala (ExxonMobil Chemical Co.)

15:30 **K17.004** Synchrotron small- and wide-angle X-ray scattering studies of shear-induced crystallization in iPP/UHMWPE solution blends
Carlos Avila-Orta, Rajesh Somani, Ling Yang, Benjamin Hsiao (Chemistry Department, State University of New York at Stony Brook), Gad Marom (Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem)

15:42 **K17.005** Structure and morphology of poly(L-lactic acid) fibers under hot drawing studied by in-situ synchrotron SAXS and WAXS
Jing Zhang, Jing Wu (New Jersey Institute of Technology)

15:54 **K17.006** Flow Induced Crystallization in Model Polyethylene Blends: Molecular Weight Effect of the Matrix
Ling Yang, Rajesh Somani, Igors Sics, Benjamin Hsiao (Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY 11794), Rainer Kolb, David Lohse, Christine Ong (ExxonMobil Research and Engineering Company, Annandale, NJ 08801), Hitesh Fruitwala (ExxonMobil Chemical Company, Baytown, TX 77522)

16:06 **K17.007** Hot Compaction of PET fibers: Influence of Processing on Crystallinity and Mechanical Properties
Pichet Rojanapitayakorn, Patrick Mather, Robert Weiss (Institute of Materials Sciences, University of Connecticut, Storrs CT 06269), Jon Goldberg (UCONN Health Center, University of Connecticut, Farmington CT 06034)

16:18 **K17.008** The Path to "Single-Component Composites": Melting and Crystallization of Extended-chain Polyethylene Fibers Under Pressure.
Yachin Cohen, Dmitry M. Rein, Liron Shavit, Rafail Khalfin (Technion, Israel), Ann Terry (ESRF, France), Sanjay Rastogi (TU Eindhoven, Netherlands)

16:30 **K17.009** Role of Molecular Architecture on Mechanical Failure of Glassy/Semicrystalline Block Copolymers: CEC verses CECEC lamellae.
Frank Bates, Theresa Hermel (University of Minnesota), Steve Hahn (Dow chemical company), William Gerberich (University of Minnesota), Kimberly Chaffin (Medtronic)

16:42 **K17.010** Crystallization and Melting Behaviors of PEO Nano-layer Crystals Confined in between Two PS nano Glassy layers
William Y. Chen, Lei Zhu, Christopher Y. Li, Ping Huang, Stephen Z.D. Cheng, Qing Ge, R.P. Quirk (Department of Polymer Science, the University of Akron, Akron, OH 44325), B Lotz (Institute Charles Sadron, 6 Rue Boussingault, Strasbourg, France), E. L. Thomas (Department of Materials Science and Engineering, Massachusetts Institute and Technology, Cambridge, Massachusetts 02139)

16:54 **K17.011** Confinement induced crystallinity in Semifluorinated Polymer Thin Films
Lilin He, Rakchart Traiphol, Dennis W. Jr. Smith, Dvora Perahia (Department of Chemistry, and the School of Material Science and Engineering Program, Clemson University, Clemson, South Carolina 29634-0973)

17:06 **K17.012** Comparison of Crystallization Kinetics in Various Nano-confinement Environments

Lei Zhu, Lu Sun (Polymer Program, Institute of Materials Science and Department of Chemical Engineering, University of Connecticut, Storrs, CT 06269-3136), Qing Ge, Roderic P. Quirk (Maurice Morton Institute and Department of Polymer Science, University of Akron, Akron, OH 44325-3909)

17:18 **K17.013** Homogeneous and heterogeneous crystallisation in confined domains of poly(ethylene oxide): the dependence of nucleation rate on length-scale

Michael V. Massa, Jessica L. Carvalho, Kari Dalnoki-Veress (Department of Physics & Astronomy and the Brockhouse Institute for Materials Research, McMaster University, Hamilton, ON, Canada)

Session K18. DPOLY: Theory and Simulation: Dynamics and Electronic Properties.

Tuesday afternoon, 14:30, Room 10B, Austin Convention Center

Chair: Anna Balazs, University of Pittsburgh

- 14:30 **K18.001** Dillon Medal Break
- 15:06 **K18.002** Intermolecular packing and Dynamics of homopolymers
Arun Neelakantan, Janna Maranas (Pennsylvania State University)
- 15:18 **K18.003** Effect of reaction rate on reactive blending of polymer blends
Chuck Yeung (Pennsylvania State University at Erie)
- 15:30 **K18.004** Thermodiffusion in polymer solutions
Jutta Luetmer-Strathmann (Department of Physics, University of Akron, Akron, OH 44325-4001)
- 15:42 **K18.005** Heterogeneous Dynamics in Polymer Fluids
Marina Guenza (University of Oregon)
- 15:54 **K18.006** Collapse Dynamics of a Polymer Chain: Theory and Simulation
Sergei Obukhov (University of Florida), Cameron Abrams (Drexel University), Nam-Kyung Lee (Max-Planck Institute for Polymer Research)
- 16:06 **K18.007** Dynamics of Pattern Formation in Polymer Nanofibers during Solidification
Andrew Guenther (Chemistry and Materials Division, Naval Air Warfare Center, Weapons Division, China Lake, CA 93555), Thein Kyu (Institute of Polymer Engineering, The University of Akron, Akron, OH 44325)
- 16:18 **K18.008** Collective states in clusters of polar-polarizable molecules
Anna Painelli, Francesca Terenziani (Parma University and INSTM-UdR Parma)
- 16:30 **K18.009** A Time-Dependent Density Functional Theory Study of Extended pi-Conjugated Chromophores
Kiet A. Nguyen, Ruth Pachter (Air Force Research Laboratory, Materials & Manufacturing Directorate, Wright-Patterson AFB, OH 45433-7702)
- 16:42 **K18.010** Effect of inter-ring torsion angle, protonation and vinyl group on electronic state of pyridine dimer
K.Y. Wong, J.A.O. Smallfield, A.J. Epstein (The Ohio State University), M. Fahlman (Linköping University, Sweden)
- 16:54 **K18.011** Electronic properties calculated for heterocyclic aromatic hydroxyl rigid-rod polymers
Y. -H. Tang, M. -H. Tsai (Department of Physics, National Sun Yat-Sen University, Kaohsiung, Taiwan 804, ROC), C. C. Wu, S. J. Bai (Institute of Materials Science and Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan 804, ROC)
- 17:06 **K18.012** Electronic Excitation Transfer in PPV/Mesoporous Silica Matrix
Gil Claudio, Eric Bitner (Department of Chemistry, University of Houston)
- 17:18 **K18.013** Device Physics and Modeling of Organic Transistor Sensors
TaeHo Jung, Daniel Fine, Jongjin Lee, Dim Lee Kwong, Heinz von Seggern, Ananth Dodabalapur (Microelectronics Research Center, University of Texas at Austin, Austin, TX 78758)

Session L3. DPOLY: DPOLY Business Meeting.

Tuesday afternoon, 17:30, Room 10B, Austin Convention Center

Session N3. DPOLY: Polymer Rheology/Dynamics.

Wednesday morning, 08:00, Ballroom C, Austin Convention Center

Chair: Tim Lodge, University of Minnesota

- 08:00 **N3.001** Polymer dynamics from the global to the local scale
Dieter Richter (Forschungszentrum Jilich)
- 08:36 **N3.002** Linear Dynamics of Nonlinear Polymers, and Vice Versa
Scott Milner (ExxonMobil Corporate Research)
- 09:12 **N3.003** Chain and Ion Dynamics in Ionomer Melts
Richard A. Register (Chemical Engineering and Princeton Materials Institute, Princeton University)
- 09:48 **N3.004** Polymer Dynamics Under Strong Spatial Confinement
Spiros H. Anastasiadis (Foundation for Research and Technology - Hellas and Univeristy of Crete, Heraklion Crete, Greece)
- 10:24 **N3.005** The Role of Melt Dynamics in Flow-Induced Crystallization
Julia A. Kornfeld (California Institute of Technology)

Session N16. DPOLY/DMP: Focus Session: Polymer Templated Nanostructures.

Wednesday morning, 08:00, Room 9C, Austin Convention Center

Chair: Christopher Harrison, NIST

- 08:00 **N16.001 Quantum Dot/Polymer Composites: Nanoscale Characterization With Electron Energy-Loss Spectroscopy**
Valerie Leppert (Dept. of Chem. Eng. and Mat. Sci., University of California, Davis)
- 08:36 **N16.002 Self-assembly of nanoparticles into periodic nanopatterns**
Seung-Heon Lee, Frederic S. Diana, Antonio Badolato, Pierre M. Petroff, Edward J. Kramer (Mitsubishi Chemical Center for Advanced Materials, University of California, Santa Barbara, CA 93106)
- 08:48 **N16.003 Fabrication of cobalt nanocrystals by rapid pyrolysis in inverse PS-PVP micelles and thermal annealing**
Frederic S. Diana, Seung-Heon Lee, Rachel A. Segalman, Pierre M. Petroff, Edward J. Kramer (Mitsubishi Chemical Center for Advanced Materials, University of California, Santa Barbara, CA 93106)
- 09:00 **N16.004 Self-assembled organic-inorganic thin films**
Phong Du, Carlos Garcia, Anurag Jain, Ulrich Wiesner (Materials Science & Engineering, Cornell University, Ithaca, NY), Jochen S. Gutmann (Physics, MPI for Polymers Research, Mainz, Germany), Detlef-M. Smilgies (Cornell High Energy Synchrotron, Ithaca, NY), Sol M. Gruner (Physics, Cornell University, Ithaca, NY)
- 09:12 **N16.005 Templated thin films of bicontinuous cubic nanostructured silica**
Ryan C. Hayward, Galen D. Stucky, Bradley F. Chmelka, Edward J. Kramer (University of California, Santa Barbara)
- 09:24 **N16.006 Fabrication of Mesoporous Silicate Films by Three Dimensional Replication of Block Copolymer Templates in Supercritical Fluids**
Rajaram Pai, James Watkins (Dept. of Chemical Engineering, University of Massachusetts, Amherst, MA 01003)
- 09:36 **N16.007 Nanoimprint-guided self-assembly of block copolymer films for the patterned media templates.**
Masatoshi Sakurai, Hiroyuki Hieda, Yoshiyuki Kamata, Akira Kikitsu, Katsuyuki Naito, Koji Asakawa (Corporate Research & Development Center, Toshiba Corporation.), Gilles Adjanor (Ecole des Mines Nancy)
- 09:48 **N16.008 Graphoepitaxy Control of the Deposition of Cationic Polymer Micelles on SiO₂ Surfaces**
Jungseok Hahn, Stephen E. Webber (Department of Chemistry and Biochemistry and Center for Nano- and Molecular Science and Technology, The University of Texas at Austin, Austin, TX 78712 and Center for Nano- and Molecular Science and Technology The University of Texas at Austin, Austin, TX)
- 10:00 **N16.009 Impact of Shape Selectivity in Molecularly Imprinted Polymers**
David Spivak, Ryan Simon (Louisiana State University)
- 10:12 **N16.010 High Speed Microscopy of Breath Figures on a Volatile surface**
Mohan Srinivasarao, Jung Ok Park (Georgia Institute of Technology), Rhodri Williams, M Barrow (University of Wales, Swansea), Center for Complex Fluids Collaboration
- 10:24 **N16.011 Nanostructured Polymers to Direct Nanoparticle Organization**
Ben O'Shaughnessy (Columbia University Chemical Engineering Department), Jaeup Kim (Columbia University Physics Department)
- 10:36 **N16.012 Directed Growth of CdS Superlattices by Cationic Lipid-DNA Complexes**
Hongjun Liang, Thomas Angelini, Lihua Yang, Paul Braun, Gerard Wong (Department of Materials Science and Engineering, Physics, and Bioengineering, University of Illinois at Urbana-Champaign)
- 10:48 **N16.013 When is template directed mineralization truly template directed?**
Elaine DiMasi (Brookhaven National Laboratory), Vishal M. Patel, Matthew J. Olszta, Munisamy Sivakumar, Gajjerman R. Sivakumar, Yun-Peng Yang, Laurie B. Gower (University of Florida, Gainesville)

Session N17. DPOLY/DBP: Supramolecular Assembly of Biological and Biomimetic Structures.

Wednesday morning, 08:00, Room 10A, Austin Convention Center

Chair: Darrin Pochan, University of Delaware

- 08:00 **N17.001 X-ray Reflectivity Characterization of Ion Distribution at Biomimetic Membrane Surfaces**
Peter Krüger, Jens Pittler (Leipzig University, Inst of Experimental Physics I, D-04103 Leipzig, Germany), David Vaknin (Ames Laboratory and Dept of Physics and Astronomy, Iowa State University, Ames, Iowa 50011, U.S.A.), Mathias Lösche (Leipzig University, Inst of Experimental Physics I, D-04103 Leipzig, Germany)
- 08:12 **N17.002 Characterization of a Biomimetic Polymeric-Lipid Bilayer by Phase Sensitive Neutron Reflectivity**
Ursula A Perez-Salas, Susan Krueger, Charles F Majkrzak, Norman F Berk (NIST), Keith M Faucher, Elliot L Chaikof (Department of Surgery, Emory University), NIST Team, Department of Surgery Collaboration
- 08:24 **N17.003 Molecular dynamics investigation on the distribution of volatile anesthetics in biomembranes**
Monica Pickholz, Kwangjin Oh, Michael L. Klein (CMM, Dept. of Chemistry, University of Pennsylvania, Philadelphia PA 10104, USA)
- 08:36 **N17.004 Coassembly of Fatty Acid Salts and Semicrystalline Ionomers**
Katsuyuki Wakabayashi, Richard A. Register (Princeton University)
- 08:48 **N17.005 Aggregation of Ionic Surfactants and Hydrophobically Modified Cellulose Ethers**
Ofir Korenberg, Nadav Anker, Moshe Gottlieb (Chemical Engineering Department and Stadler Minerva Center for Mesoscopic Macromolecular Engineering, Ben-Gurion University, Beer Sheva 84105, ISRAEL)
- 09:00 **N17.006 Self-Assembly Behavior of Pullulan Abietate**
Sheila Gradwell, Alan Esker (Department of Chemistry, Virginia Tech), Wolfgang Glasser (Department of Wood Science and Forest Products, Virginia Tech), Thomas Heinze (Department of Organic and Macromolecular Chemistry, University of Wuppertal)
- 09:12 **N17.007 Environmentally Responsive Materials Constructed Via Peptide Folding and Consequent Self-Assembly**
Darrin Pochan, Bulent Ozbas, Lisa Pakstis (Materials Science and Engineering and Delaware Biotechnology Institute, U. of Delaware), Karthikan Rajagopal, Joel Schneider (Chemistry and Biochemistry, U. of Delaware)
- 09:24 **N17.008 Kinetics of Helix Reversion and Physical Gelation of Gelatin**
Ralph H. Colby, Liang Guo (Penn State University), Charles P. Lusignea (Eastman Kodak Company)
- 09:36 **N17.009 Osmotically Induced Helix-Coil Transition in Poly(glutamic acid)**
Christopher Stanley, Helmut H. Strey (Department of Polymer Science and Engineering, University of Massachusetts, Amherst MA 01003)
- 09:48 **N17.010 Cationic Liposome-DNA Complexes: From supramolecular assembly toward gene delivery**
Heather M. Evans, A Ahmad, K Ewert, A Martin, CR Safinya (UCSB Materials and Physics Depts.)
- 10:00 **N17.011 Templated Biomimetic Mineralization of CaCO₃ by cationic lipid-DNA**
Lihua Yang, Hongjun Liang, Gerard C.L. Wong (Departments of Materials Science and Engineering, Physics, and Bioengineering, University of Illinois at Urbana-Champaign)
- 10:12 **N17.012 Observing Dynamics and Spatial Partitioning of Confined DNA**
Dmytro Nykypanchuk, David Hoagland, Helmut Strey (University of Massachusetts, Amherst)

10:24 **N17.013** Dielectrophoresis of surface-bound DNA molecules

Christoph Walti (Cavendish Laboratory, University of Cambridge, Cambridge, CB3 0HE), W. Andre Germishuizen (Department of Chemical Engineering, University of Cambridge, Cambridge, CB2 3RA), Paul Tosch, Adam E. Cohen, Rene Wirtz, Michael Pepper (Cavendish Laboratory, University of Cambridge, Cambridge, CB3 0HE), Anton P. J. Middelberg (Department of Chemical Engineering, University of Cambridge, Cambridge, CB2 3RA), A. Giles Davies (Cavendish Laboratory, University of Cambridge, Cambridge, CB3 0HE)

10:36 **N17.014** DNA Electrophoresis on nanopatterned surfaces

Y-S Soo, H Luo, V Samuilov, D Gersappe, B Chu, J Sokolov, M Rafailovich (Dept of Materials Science and Engg, SUNY at Stony Brook)

10:48 **N17.015** Preparation and Properties of DNA Brushes

Rastislav Levicky, Adrian Horgan, Lei Jin, Patrick Johnson, Gang Shen (Chemical Engineering, Columbia University, NY, NY)

	Monday	Monday	Monday	Monday
Title	A3: Controlled Architecture Polymers	A16: Electronic Props. of Organic Materials	A17: Theory and Simulation	
Room	Ballroom C	9C	10A	
Chair	Mays, J	Loo, L.	Ginzburg, V.	
8:00	Hawker, C.	Gao, W.	Friskhnecht, A. L.	
8:12		Kahol, P	Koshy, R.	
8:24		Nikofou, M.	Curro, J. G.	
8:36	Hillmyer, M.	Butko, V.	Jaramillo, E.	
8:48		Morpurgo, A. F.	Mendez, S.	
9:00		Prigodin, V.	Brostow, V.	
9:12	Hadjichristidis, N.	Jin, S.	Lookman, T.	
9:24		Ou, Q.	Buxton, G.	
9:36		Zhi, Y.	Rasmussen, K.	
9:48	Wooley, K.	Chi, X.	Lefebvre, M.	
10:00		Graf, D.	Ramirez-Santiago, G.	
10:12		Guertin, R. P.	Marucho, M. D.	
10:24	Moeller, M.	Tanaka, H.	Prellberg, T.	
10:36		Guico, R. S.	Sen, T. Z.	
10:48			Porter, J. A.	

Title	B16: Focus Session Transport in Molecules I	B17: Novel Polymer Architectures	B18: Semicrystalline and Liquid Crystalline Polymers	B35: Bulk: Networks and Dynamics
Room	9C	10A	10B	9B
Chair	Ralph, D.	Fasolka, M.	Cebe, P.	Krause, S.
11:15	Park, H.	Patel, D	Wunderlich, B.	Sakai, V. G.
11:27		Rappl, T	Naim, J.	Si, M.
11:39		Gray, M.	Puig, C.	McKenna, G. B.
11:51	Pasupathy, A.	Weidisch, R.	Pyda, M.	Mace, T.
12:03		Wu, L.	Marand, H.	Jia, X.
12:15		Hahn, H.	Mukherjee, N.	Henthorn, D. B.
12:27	In-Gold, G. L.	Wu, C.	Nazarenko, S.	Wang, X.
12:39	Lientschnig, G.	Nie, H.	Li, C.	Heine, D. R.
12:51	Patil, R.	Sides, S.	Mehta, R.	Panyukov, S.
13:03	Lau, C. N.	Pickett, G. T.	Rendon, S.	Benetatos, P.
13:15	Yu, L.	Grason, G.	Jamieson, A. M.	Lo, T. S.
13:27	Hettler, M. H.	Larue, I.	Chattham, N.	McCoy, J. D.
13:39	Dholakia, G.	Pickett, G. T.	Hooper, J.	Zheng, Y.
13:51	Lu, T.	Giupponi, G.	Dadmun, M.	Guzman, O.
14:03		Kim, E-G.	Kannan, R. M.	Chen, Y-L.

Title	D3: Polymer-templated Nanostructures			
Room	Ballroom C			
Chair	Green, P			
14:30	Balazs, A.			
14:42				
14:54				
15:06	Russell, T.			
15:18				
15:30				
15:42	Gin, D.			
15:54				
16:06				
16:18	Stupp, S.			
16:30				
16:42				
16:54	Belcher, A.			
17:06				
17:18				

Title	C1: DPOLY Session I	Poster			
Room	Exhibit Hall 2/3				
Chair	Cabral, J.				
14:00	Kolbert, K.	Li, C.	Hottle, J.	Kawaguchi, D.	Roth, C.
	Peng, S.	Huang, P.	Li, J.	Puente Orench, I.	Murray, C.
	Saltzman, E. J.	Zook, T. C.	Polidan, J.	Crosby, A.	Soles, C.
	Sharp, E.	Edwards, E.	Palermo, E.	Lee, W.	Seo, Y-S.
	Habenschuss, A.	Waller, J.	Kim, D. Y.	Pu, Y.	Yang, H.
	Park, J. O.	Xiao, S.	Zhang, S.	Paul, R.	Koo, J. S.
	Chen, Y-L.	Takeshita, H.	Jin, X.	Bhat, R. R.	Tai, K.
	Ding, Y.	Cho, J.	Hayashi, Y.	Wang, Y.	Kent, M.
	Jones, B.	Panyukov, S.	Krikorian, V.	Li, C.	Pakstis, L.
	Oyerokun, F.	Minich, E.	Thielemans, W.	Kim, S.	Roth, A.
	Cheng, H.	Zhu, Y.	Zhang, D.	Kang, H.	Stockdill, J.
	Prabhu, V. M.	Chastek, T.	Drummy, L.	Schroder, K.	NG, L.
	Dean, D.	Kim, B. J.	Uhde, J.	Alizadeh, A.	Georgiev, G.
	Mertins, J.	Khanna, V.	Jaber, E.	Xavier, J. H.	Orbas, B.
	Seog, J.	Gang, C.	Akthakul, A.	Deshmukh, R.	Das, J.
	Jang, S-S	Wang, X.	Efimenko, K.	Montague, M.	Fasolka, M. J.
	Kudlay, A.	Zhong, J.	Tomlinson, M.	Jerome, J.	
	Hexemer, A.	Huang, H.	Rixman, M.	Lin, Z.	
	Harada, T.	Burghardt, W.	Teichroeb, J. H.	O'Connell, P.	
	Tyler, C.	Meng, S.	Pu, Y.	Thomas, J.	

Title	Tuesday	Tuesday	Tuesday	Tuesday
Room	G1: Polymer Physics Ford Prize Symposium	G17: Wetting and Adsorption Dynamics	G18: Biorheology	
Chair	Balroom A. Bates, F. Colby, R.	10A Genzer, J.	10B Santore, M.	
8:00	Lovinger, A.			
8:12				
8:24				
8:36	Thomas, E.	Heitzman, C.		
8:48		Harris, M.	Eide, J.	
9:00		Green, P. F.	Angelini, T.	
9:12	Cheng, S.	Koo, J. S.	Sanders, L. K.	
9:24		Sadowski, J. T.	Wong, I. Y.	
9:36		Anthamatten, M.	Rudko, O.	
9:48	Lotz, B.	Poyner, A.	Tsai, I.	
10:00		Smith, D.	Discher, D.	
10:12		Costa, A. C.	Sohn, Sungkyun	
10:24	Martin, D.	Composto, R. J.	Lau, A. W. C.	
10:36		Szleifer, I.	Gardel, M.	
10:48		Zhao, J.	Massiera, G.	

Title	H16: Frank J. Padden Award, Education and Outreach Symposium	H17: Focus Session Transport in Molecules II	H18: Nanocomposites I	H35: New Techniques: Crystals to Liquids
Room	9C	10A	10B	9B
Chair	Register, R.A.	Malliaras, G.	Ozisk, R.	White, C.
11:15	Kirkmeyer, B.	Liang, W.	Krishnamoorti, R.	Lyuksyutov, S.
11:27	Hansupalak, N.	Park, J. W.	Beyer, R.	Sung, L-P.
11:39	Akthakul, A.	Mitra, A.	Lu, J.	Goldman, C.
11:51	Mihalovic, M.	Aji, V.	Sreekumar, T. V.	Thorsmolle, V.
12:03	Chang, R.	Kaun, C-C.	Breiner, T.	Fasolka, M. J.
12:15	Rafailovich, M.	Stewart, D. R.	Mitchell, C.	Harrison, C.
12:27	Winey, K.	Kim, Y-H.	Asoo, B. Y.	Shi, X. F.
12:39	Kornfield, J.	Wang, W.	Cebe, P.	White, C.
12:51		Engelkes, V.	Desait, T. G.	Ngwa, W.
13:03		Jiang, W.	Snyder, C.	Cabral, J.
13:15		Williams, J.	Hefter, J.	Bae, S-C.
13:27		Hla, S-W.	Jain, A.	Zeroni, I.
13:39		Friedfeld, R.	Fisher, R.	Kharchenko, S. B.
13:51		Konopka, M. M.	Vaia, R.	Mriziq, K. S.
14:03		Clarke, L.	Kasimatis, K.	Woodside, L.

Title	K1: John H. Dillon Medal Symposium	K17: Crystallization in Shear and Confinement	K18: Theory & Simulation: Dynamics and Electronic Properties
Room	Balroom A	10A	10B
Chair	Muthukumar, M. Hoagland, D.	Soles, C.	Balazs, A.
14:30	Strey, H.		
14:42			
14:54			
15:06	Podgornik, R.	Vanderhart, D	Neelakantan, A
15:18	Borukhov, I.	Hsiao, B.	Yeung, C.
15:30	Fraden, S.	Avila-Orta, C.	Luettner-Straathmann, J.
15:42	Grier, D.	Zhang, J.	Guenza, M.
15:54	Kas, J.	Yang, L.	Obukhov, S.
16:06	Kumar, S.	Rojanapitayakorn, P.	Guenther, A.
16:18	Douglas, J.	Cohen, Y.	Painelli, A.
16:30	Bhatia, S.	Bates, F.	Nguyen, K. A.
16:42	Santore, M.	Chen, W. Y.	Wong, K. Y.
16:54	Hoagland, D.	He, L.	Tang, Y-H.
17:06	Kamien, R.	Zhu, L.	Claudio, G.
17:18	Parsegian, A.	Massa, M. V.	Jung, T.
17:30			DPOLY Business Meeting

	Wednesday	Wednesday	Wednesday	Wednesday
Title	N3: Polymer Rheology/ Dynamics	N16: Focus Session Polymer- templated nanostructures	N17: Supramolecular Assembly of Biological and Biomimetic Structures	N18: Focus Session Photonic Materials
Room	Ballroom C	9C	10A	10B
Chair	Lodge, T.	Harrison, C.	Pochan, D.	Thomas, E.
8:00	Richter, D.	Leppert, V.	Krger, P.	Fink, Y.
8:12			Perez-Salas, U. A.	
8:24			Pickholz, M.	
8:36	Milner, S.	Lee, S. H.	Wakabayashi, K.	Bitá, I.
8:48		Diana, F. S.	Korenberg, O.	Baldacchini, T.
9:00		Du, P.	Gradwell, S.	Song, L.
9:12	Register, R.	Hayward, R. C.	Pochan, D.	Lee, M.
9:24		Pai, R.	Colby, R. H.	
9:36		Sakurai, M.	Stanley, C.	
9:48	Anastasiadis, S.	Hahn, J.	Evans, H. M.	Lagugn-Labarthe, F.
10:00		Spivak, D.	Yang, L.	Deng, T.
10:12		Srinivasarao, M.	Nykypanchuk, D.	Kumar, P.
10:24	Kornfield, J.	O'shaughnessy, B.	Walt, C.	Swamy, R.
10:36		Liang, H.	Soo, Y-S	Titus, J.
10:48		Patel, V. M.	Levicky, R.	

Title	P16: Nanocomposites II	P17: Block Copolymers I	P18: Polymer Gels	
Room	9C	10A	10B	
Chair	Wang, H.	Anthamatten, M.	Ermoshkin, A.	
11:15	Starr, F.	Segalman, R. A.	Gu, Z.	
11:27	Bedrov, D.	Bang, J.	Palfiy-Muhoray, P.	
11:39	Sheng, N.	Gido, S.	Wallace, M.	
11:51	Luo, H.	Garetz, B.	Michelman, A.	
12:03	Zhang, Q.	Angelescu, D.	Gutman, L.	
12:15	Yurekli, K.	Hammond, M. R.	Xing, X. A.	
12:27	Deng, J.	Huang, H.	Stepanek, I.	
12:39	Esker, A.	Sivaniah, E.	Chakrapani, M. D.	
12:51	Dykes, L.	Cook, D. M.	Traiphol, R.	
13:03	Ozsisik, R.	Park, M. J.	Naumann, C.	
13:15	Corsi, A.	Xu, T.	Lascala, J. J.	
13:27	Fisher, R.	Almdal, K.	Chekal, B.	
13:39	Cao, H.	Trawick, M. L.	Gupta, R.	
13:51	Mor, R.	Cavicchi, K.	Shew, C. Y.	
14:03	Kim, H. J.	Xiang, H.	Das-Gupta, B. R.	

Title	S3: Polymer Blend Thermodynamics			
Room	Ballroom C			
Chair	Briber, R.			
14:30	Lipson, J.			
14:42				
14:54				
15:06	Karim, A.			
15:18				
15:30				
15:42	Kumar, S.			
15:54				
16:06				
16:18	Balsara, N.			
16:30				
16:42				
16:54	Wang, Z.G.			
17:06				
17:18				

Title	R1: DPOLY Poster Session				
Room	Exhibit Hall 2/3				
Chair	Soles, C.				
14:00	Hacura, A.	Lee, D.	Farmer, B. L.	Jiang, H.	Mihajlovic, M.
	Sigalov, G.	Jing, A.	Desai, T.	Jakubiak, R.	Lin, Y.
	Yang, L.	Ruan, JR-J.	Bagheri-Hamaneh, M.	Tai, O. Y.	Kimura, M.
	Wakabayashi, K.	Weng, X.	Pandey, R.	Yang, J-Y.	Ryu, D. Y.
	Mowery, D.	Alcoutlabi, M.	Reister, E.	Yoon, D. H.	Lavery, K. A.
	Wang, J.	Brodie, K.	Patnaik, S. S.	Duran, H.	Jeong, U.
	Gilfof, N.	Chunwachirasiri, W.	Yang, Y.	Zhu, Z-T.	Kim, S. H.
	Natesan, B.	Gong, Z.	Mercier, J-F.	Karlinsey, R. L.	Leach, K. A.
	Pyda, M.	Li, J.	Jeon, J.	Zhou, C.	Lin, Z.
	Aou, K.	Bogoslovov, R.	Szamel, G.	Char, K.	Besancon, B.
	Crist, B.	Martin, D.	Loverde, S.	Xavier, J. H.	Pham, J.
	Okerberg, B.	Eschette, R.	Fontana, S.	Ozsisik, R.	Meli, L.
	Hosier, I.	Walters, R.	Nause, R. G.	Levicky, R.	Misner, M. J.
	Xu, H.	Charrier, A.	Diamond, K.	Seo, Y-S	Buxton, G.
	Kanchanasopa, M.	Yan, D.	Lin, G.	Koga, T.	Xu, T.
	Xu, H.	Huh, J.	Anderson, K. L.	Kim, H.	Cheng, H.
	Hong, H.	Kim, K. H.	Lee, S. B.	Bernazzani, P.	
	Avila-Orta, C.	Ko, M. J.	Shen, Y.	Schweizer, K. S.	
	Huang, Z.	Mantina, M.	Mizuseki, H.	Seo, Y-S	
	Rendon, S.	Lu, Y.	Bunning, T.	Zhang, W.	

	Thursday	Thursday	Thursday	Thursday
Title	V3: Molecular Aspects of Mechanical Behavior	V16: Organic Optoelectronic Devices	V17: Block Copolymers II	V18: Blends
Room	Ballroom C	9C	10A	10B
Chair	Shull, K.	Galvin, M.	Dan, N.	Kannan, R.
8:00	Creton, C.	Fine, D.	Ryu, D. Y.	Cabral, J.
8:12		Blanchet, G.	Liu, J.	Crawford, N.
8:24		Kim, Y.	Gonzalez, J.	Zhang, S.
8:36	Nealey, P.	Podzorov, V.	Chervanyov, A.	Haley, J. C.
8:48		Gesquiere, A. J.	Loo, Y. L.	Wang, H.
9:00		Hsu, F. C.	Davidock, D. A.	Lin, G.
9:12	Ruzette, A. V.	Hong, C. K.	Eitouni, H.	Good, K.
9:24		Tandon, K.	Hardy, C. M.	Torkelson, J.
9:36		Young, J. D.	Kim, W.	O'Brien, C.
9:48	Gersappe, D.	Ferris, K. F.	Tyler, C.	Lebovitz, A.
10:00		Polson, R.	Lee, J. Y.	Ruegg, M.
10:12		Kintzel, E.	Endo, H.	Laredo, E.
10:24	Ortiz, C.	Martin, C. M.	Huang, C. Y.	Pipich, V.
10:36		Richter, A. G.	Bansil, R.	Reynolds, B.
10:48		Loo, Y. L.	Chhipara, M.	Chang, K.

Title	W16: Thin Films	W17: Focus Session: Biopolymer and Biomimetic Structures	W18: Focus Session: Multiscale Modeling of Polymers	
Room	9C	10A	10B	
Chair	Zha, L.	Loesche, M.	Douglas, J.	
11:15	Wu, X.	Valentine, M. T.	Jones, J.	
11:27	Chung, H. J.	Discher, D.		
11:39	Ji, H.	Mathews, G.		
11:51	Koga, T.	Cicerone, M.	Goddard, W. A.	
12:03	Jerome, J.	Stancil, K.	Scherlis, D.	
12:15	Lurio, L.	Aranda-Espinoza, H.	Nakhmanson, S.	
12:27	Wang, X.	Krsko, P.	Faller, R.	
12:39	Kim, H.	Rixman, M.	Mueller, M.	
12:51	Sheiko, S.	Lee, N.	Helfer, C.	
13:03	Char, K.	Ng, L.	Wilson, S.	
13:15	Dan, N.	Kannan, R. M.	Chua, A.	
13:27	Si, L.	Dalhaimer, P.	Clancy, T.	
13:39	Mukhopadhyay, A.	Kipper, M.	Luijten, E.	
13:51	Singh, G.	Richert, L.		
14:03	Perahia, D.	Dormidontova, E. E.		

Title	X16: Focus Session: Organic Devices and Transport	X17: Charged Polymers I	X18: Focus Session: Molecular Aspects of Polymer Mech. Behavior	X35: Dynamics and Glass Transitions
Room	9C	10A	10B	9B
Chair	Frisbie, C. D.	Seery, T.	Gersappe, D.	Starr, F. W.
14:30	Dimitrakopoulos, C.	Williams, C. E.	In 'T Veld, P.	Lodge, T. P.
14:42		Henle, M. L.	Benkoski, J. J.	Kamath, S.
14:54		Butler, J.	Chau, C. C.	Budzien, J.
15:06	Park, J. H.	Yang, Q.	Lorenz, C.	Ediger, M. D.
15:18	Hamadani, B.	Santangelo, C. D.	Tsige, M.	Forrest, J. A.
15:30	Wang, L.	Dobrynin, A.	Wool, R.	Caruthers, J.
15:42	Liu, Z.	Wong, W.	Panyukov, S.	Ellison, C.
15:54	Muller, E. M.	Donley, J. P.	Leach, R.	Xavier, J. H.
16:06	Lee, M.	Tanaka, M.	Nunalee, F. N.	Soles, C.
16:18	Crone, B. K.	Seery, T.	Mcswain, R. L.	Bendler, J. T.
16:30	Williams, C. D.	olugebefola, S.	Chrissopoulou, K.	Medvedev, G.
16:42	Bittner, E.	Yeom, M. S.	Garif, Y.	Turner, J.
16:54	Stafstrm, S.	Prabhu, V.	Bunker, S. P.	Wang, X. Y.
17:06	Maheshwari, V.	Bushey, J.	Webber, R.	Sinnathambay, K.
17:18		Leonard, M.	Cole, P.	Yang, Z.

	Friday	Friday	Friday	
Title	Y3: Charged Polymers II	Y16: Focus Session: Transport Phenomena in Organic Materials	Y17: Surface Structure, Chain dynamics and Phase Transitions	
Room	Ballroom C	9C	10A	
Chair	Dobrynin, A.	Frisbie, C. D.	Alizadeh, A.	
8:00	Winey, K.	Jaime, M.	Lando, J. B.	
8:12		Itkis, M. E.	Yokoyama, H.	
8:24		Singer, K.	Danisman, M.	
8:36	Eisenberg, A.	Basit, N.	Tanaka, K.	
8:48		Silveira, W. R.	Walters, R.	
9:00		Samuilov, V.	Semler, J. J.	
9:12	Olvera de la cruz, M.	Ohno, A.	Smith, G.	
9:24		Titus, J.	Wu, W. L.	
9:36		Hla, S.	Schwab, A.	
9:48	Rubner, M.	Bai, S.J.	Sharp, J. S.	
10:00		Bai, S.J.	Gautam, K.	
10:12		Mazumdar, S.	Rissanou, A. N.	
10:24	Rubenstein, M.	Moses, D.	Kent, M.	
10:36		Ferguson, J. B.	Ramaratnam, K.	
10:48		Weber, C.	Bhat, P.	

Title	Z17: Polymer Solutions and Rheology			
Room	10A			
Chair	Granesan, V.			
11:15	Cush, R.			
11:27	Van Zanten, J.			
11:39	Jiang, Y.			
11:51	Russell, M.			
12:03	Beaucage, G.			
12:15	Montesi, A.			
12:27	Hough, L. A.			
12:39	Ganesan, V.			
12:51	Pryamitsyn, V.			
13:03	Wang, S. Q.			
13:15	Rangaramanujam, K.			
13:27	Ding, Y.			
13:39	Suneel, S.			
13:51	Mukherjee, J.			
14:03	Johner, A.			

Session N18. DMP/DPOLY: Focus Session: Photonic Materials.

Wednesday morning, 08:00, Room 10B, Austin Convention Center

Chair: Ned Thomas, Massachusetts Institute of Technology

- 08:00 **N18.001** Cylindrical Photonic Bandgap Fibers- Theory, fabrication and measurement
Yoel Fink (MIT Department of Materials Science and the Research Lab of Electronics)
- 08:36 **N18.002** Optical Waves in Nonreciprocal 1D Photonic Crystals
Ion Bitá, Edwin L. Thomas (M.I.T.)
- 08:48 **N18.003** Controlling the Physical Properties of 3-D Polymeric Microstructures Created with Multiphoton Absorption
Tommaso Baldacchini, Richard Farrer, Christopher LaFratta, Huzhen Chen, John Fourkas (Department of Chemistry, Boston College, Chestnut Hill, MA 02467), Zeynel Bayindir, Michael Naughton (Department of Physics, Boston College, Chestnut Hill, MA 02467), Andrew Whiting, Julie Praino, Bahaa Saleh, Malvin Teich (Department of Electrical and Computer Engineering, Boston University, 8 Saint Mary's Street, Boston, MA 02215)
- 09:00 **N18.004** Characterization of Ordered Array of Air Bubbles in a Polymer Film
Lulu Song, Jung O. Park, Mohan Srinivasarao (Georgia Institute of Technology)
- 09:12 **N18.005** Ultrawide Bandwidth Modulation of Light Using an Electro-Optic Polymer
Mark Lee (Bell Laboratories - Lucent Technologies)
- 09:48 **N18.006** Poled polymer thin-film gratings studied by near-field second harmonic optical microscopy and far-field optical diffraction
François Lagugné-Labarthe (Department of Physics, University of California Berkeley, Berkeley, CA 94720), Yuen Ron Shen (Department of Physics, University of California Berkeley, Berkeley, CA 94720, USA), Richard Daniel Schaller, Richard Saykally (Department of Chemistry, University of California Berkeley, Berkeley, CA 94720, USA)
- 10:00 **N18.007** Block Co-Polymer as Host for Polarized Emission
Tao Deng, Thomas Breiner, Edwin Thomas (Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139), Craig Breen, Timothy Swager (Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139)
- 10:12 **N18.008** Polarization Anisotropy Study of Z-oriented MEH-PPV Nanoparticles
Pradeep Kumar K.K., M.D. Dadmun (Dept. of Chemistry, University of Tennessee, Knoxville TN 37996), A Mehta, M.D. Barnes, T Thundat (Oak Ridge National Laboratory, Bethel Valley Road, Oak Ridge, TN 37831), R.M. Dickson (Dept. of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30332)
- 10:24 **N18.009** Electroabsorption in Single-crystal Film of an Organic Molecular Salt (DAST)
Rajendra Swamy, Srivatsa Govindan Kutty, Jitto Titus, Sanchit Khatavkar, Mrinal Thakur (Photonic Materials Research Laboratory, Auburn University, AL)
- 10:36 **N18.010** Electro-optic Modulation in Single-crystal Film of DAST Measured at 1.55 microns
Jitto Titus, Rajendra Swamy, Srivatsa Govindan Kutty, Sanchit Khatavkar, Mrinal Thakur (Photonic Materials Research Laboratory, Auburn University, AL)

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Session P16. DPOLY: Nanocomposites II.

Wednesday morning, 11:15, Room 9C, Austin Convention Center

Chair: Howard Wang, Michigan Tech University

- 11:15 **P16.001** Simulation of Fundamental Polymer Nanocomposite Properties
Francis Starr (Center for Theoretical and Computational Materials Science & Polymers Division, NIST), Sharon Glotzer (Depts. of Chemical Engineering and Materials Science and Engineering, U. Michigan), Jack Douglas (Polymers Division, NIST)
- 11:27 **P16.002** Molecular dynamics simulation of polymer-nanoparticle composites: Nanoparticle interactions in a neat polymer matrix.
Dmitry Bedrov, Grant Smith, James Smith, Oleksiy Bytner (University of Utah)
- 11:39 **P16.003** Multiscale Micromechanical Modeling of Polymer/Clay Nanocomposites and the Effective Clay Particle
Nuo Sheng, Mary C. Boyce, David M. Parks (Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA), Oleg Manovitch, Gregory C. Rutledge (Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA), Hojun Lee, Gareth H. McKinley (Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA)
- 11:51 **P16.004** Dewetting dynamics of nanofilled polymer thin films
Haobin Luo, Dilip Gersappe (Dept of Materials Science and Engg, SUNY at Stony Brook)
- 12:03 **P16.005** Structure and Rheology of Polyethylene Oxide / Silica Nanocomposites
Qiang Zhang, Lynden A. Archer (Chemical and Biomolecular Engineering, Cornell University), Microrheology Group Team
- 12:15 **P16.006** Nanoparticles for Control of Polymer Blend Structures
Koray Yurekli, Jeremy Strauch, Ramanan Krishnamoorti (University of Houston)
- 12:27 **P16.007** Interfacial Properties of Novel Hybrid POSS-Amphiphiles and their Blends with Polymers
Jianjun Deng, John Hottle, Alan Esker (Department of Chemistry, Virginia Tech), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)
- 12:39 **P16.008** Ultrathin POSS/Polymer Systems for Dynamic Studies
Alan Esker, Ben Vastine (Department of Chemistry, Virginia Tech), Sushil Satija (NIST Center for Neutron Research), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)
- 12:51 **P16.009** Shear-induced orientation in model polymer-clay nanocomposites
Laura Dykes, Wesley Burghardt (Northwestern University), Ramanan Krishnamoorti (University of Houston)
- 13:03 **P16.010** Static and Dynamic Properties of Polyethylene Chains in the Presence of Nanoparticles
Rahmi Ozisik (Rensselaer Polytechnic Institute)
- 13:15 **P16.011** Effects of Nanoscale Size Disparity of Filler Particles and Their Interactions on Percolation and Thermal Properties of a Polymer Matrix
Andrea Corsi, P. D. Gujrati (Department of Physics and Department of Polymer Science, The University of Akron, Akron, Ohio 44325 USA)
- 13:27 **P16.012** Nonspecific Compatibilization of Polymer Blends Using Functionalized Clays
Robert Fisher (HANC High School, Uniondale, NY 11553), Michael Goldman (Harvard University, Cambridge, MA), Michael Rubinstein (University of North Carolina, Chapel Hill, NC, 27599), Mayu Si, Jonathan Sokolov, Miriam Rafailovich, Gregory Ruderman (SUNY at Stony Brook, Stony Brook, NY 11794)
- 13:39 **P16.013** Pulse Field Gradient NMR Study of Diffusion in a Permeable Glassy Blend
Haihui Cao, Guoxing Lin, Marcus Giotto, Alan Jones (Clark University, Carlson School of Chemistry and Biochemistry, Worcester, MA 01610)

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13:51 **P16.014** Effect of Surfaces on the Distribution of Orientations of Rod-Like Particles
Raffy Mor, Moshe Gottlieb (Chemical Engineering Department, Ben-Gurion University, Beer Sheva, 84105 ISRAEL), Lisa A. Mondy (Sandia National Laboratories, Albuquerque, New Mexico 87185-0834, USA), Alan L. Graham (Department of Chemical Engineering, Texas Tech University, Lubbock, Texas 79410, USA)

14:03 **P16.015** Phase Behavior of Trisilanolisobutyl-POSS with Polar PDMS Derivatives
Hyong-Jun Kim, Jennifer Hoyt, Judy Riffle, Alan Esker (Department of Chemistry, Virginia Tech), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)

Session P17. DPOLY: Block Copolymers I.

Wednesday morning, 11:15, Room 10A, Austin Convention Center

Chair: Mitchell Anthamatten, LLNL

- 11:15 **P17.001** Edge Effects on the Order and Melting of a 2D Array of Block Copolymer Spheres
R. A. Segalman, A. Hexemer, E. J. Kramer (UC Santa Barbara)
- 11:27 **P17.002** Epitaxial Relationships between Close-Packed and BCC Lattices in Copolymer Micelles
Joona Bang, Timothy P. Lodge (University of Minnesota)
- 11:39 **P17.003** Wulff Shape of Cylindrical Domains Growing in Lamellar Block Copolymer Homopolymer Blends, and Nucleation of a Second Phase at Grain Boundaries
Samuel Gido, Engin Burgaz (Dept. of Polymer Science & Eng., Univ. of Massachusetts, Amherst)
- 11:51 **P17.004** Anisotropy of lamellar block copolymer grains
Bruce Garetz, Maurice Newstein (Polytechnic University, Brooklyn, NY 11201), Nitash Balsara (University of California, Berkeley, CA 94720), Carlos Marques (Universite Strasbourg, France 67084), Samuel Gido (University of Massachusetts, Amherst, MA 01003)
- 12:03 **P17.005** Shear-generated long range ordering of thin diblock copolymer films
Dan Angelescu (Princeton University), Paru Deshpande, Matthew Trawick, Douglas Adamson, Stephen Chou, Richard Register, Paul Chaikin
- 12:15 **P17.006** Size Adaptation of Block Copolymer Microdomains at Lattice Defect Sites
M. R. Hammond, S. W. Sides, G. H. Fredrickson, E. J. Kramer (UCSB), J. Ruokolainen (Helsinki Univ. of Technology), S. F. Hahn (Dow Chemical Co.)
- 12:27 **P17.007** Origin for the formation of inverted phase in drying solution-cast block copolymer films
Haiying Huang, Fajun Zhang, Hu Zhijun, Binyang Du, Tianbai He (Changchun Institute of Applied Chemistry), Fuk Kay Lee, Yongjian Wang, Ophelia K. C. Tsui (Hong Kong University of Science and Technology)
- 12:39 **P17.008** Achieving and controlling perpendicular lamellar orientation in thin diblock copolymer films using substrate topology.
Easan Sivaniah, Yoshihiro Hayashi, Shinya Matsubara, Shinya Kiyono, Takeji Hashimoto (Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, Kyoto 606-8501, Japan), Kenji Fukunaga (Ube Industries Ltd., Ichihara, Chiba 290-0045, Japan.)
- 12:51 **P17.009** Elastic Constants of Ordered Diblock Copolymer Phases
David M. Cooke, An-Chang Shi (McMaster University, Hamilton, Ontario, Canada)
- 13:03 **P17.010** Epitaxial Transitions among FCC, HCP, BCC, and Cylinder Phases in a Block Copolymer Solution
Moon Jeong Park, Joona Bang, Timothy P. Lodge (University of Minnesota), Kookheon Char (Seoul National University)
- 13:15 **P17.011** Alignment of block copolymer thin films under electric field
Ting Xu, Thomas P. Russell (Department of Polymer Science and Engineering, University of Mass., Amherst)
- 13:27 **P17.012** Collective dynamics and self-diffusion in a diblock copolymer melt in the body-centered cubic phase
Kristoffer Almdal, Kell Mortensen (Danish Polymer Centre, Risø National Laboratory, P.O. Box 40, DK-4000 Roskilde, Denmark), Christine M. Papadakis, Frank Rittig (Fakultät für Physik und Geowissenschaften, Universität Leipzig, Linnéstr. 5, D-04103 Leipzig, Germany), Petr Štvepánek (Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Heyrovsky sq. 2, CZ-16206 Prague 6, Czech Republic)
- 13:39 **P17.013** Dynamics of Spherical Microdomains in Diblock Copolymer Thin Films
M.L. Trawick, D.E. Angelescu, P.M. Chaikin (Department of Physics), J.H. Waller, R.A. Register (Department of Chemical Engineering), D.H. Adamson (Materials Institute, Princeton University, Princeton, New Jersey, USA)

13:51 **P17.014** Anisotropic Self-Diffusion in Block Copolymer Cylinders
Kevin Cavicchi, Tim Lodge (University of Minnesota)

14:03 **P17.015** Electrically induced patterning in block copolymer films
Hongqi Xiang, Zhiqun Lin, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, Massachusetts 01003)

Session P18. DPOLY: Polymer Gels.

Wednesday morning, 11:15, Room 10B, Austin Convention Center

Chair: Aleksander Ermoshkin, Northwestern University

11:15 **P18.001** Thermoreversibly aggregated microgels: fractal structure and aggregation mechanism
Zhenyu Gu, Rong Cao, Bruce Armitage, Gary Patterson (Carnegie Mellon University)

11:27 **P18.002** Swimming Towards the Dark: A Photophobic Light-driven Elastomeric Swimmer
P. Palfy-Muhoray, M. Camacho-Lopez (Liquid Crystal Institute, Kent State University, Kent OH 44242), H. Finkelmann (Institute für Macromolekulare Chemie, Albert-Ludwigs Universität, Freiburg, Germany), M. Shelley (Courant Institute of Mathematical Sciences, New York University, New York, NY 10012)

11:39 **P18.003** Reversible gelation in polymer melts with van der waals interactions
Matthew Wallace, Béla Joós (University of Ottawa, Ottawa, Ontario, Canada), Michael Plischke (Simon Fraser University, Burnaby, BC, Canada)

11:51 **P18.004** Small angle light scattering and microscopy study of agarose gels in an electric field
Ariel Michelman, Rama Bansil, Chien-shiu Kuo, Ryan Morris (Boston University), Ralph Nossal (NIH)

12:03 **P18.005** Thermo-mechanical response in chemically disordered gels and analysis of the relative macro-meso affinity
Lorin Gutman, Eugene Shakhnovich (Harvard University)

12:15 **P18.006** Universal elasticity and fluctuations of nematic gels
Xiangjun Xing, Leo Radzihovsky (Department of Physics, University of Colorado)

12:27 **P18.007** From random coils to hard spheres: Rheology of polymer "nano-particoils"
Ingrid Stepanek, Pradeep Bhat, Jong H. Han, Matteo Pasquali (Affiliation), Michael S. Wong (Rice University, Chemical Engineering Dept, 6100 Main, Houston TX 77005)

12:39 **P18.008** Surfactant Templated Polyacrylamide Gels
Mukundan Chakrapani, D.H. Van Winkle (Center for Materials Research and Technology and Dept. of Physics, Florida State University, Tallahassee, Florida 32306), R.L. Rill (College of Medicine, Institute of Molecular Biophysics, and Dept. of Chemistry and Biochemistry, Florida State University, Tallahassee, Florida 32306)

12:51 **P18.009** The Influences of Molecular Architectures on the Association of Rigid-rod Poly(p-phenyleneethynylene)s in Toluene into Gels.
Rakchart Traiphol, Dvora Perahia (Department of Chemistry, and MS&E Program Clemson University, Clemson, South Carolina 29634-0973), Uwe Bunz (Department of Chemistry and Biochemistry, and the USC NanoCenter, University of South Carolina, Columbia, South Carolina, 29208)

13:03 **P18.010** 2D Gelation of Amphiphilic Lipopolymers at the Air-Water Interface
Christoph Naumann, John Coffman, Michael Foreman (Indiana University Purdue University Indianapolis, Department of Chemistry), Sonia Cesana, Rainer Jordan (Technische Universität München, Lehrstuhl f. Makromolekulare Stoffe), Greg Smith (Los Alamos National Laboratory, Manuel Lujan Neutron Scattering Center)

13:15 **P18.011** Vector Percolation Analysis of Triglyceride-based Thermoset Polymers
John J. LaScala, Richard P. Wool (Department of Chemical Engineering, University of Delaware, Newark De 19716-3144)

13:27 **P18.012** Explaining the Strength of Autoacceleration in Free Radical Polymerization: Quantifying the "Short" in the Short-Long Diffusion-Controlled Termination Process
Brian Chekal, John Torkelson (Northwestern University, Evanston, IL 60208-3120)

13:39 **P18.013** Mobility of Small Molecules and Polymer Chains in CO₂-Swollen Polymer Matrices
Ravi Gupta, Thomas Russell, James Watkins (University of Massachusetts Amherst), Watkins-Russell Team

13:51 **P18.014** A simple model for the dynamics of probes in polymer gels
Chwen-Yang Shew (Department of Chemistry, College of Staten Island of the City University of New York, 2800 Victory Boulevard, Staten Island, NY 10314)

14:03 **P18.015** Microrheology of cross-linked polymers
Bivash R Dasgupta, D. A. Weitz (Department of Physics and DEAS, Harvard University, Cambridge MA 02138)

Session R1. DPOLY: Poster Session II.

Wednesday afternoon, 13:30, Room Exhibit Hall 2/3, Austin Convention Center

Chair: Christopher Soles, NIST

R1.077 Infrared and Raman study of phase separation in binary n-alkane mixtures
Andrzej Hacura, Beata Kaczorowska (Institute of Physics, University of Silesia, Uniwersytecka 4, 40-007 Katowice, Poland)

R1.078 Mass transport in thin polymer films during AFM-assisted nanolithography
Grigori Sigalov (Department of Polymer Engineering, The University of Akron, Akron OH 44325), Pavel Paramonov (Department of Physics, The University of Akron, Akron, OH 44325), Shane Juhl, Richard Vaia (Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson AFB, OH), Sergei Lyuksyutov (Department of Physics, The University of Akron, Akron, OH 44325)

R1.079 In-situ Rheo-SAXS and Rheo-WAXD studies of Shear Induced Structures in Model Polyethylene Blend
Ling Yang, Rajesh Somani, Igors Scis, Benjamin Hsiao (Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY 11794), Rainer Kolb, David Lohse, Christine Ong (ExxonMobil Research and Engineering Company, Annandale, NJ 08801), Hitesh Fruitwala (ExxonMobil Chemical Company, Baytown, TX 77522)

R1.080 Structure of Secondary Crystals in Ethylene-Based Ionomers
K. Wakabayashi, Y.-L. Loo, Y.E. Huang, L.-B.W. Lee, R.A. Register (Princeton University)

R1.081 Structural Studies of Ethylene-1-Octene and Ethylene-Norbornene Random Copolymers by NMR and WAXD
Daniel Mowery, Isabel Carrilero, Rufina Alamo (Dept. of Chem. Eng., FAMU-FSU College of Engineering)

R1.082 Morphology Evolution in Polytetrafluoroethylene as a Function of Melt Time and Temperature: Single- and Multi-molecule Folded Chain Single Crystals and Banded Structures
Junyan Wang, Phillip Geil (University of Illinois), Ping Xu (W. L. Gore & Assoc., Inc.)

R1.083 Observation of Double Glass Transition in Cold Crystallized Poly(phenylene sulfide)
Nathan Gilfoy, B. Seyhan Ince, Peggy Cebe (Tufts University Department of Physics and Astronomy)

R1.084 Molecular relaxation process of isotactic polystyrene studied by real-time dielectric spectroscopy and small and wide angle X-ray scattering
Baskaran Natesan, Hui Xu, B. Seyhan Ince, Peggy Cebe (Physics Department, Tufts Univ.)

R1.085 Characterization of Fiber and Bulk of Poly(trimethylene Terephthalate) by Quantitative Thermal Analysis
M Pyda, J Pak, B Wunderlich (The University of Tennessee, Knoxville, TN and ORNL, Oak Ridge, TN, USA)

R1.086 Effects of chain configuration on the crystallization behavior of poly(lactic acid)
Kaoru Aou, Shuhui Kang, Shaw Ling Hsu (Polymer Science and Engineering Department, University of Massachusetts (Amherst))

R1.087 X-ray Characterization of Row Crystallized Polymers
Buckley Crist (Northwestern Univ.)

R1.088 Crystallization Kinetics and Morphology of Thin Films of PEO/PMMA Blends
Brian Okerberg, Herve Marand (Virginia Tech)

R1.089 Lamellar Morphology of Metallocene Random Propylene Copolymers studied by Atomic Force Microscopy
Ian Hosier, Rufina Alamo (FAMU-FSU College of Engineering)

R1.090 FTIR, DSC, WAXS and density study of cold crystallized isotactic polystyrene
Hui Xu, B.Seyhan Ince, Nathan Gilfoy, Peggy Cebe (Physics Department, Tufts Univ.)

- R1.091** Broadband Dielectric Investigation of Amorphous and Semi-Crystalline Poly lactides
Mantana Kanchanasopa, James Runt (Penn State University)
- R1.092** Breakup of Spiral and Concentric Ringed Spherulites in Polymer Crystallization
Haijun Xu, Thein Kyu, Yoshifumi Okabe (the University of Akron), Hao-Wen Chiu (Polymer Engineer Essilor of America, INC. ST.PETERSBURG, FLORIDA 33709)
- R1.093** Controlling Crystallization Properties of Poly(ethylene oxide) Thin Film by Geometric Confinement
Haty Hong (Manhasset High School), Vivek Kuncham (Wheatley School), Yanlian Wang, Henry White, Shouwen Ge, Miriam Rafailovich, Jonathan Sokolov (Dept. of Materials Sci. & Eng., State University of New York at Stony Brook)
- R1.094** Effect of fiber on shear-induced crystallization of i-PP in UHMWPE/i-PP and Aramid/i-PP fiber composites
Carlos Avila-Orta, Rajesh Somani, Ling Yang, Benjamin Hsiao (Department of Chemistry, State University of New York at Stony Brook), Gad Marom (Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem)
- R1.095** Study of the Reversibility in the Crystallization Behavior of Statistical Ethylene/Styrene Copolymers by Classical and Temperature Modulated Differential Scanning Calorimetry
Zhenyu Huang, Herve Marand (Virginia Tech)
- R1.096** Effect of complex flow kinematics on the molecular orientation distribution in injection molding of liquid crystalline copolyesters
Stanley Rendon, Anthony New, Wesley Burghardt (Northwestern University), Robert Bubeck (Michigan Molecular Institute)
- R1.097** The Phase Behavior of Liquid Crystalline Polymers Containing Sulfone Group in Side Chain
Daewon Lee, Min-Young Lim, Jong-Chan Lee, Kookheon Char (School of Chemical Engineering, Seoul National University)
- R1.098** Geometric "Chirality" from "Umbrella" Molecules
Alexander J. Jing, Bart Mansdorf, Frank W. Harris, Stephen Z. D Cheng (Department of Polymer Science, University of Akron)
- R1.099** Supramolecular and Molecular Structures in Aromatic Polyimides Containing Cyanobiphenyl Side-Chains
Jeng Ruan, Shi Jin, Jason Ge, Dong Zhang, Frank Harris, Stephen Cheng (Maurice Morton Institute and Department of Polymer Science, The University of Akron) Bernard Lotz (Institute Charles Sadron, France) Pio Iannelli (Department of Engineering, University di Salerno, Italy)
- R1.100** Morphological Chirality and Crystal Twinning in Different Length Scales of a Chiral Liquid Crystalline Polyester
Xin Weng, Christopher Y. Li, Shi Jin, Dong Zhang, John Z. Zhang, Feng Bai, Frank W. Harris, Stephen Z. D. Cheng (Maurice Morton Institute and Department of Polymer Science, The University of Akron), Bernard Lotz (Charles Sadron of Macromolecules)
- R1.101** Physical aging in a polymer glass subjected to carbon dioxide pressure jumps
Mataz Alcoutlabi, Lameck Banda, Gregory B. McKenna (Texas Tech University)
- R1.102** Studies of Poly(vinyl chloride) Based Endotracheal Tubes From the Microscopic to Macroscopic Scale
Kristin Brodie, Christine Ortiz (Dept. of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA)
- R1.103** Optical Spectroscopy and Modeling Studies of Poly(di-n-alkylsilanes)
Withoon Chunwachirasiri (Department of Physics, University of Wisconsin, Madison, WI 53706), Robert West (Organosilicon Research Center, Department of Chemistry, University of Wisconsin, Madison, WI 53706), M.J. Winokur (Department of Physics, University of Wisconsin, Madison, WI 53706)
- R1.104** Excitation Energies of Fluorene-Based Polymers and Oligomers- Ab Initio Approach
Z. Gong, J.B. Lagowski (Memorial University of Newfoundland)
- R1.105** Nanoimprinting of Photonic-Bandgap Devices in Ionically Self-Assembled Monolayers
J. Li, S. Evoy (Dept. of Elec. & Sys. Eng., Univ. of Pennsylvania, Philadelphia, PA 19104), R. Duncan, M. Vercinello, P. Stevenson (Luna Innovations Inc., Blacksburg, VA 24060), J.R. Heflin (Dept of Physics, Virginia Tech, Blacksburg VA 24060)
- R1.106** A versatile fiber-coupled system design for Photon Correlation Spectroscopy and Fabry-Perot Interferometry
Radoslav Bogoslovov, David Shelton, James Selsler, Shufu Peng, Greg Piet (Department of Physics, University of Nevada, Las Vegas, Las Vegas, NV 89154-4002)
- R1.107** Low Voltage Electron Microscopy of Polymer and Organic Molecular Thin Films
David Martin, Lawrence Drummy, David Lin, Junyan Yang (The University of Michigan), Materials Science and Engineering Collaboration
- R1.108** Ultrasonic degradation of polysaccharides studied by multi-angle laser light scattering
Regina Eschette, David Norwood (Southeastern Louisiana University)
- R1.109** Quantification of Monolayer Surface Coverage by Forward Recoil Spectrometry
Russel Walters, Russell Composto (University of Pennsylvania, Philadelphia, PA), Christine McGuiness, David Allara (Pennsylvania State University, State College, PA)
- R1.110** Fabrication and Characterization of Chemically and Topographically Patterned Substrates
Anne Charrier (Universite de Marseille), Teresa Porri (Materials Science Program, University of Wisconsin-Madison), Paul Nealey (Department of Chemical Engineering, University of Wisconsin-Madison)
- R1.111** Conformation-Assisted Fluctuation of Density and Nucleation in Polymer Melts
Dadong Yan, Hongge Tan (Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080)
- R1.112** Theory of Reversibly Associating Copolymer-like Clusters in Melt
June Huh, Won Ho Jo (School of Material Science and Engineering, Seoul National University)
- R1.113** Effect of chain topology of block copolymer on micellization: ring vs linear block copolymer
Kwang Hee Kim, June Huh, Won Ho Jo (School of Material Science and Engineering, Seoul National University)
- R1.114** Molecular Simulation of Polymer Crystallization: Nucleation from Pre-oriented Melt
Min Jae Ko, Numan Waheed, Gregory Rutledge (Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139)
- R1.115** Monte Carlo simulations to investigate dynamics of concentrated polymer solutions
Manjeera Mantina, Jutta Luetmer-Strathmann (Departments of Physics and Chemistry, University of Akron, Akron, OH 44325-4001)
- R1.116** Monte Carlo Studies of Polymer Chains in Aqueous Solutions
Ying Lu (University of Texas at Austin), Isaac Sanchez (Dept. of Chemical Engineering, University of Texas at Austin)
- R1.117** Coarse-Grained NPT Molecular Dynamics of Polymer-Layered Silicate Nanocomposites
B. L. Farmer, A. Sinsawat, Kelly L. Anderson, Richard A. Vaia (Materials & Manufacturing Directorate, AFRL, WPAFB, OH 45433)
- R1.118** Self Diffusion in Nano Filled Polymer Melts: A Molecular Dynamics Simulation Study
Tapan Desai, Pawel Koblinski
- R1.119** Anchoring of a nematic liquid crystal at a polymer surface
Mehdi Bagheri-Hamaneh, Philip L. Taylor (Case Western Reserve University)
- R1.120** Film Formation and Roughness in Aqueous Solution of Hydrophobic and Polar Groups on an Adsorbing Substrate: Computer Simulation Study
Ras Pandey (University of Southern Mississippi)

- R1.121** Phase separation kinetics in thin polymer films: dynamic self consistent field theory
Ellen Reister, Marcus Müller, Kurt Binder (Institut für Physik, WA 331, Johannes Gutenberg-Universität, 55099 Mainz, Germany)
- R1.122** Fluorophore Conformation in Green Fluorescent Protein: A Molecular Dynamics Study
Soumya S. Patnaik, Paul N. Day, Ruth Pachter (Air Force Research Laboratory, Materials and Manufacturing Directorate)
- R1.123** Effect of Endfunctionality and Molecular Weight of Reactive Polymers on Reaction Kinetics and Interfacial Properties at Immiscible Polymer Interface: A Monte Carlo Simulation Approach
Yooseong Yang, Kookheon Char (School of Chemical Engineering, Seoul National University)
- R1.124** Solid Phase DNA Amplification: A Simple Monte Carlo Lattice Model
Jean-Francois Mercier, Gary W. Slater (University of Ottawa), Pascal Mayer (Mantecia Predictive Medicine S.A.)
- R1.125** Molecular Simulations of Protein-Polyelectrolyte Complexes
Junhwan Jeon, Andrey Dobrynin (Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT 06269)
- R1.126** Thin films of asymmetric triblock copolymers: Monte Carlo simulations and Self-Consistent Field Theory.
Grzegorz Szamel (Department of Chemistry, Colorado State University), Marcus Mueller (Institut fuer Physik, Johannes Gutenberg Universität Mainz)
- R1.127** Computer Simulation of Associating Ideal Chains
Sharon Loverde, Yeom Min Sun, Aleksander Ermoshkin, Monica Olvera de la Cruz (Department of Materials Science and Engineering, Northwestern University)
- R1.128** Long Range In-Plane Order of Oriented Diblock Copolymer Thin Films by Graphoepitaxy
Scott Fontana, Mark Dadmun (University of Tennessee), Douglas Lowndes (Oak Ridge National Laboratory)
- R1.129** Structural evolution and phase characterization of polyelectrolyte/surfactant complexes in aqueous solution
Richard G. Nause, David A. Hoagland, Helmut H. Strey (University of Massachusetts, Amherst)
- R1.130** Rate of Reaction and Crosslink Density of Bifunctional Monomers (Application to Olefinic and Acrylate Functionality): Computer Simulation
Keri Diamond, Ras Pandey, Shelby Thames (University of Southern Mississippi)
- R1.131** A Lattice Model for the Simulation of Diffusion in Heterogeneous Polymer Systems
Guoxing Lin, Jinghui Zhang, Haihui Chao, A. Alan Jones (Chemistry Department, Clark University, Worcester MA 01610)
- R1.132** Coarse-Grained MD Simulations of Layered Silicate Stacks Within Blends of End-Functionalized and Homopolymers
Kelly L. Anderson, Anuchai Sinsawat, Richard Vaia, B.L. Farmer, Materials and Manufacturing Directorate Collaboration
- R1.133** Self-assembled DNA-mediated assembly of the metallic nanoparticles for single electron transistor
S. B. Lee, D. H. Yoon, S. D. Seock, K. - H. Yoo (Department of Physics, Yonsei University, Seoul 120-749, Korea), S. M. Lee, J. W. Cheon (Department of Chemistry, Yonsei University, Seoul 120-749, Korea)
- R1.134** Charge Injection in Doped Organic Semiconductors
Yulong Shen, Man Hoi Wong, George G. Malliaras (Department of Materials Science & Engineering, Cornell University), Bing Hsieh (Canon Corporation), David Dunlap (Department of Physics and Astronomy, University of New Mexico), Department of Materials Science & Engineering Team, Canon Corporation Collaboration, Department of Physics and Astronomy Collaboration
- R1.135** Theoretical Study of Donor - Spacer - Acceptor Structure Molecule for Molecular Rectifier
Hiroshi Mizuseki, Niimura Kenji, Rodion Belosludov, Amir Farajian, Yoshiyuki Kawazoe (Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan), Institute for Materials Research Team
- R1.136** Electro-optical photonic crystals formed in H-PDLCs by thiol-ene photopolymerization
Timothy Bunning (Air Force Research Laboratory, Materials and Manufacturing Directorate), Lalgudi Natarajan, Vincent Tondiglia, Richard Sutherland (Science Applications International Corporation/MLPJ)

- R1.137** Photonic Films Prepared by Plasma Polymerization/Copolymerization
Hao Jiang (Air Force Research Laboratory/Anton-MLP), Scott Tullis, Kristen O'Neil, Eric Johnson, Kurt Eyink (Air Force Research Laboratory/MLP), John Grant (Air Force Research Laboratory/UDRI), Walter Johnson, David Tomlin, Paul Fleitz, Timothy Bunning (Air Force Research Laboratory/MLP)
- R1.138** Multi-Dimensional Holographic PhotoPolymerization: Fabrication of Organic-Inorganic Photonic Band Gap Gain Medium
Rachel Jakubiak, Richard Vaia, Timothy Bunning, Dean Brown (Air Force Research Laboratory), Vincent Tondiglia, Lalgudi Natarajan (SAIC), David Tomlin (TMCI)
- R1.139** Hyper-Rayleigh Scattering Excitation Profile of Nonlinear Optical Dendrimer
Oliver Y. Tai (Department of Physics, National Sun Yat-Sun University, Kaohsiung, Taiwan), C. H. Wang (Department of Physics, National Sun Yat-Sun University, Kaohsiung, Taiwan, and Department of Chemistry, University of Nebraska-Lincoln, Lincoln, NE 68588, USA), Alex K. -Y. Jen (Department of Material Science and Engineering, University of Washington, Seattle, Washington 98195, USA)
- R1.140** Electrochemical Deposition of Nanostructured Conducting Polymer Coatings on Neural Prosthetic Devices
JUNYAN YANG (Department of Materials Science and Engineering, The University of Michigan, Ann Arbor, MI 48109), DAVID MARTIN (Departments of Materials Science and Engineering, Biomedical Engineering, and the Macromolecular Science and Engineering Center, The University of Michigan, Ann Arbor, MI 48109)
- R1.141** Electrical transport through covalently-linked multi Zn(II) porphyrin arrays
D. H. Yoon, S. B. Lee, S. D. Seock (Department of Physics, Yonsei University, Seoul 120-749, Korea), Dongho Kim (Department of Chemistry, Yonsei University, Seoul 120-749, Korea), K.-H. Yoo (Department of Physics, Yonsei University, Seoul 120-749, Korea)
- R1.142** Pattern-Photopolymerization-Induced Phase Separation of Self Assembled Carbon-Nanotube Composites
Haticce Duran, Kumar Nanjundiah, Liming Dai, Thein Kyu (The University of Akron), Timothy J. Bunning, Lalgudi V. Natarajan, Vincent P. Tondiglia (WPAF/Air Force Office of Scientific Research), Collaborative Center for Polymer Photonics Collaboration
- R1.143** Organic Semiconductor Devices for Chemical and Biological Sensing
Zheng-Tao Zhu, Jeff Mason, Alon Gorodetsky, George Malliaras (Cornell University), Scott Stelick, Sean Higgins, Joel Tabb (Agave BioSystems)
- R1.144** Structure and Ion Transport Studies of PEO-Based Solid Polymer Electrolytes
Robert L Karlinsky, R. Aravinda Narayanan, Lyudmila M Bronstein, Josef W Zwanziger (Indiana University)
- R1.145** SWNT Orientation in Polymer/SWNT Composites
Chongfu Zhou, Tao Liu, T.V. Sreekumar, Satish Kumar (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA, 30332), Lars M. Ericson, R.H. Hauge, R.E. Smalley (Center for Nanoscale Science and Technology, Rice University, Houston TX 77005)
- R1.146** Hydrothermally Stable Mesoporous Silica and Organosilica Prepared with PEO-PLGA-PEO Triblock Copolymer Templates
Kookheon Char, Eun-Bum Cho, Sangcheol Kim, Hwirang Cho (School of Chemical Engineering, Seoul National University)
- R1.147** Modification of Polymer Rheological Properties Through the Incorporation of Functionalized Nanoparticles
Jean Harry Xavier, Jonathan Sokolov, Miriam Rafailovich (Stony Brook University), Lauren Goldstein, Abigail Maller (Stellar K. Abraham School)
- R1.148** Diffusion Coefficients of n-Alkanes and Polyethylenes Filled with Zinc Oxide Nanoparticles
Rahmi Ozisik (Rensselaer Polytechnic Institute), Wayne L. Mattice, Ernst von Meerwall (University of Akron)
- R1.149** Self-Organization of Nanoparticles in Ultrathin Polymer Films
Rastislav Levicky, Zhen Liu (Chemical Engineering, Columbia University)
- R1.150** X-Ray Reflectivity of Free-Standing Bilayer Films of Immiscible Polymers
Young-Soo Seo, M. Rafailovich, J. Sokolov (Materials, SUNY at Stony Brook)

- R1.151** Supercritical Fluid Introduction of Low-Density Polymer Thin Film Formation
Tadanori Koga, Young-soo Seo, Shoren Ge, Miriam Rafailovich, Jonathan Sokolov (Dept of Mat. Sci. & Eng., SUNY at Stony Brook), Oliver Seeck (HASYLAB am DESY), Metin Tolan (Dortmund University), Benjamin Chu (Dept of Chem., SUNY at Stony Brook)
- R1.152** Off-specular X-ray scattering study of polymer brush interfaces
Hyeonjae Kim, Mark D. Foster (Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH 44325 USA), Haining Zhang, Oswald Prucker, Juergen Ruehe (Chemistry and Physics of Interfaces, Institute for Microsystem Technology, Georges-Köhler-Allee 103 D-79085 Freiburg, Germany), Peter Mueller-Buschbaum (Physik Department LSE13, Technische Universität München, James-Franck-Str. 1, 85747 Garching, Germany)
- R1.153** Effect of Freeze Drying on Dilute Solution on the Glass Transition Temperature of Polystyrene
Paul Bernazzani, Gregory McKenna (Chemical Engineering Department, Texas Tech University), Sindee Simon (Affiliation)
- R1.154** Activated Dynamics, Fragility and the Glass Transition in Polymer Melts
Kenneth S. Schweizer (University of Illinois)
- R1.155** Transition from liquid to brush-like behaviors in ultrathin polymer films
Young-Soo Seo, T. Koga (Materials, SUNY at Stony Brook), T. Metin (Physics, Dortmund university, Germany), M. Rafailovich, J. Sokolov (Materials, SUNY at Stony Brook), S. Sinha (Physics, UC at Sandiego), R. Kolb (Exxon Research Center)
- R1.156** Rotational Holstein Polarons
Wei Zhang, Alexander O. Govorov, Sergio E. Ulloa (Department of Physics and Astronomy, and Nanoscale and Quantum Phenomena Institute, Ohio University)
- R1.157** Polymer blend morphology evolution under shear flows
Maja Mihajlovic, Tak Shing Lo, Yitzhak Shnidman (Department of Chemical Engineering, Chemistry and Materials Science, Polytechnic University, Brooklyn, NY and NSF MRSEC on Polymers at Engineered Interfaces), Wentao Li, Dilip Gersappe (Department of Materials Science and Engineering, SUNY, Stony Brook)
- R1.158** Nanoparticles at the liquid-liquid interfaces: assembly, displacement, transport and crosslinking
Yao Lin, Habib Skaff, Todd Emrick (Department of Polymer Science and Engineering, University of Massachusetts, Amherst), Anthony Dinsmore (Department of Physics, University of Massachusetts, Amherst), Thomas Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst)
- R1.159** Cell motility on nanotopography
Masahiro Kimura, Irene Tsai, Angelo Green, Bruce Jacobson, Thomas Russell (University of Ma. Amherst)
- R1.160** Non-linear dependence of the Flory interaction parameter on the inverse of absolute temperature in polystyrene-block-poly(n-pentyl methacrylate) copolymer
Du Yeol Ryu, Unyong Jeong, Jin Kon Kim (Dept. of Chemical Eng. Pohang University of Science and Technology), Thomas P. Russell (Dept. of Polymer Science and Engineering, U. Massachusetts at Amherst), Dept. of Polymer Science and Engineering Collaboration
- R1.161** Pressure Effects on the Closed-Loop Phase Behavior of Poly(styrene-block-n-pentyl methacrylate)
Kristopher A. Lavery (Polymer Science and Engineering Department, University of Massachusetts - Amherst), Du Yeol Ryu, Jin Kon Kim (Department of Chemical Engineering, Polymer Research Institute, Pohang University of Science and Technology), Thomas P. Russell (Polymer Science and Engineering Department, University of Massachusetts - Amherst)
- R1.162** Phase Behavior of Mixtures of Block Copolymer and Homopolymers in thin film
Unyong Jeong, Du Yeol Ryu, Dong Han Kho, Dong Hyun Lee, Jin Kon Kim (Department of Chemical Engineering, Pohang University of Science and Technology), Thomas P. Russell (Department of Polymer Science and Engineering, U. of Massachusetts at Amherst), U. Massachusetts at Amherst Collaboration
- R1.163** Solvent-Induced Ordering of Diblock Copolymer Thin Film
Seung Hyun Kim, Matthew Misner, Masahiro Kimura, Thomas P. Russell (Dept. Polymer Science and Engineering, University of Massachusetts at Amherst)

- R1.164** Dynamics of Electric Field-Induced Instabilities in Thin Liquid Films
K. Amanda Leach, Suresh Gupta, Thomas P. Russell (Polymer Science and Engineering Department, University of Mass.-Amherst, 01003)
- R1.165** Temporal Evolution of Single Layer Film under Confinement in Electric Field
Zhiqun Lin, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts at Amherst), Ullrich Steiner (Department of Chemistry, University of Groningen, The Netherlands)
- R1.166** Moving Entangled liquid Fronts: Fingering Instabilities
Brian Besancon, Peter F. Green (Chemical Engineering, The University of Texas at Austin)
- R1.167** CO₂ Induced Retrograde Vitrification in Thin Polymer Films
Joseph Pham, Steve Sirard, Keith P. Johnston, Peter Green (Chemical Engineering, The University of Texas at Austin)
- R1.168** Stability of Polystyrene Thin Films in CO₂
Luciana Meli, Keith P. Johnston, Peter F. Green (Chemical Engineering, The University of Texas at Austin)
- R1.169** Solvent Effects on Ordering in Block Copolymer Films
Matthew J. Misner, Masahiro Kimura, Ting Xu, Seung Hyun Kim (Polymer Sci & Eng, UMass, Amherst), Scott C. Schmidt, Marc A. Hillmyer (Chemistry, University of Minnesota, Minneapolis), Thomas P. Russell (Polymer Sci & Eng, UMass, Amherst)
- R1.170** Simulating Filled Diblock Copolymer Morphologies and their Optical Properties.
Gavin Buxton, Jae Youn Lee, Anna Balazs (Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh PA 15261, US.)
- R1.171** A simple route to nanostructure- selective solvent swelling
Ting Xu, Thomas P. Russell (University of Mass., Amherst), Kathyrene Guarini, Chuck Black (IBM, York town research center), Craig Hawker (IBM)
- R1.172** Ordering of Hard Rods and Spheres in the Diblock Copolymer
Hongying Cheng, Gavin Buxton, Anna Balazs (Department of Chemical Engineering, University of Pittsburgh, Pittsburgh, PA)

Session S3. DPOLY: Polymer Blend Thermodynamics.

Wednesday afternoon, 14:30, Ballroom C, Austin Convention Center

Chair: Robert Briber, University of Maryland

- 14:30 **S3.001** Explorations in Polymer Blend Miscibility: Making Connections Between Theory and Experiment
J.E.G. Lipson (Department of Chemistry, Dartmouth College)
- 15:06 **S3.002** Combinatorial Phase Separation of Polymer Blends: Surface Energy, Temperature and Film Confinement Effects
Alamgir Karim (Polymers Division, NIST, Gaithersburg, MD 20899)
- 15:42 **S3.003** The Role of Thermodynamics on the Dynamics of Miscible Polymer Blends
Sanat Kumar (Rensselaer Polytechnic Institute)
- 16:18 **S3.004** Does Conventional Nucleation and Growth Occur in Polymer Blends?
Nitash Balsara (University of California, Berkeley)
- 16:54 **S3.005** Nucleation in Polymer Blends
Zhen-Gang Wang (California Institute of Technology)

Session V3. DPOLY: Molecular Aspects of Mechanical Behavior.

Thursday morning, 08:00, Ballroom C, Austin Convention Center

Chair: Kenneth Shull, Northwestern University

- 08:00 **V3.001** Adhesion and deformation of block copolymer blends
Costantino Creton (E.S.P.C.I., Paris, FRANCE)
- 08:36 **V3.002** Dimension Dependent Properties of Macromolecules in Nanoscopic Structures and Their Consequences for Mechanical Stability
Paul Nealey (University of Wisconsin)
- 09:12 **V3.003** Towards toughened nanostructured rigid polymers
Anne-Valerie Ruzette (Soft Matter and Chemistry, UMR 167 CNRS/ESPCI/ATOFINA, ESPCI, France)
- 09:48 **V3.004** Molecular mechanisms of failure in polymer nanocomposites
Dilip Gersappe (Dept of Materials Science and Engg, SUNY at Stony Brook)
- 10:24 **V3.005** Nanomechanics of Soft and Hard Biological Tissues
Christine Ortiz (Massachusetts Institute of Technology)

Session V16. DPOLY: Organic Optoelectronic Devices.

Thursday morning, 08:00, Room 9C, Austin Convention Center

Chair: Mary Galvin, University of Delaware

08:00 V16.001 Organic FET Chemical Sensors with Small Molecule Receptors

Daniel Fine (Micro Electronics Research Center, University of Texas at Austin, Austin, TX 78758), David F. Cuaule (Department of Chemistry and Biochemistry, Organic Division, University of Texas at Austin, Austin, TX 78712), TaeHo Jung, Heinz von Seggern (Micro Electronics Research Center, University of Texas at Austin, Austin, TX 78758), Michael J. Krische (Department of Chemistry and Biochemistry, Organic Division, University of Texas at Austin, Austin, TX 78712), Ananth Dodabalapur (Micro Electronics Research Center, University of Texas at Austin, Austin, TX 78758)

08:12 V16.002 Large Area Printing of Organic Transistors

Graciela B/ Blanchet (Dupont), J.A. Rogers, M. Lefenfeld (Lucent), C.R. Fincher (Dupont), Yueh-Lin Loo (Lucent)

08:24 V16.003 Optical study on conducting polymer-based field effect devices

Youngmin Kim, Fang-Chi Hsu, Nan-Rong Chiou, June Hyoung Park, Oliver Waldmann, Vladimir Prigodin, Arthur J. Epstein (The Ohio State University, Columbus, OH 43210)

08:36 V16.004 Field Effect Transistors Fabricated on the Surface of Organic Single Crystals

Vitaly Podzorov, Sergei Sysoev, Elena Logunova (Physics Department, Rutgers University (NJ)), Vladimir Pudalov (Lebedev Physical Institute (Russia)), Michael Gershenson (Physics Department, Rutgers University (NJ))

08:48 V16.005 Morphology of thin organic films in field effect transistor geometry.

Andre J. Gesquiere, Doo Young Kim (Chemistry and Biochemistry Dept., University of Texas at Austin), Saiful I. Khondaker (Physics dept., University of Texas at Austin), Dan Fine, Ananth Dodabalapur (Dept. of Electrical and Computer Engineering, University of Texas at Austin), Paul F. Barbara (Chemistry and Biochemistry Dept., University of Texas at Austin), Paul F. Barbara Team, Ananth Dodabalapur Team, Saiful I. Khondaker Team

09:00 V16.006 Ion-leverage Device Based on Conducting Polymer

F. C. Hsu, J. H. Park, O. Waldmann, Y. M. Kim, N. R. Chiou, V. N. Prigodin, A. J. Epstein (The Ohio State University)

09:12 V16.007 Low Dielectric Constant Materials from Hollow Fibers and Plant Oil

Chang K. Hong, Richard P. Wool (Dept Chemical Engineering and Center for Composite Materials, University of Delaware, Newark De 19716-3144)

09:24 V16.008 Electron correlation effects on the electron-hole recombination in organic light emitting diodes

Kunj Tandon (GE John F. Welch Technology Center, India), S. Ramasesha (I.I.Sc. Bangalore, India), S. Mazumdar (University of Arizona Physics), OLED Collaboration

09:36 V16.009 Raman Spectroscopic Studies from Organic Light-Emitting Diodes

J.D. Young, J.G. Keeth, S. Guha (Dept. of Physics, Astro. and Mat. Science, Southwest Missouri State University)

09:48 V16.010 Structural and electronic factors in metal tris(8-hydroxyquinoline) chelates: Implications for organic light-emitting devices

Kim F. Ferris, Paul E. Burrows, Linda S. Sapochak, Gregory J. Exarhos (Pacific Northwest National Laboratory)

10:00 V16.011 Random lasing from organic random resonators

Randall Polson, Z.V. Vardeny (University of Utah)

10:12 V16.012 Controlled growth of ultrathin molecular films

Edward Kintzel (Florida State University), Detlef Smilgies (Cornell High Energy Synchrotron Source), James Skofronick, Sanford Safron, David Van Winkle (Florida State University)

10:24 V16.013 Optical spectroscopic studies of polyfluorene under hydrostatic pressure

C.M. Martin (University of Missouri-Columbia), S. Guha (Southwest Missouri State University), M. Chandrasekhar, H.R. Chandrasekhar (University of Missouri-Columbia), R. Guentner, P. Scanducci de Freitas, U. Scherf (Institut für Chemie and Polymerchemie, Universität Potsdam, Germany)

10:36 V16.014 X-ray studies of self-assembled oligosilane films

A.G. Richter (Univ. of Memphis), H. Okumoto, N. Minami (AIST, Tsukuba, Japan)

10:48 V16.015 Contact Printing with Nanoscale Resolution

Yueh-Lin Loo (Chemical Engineering, University of Texas at Austin), John A. Rogers, Julia W.P. Hsu, R.L. Willett (Bell Labs, Lucent Technologies)

Session V17. DPOLY: Block Copolymers II.

Thursday morning, 08:00, Room 10A, Austin Convention Center

Chair: Nily Dan, Drexel University

- 08:00 **V17.001** Baroplastic behavior in the closed-loop phase block copolymer
Du Yeol Ryu, Dong Jun Lee, Jin Kon Kim (Dept. of Chemical Eng. Pohang University of Science and Technology), Kristopher A. Lavery, Thomas P. Russell (Department of Polymer Science and Engineering, U. Massachusetts at Amherst), U. Massachusetts at Amherst Collaboration
- 08:12 **V17.002** Continuous Order-Disorder Transition in Diblock Copolymer melts under High Pressure
Jian Liu (Department of Chemistry, UC-Berkeley), Joon H. Lee, Nitash P. Balsara (Department of Chemical Engineering, UC-Berkeley), Arup K. Chakraborty (Department of Chemistry and Department of Chemical Engineering, UC-Berkeley and Biophysics Division, LBNL)
- 08:24 **V17.003** Pressure processable block copolymers: Baroplastics
Juan Gonzalez, Metin H. Acar, Anne M. Mayes (Massachusetts Institute of Technology)
- 08:36 **V17.004** Effect of spherical fillers on the order-disorder transition in a diblock copolymer system.
Alexander Chervanyov, Anna Balazs (Dept. Chemical Engineering, Pittsburgh University)
- 08:48 **V17.005** Thermoreversible Transition Between L and HPL Structures in a PS-PEP Diblock Copolymer
Yueh-Lin Loo (Chemical Engineering, University of Texas at Austin), Richard A. Register (Chemical Engineering, Princeton University), Anthony J. Ryan (Chemistry, University of Sheffield, UK.)
- 09:00 **V17.006** Is the Gyroid Stable in the Strong-Segregation Limit?
Drew A. Davidock, Marc A. Hillmyer, Timothy P. Lodge (University of Minnesota)
- 09:12 **V17.007** Effect of Chemical Oxidation on the Thermodynamics of Organometallic Block Copolymers
Hany Eitouni (UC Berkeley, LBNL), Hyeok Hahn (UC Berkeley), Nitash Balsara (UC Berkeley, LBNL)
- 09:24 **V17.008** Characterization of the First Non-Cubic, Triply Periodic Morphology in Ordered Block Copolymers
Cordell M. Hardy, III Epps, Eric W. Cochran, Frank S. Bates (Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN 55455)
- 09:36 **V17.009** Supramolecular block copolymers using hydrogen-bonded molecular duplexes as the associating units
Won Kim, Chang Y. Ryu (Chemistry, Rensselaer Polytechnic Institute), Xiaowu Yang, Bing Gong (Chemistry, SUNY at Buffalo)
- 09:48 **V17.010** Stability of the Fddd network in triblock copolymer melts.
Christopher Tyler, David Morse (Chemical Engineering and Materials Science, University of Minnesota)
- 10:00 **V17.011** Effect of nanoscopic particles on self-assembly of thin films of diblock copolymer
Jae Youn Lee, Zhenyu Shou, Anna Balazs (Department of Chemical Engineering, University of Pittsburgh)
- 10:12 **V17.012** An analysis of polymer additives in calcium carbonate investigated by SANS
Hitoshi Endo, Helmut Cölfen (Max-Planck-Institute of Colloids and Interfaces), Dietmar Schwahn (Institute of Solid-State Research, Research Center Jülich)
- 10:24 **V17.013** Phase Transitions in Block Copolymer/Homopolymer Blends under a Simple Shear Flow
Chien-Yueh Huang (New Jersey Institute of Technology, Newark, NJ)

- 10:36 **V17.014** Kinetics of Order-Order Transition of Micelles in Triblock Copolymer Solution in Selective Solvent for the Middle Block
Rama Bansil, Huiifen Nie, Karl Ludwig (Boston University), Milos Steinhart, Cestmir Konak (Institute of Macromolecular Chemistry, Czech Republic)
- 10:48 **V17.015** A Spin Probe Study on Morphologic Transitions in Extended SBS Block Copolymers
Mircea Chipara (Indiana University Cyclotron Facility, Bloomington, IN 47405), Nicoleta Galatanu (CEA/Grenoble, Département de Recherche Fondamentale sur la Matière Condensée, SI3M-Groupe Polymères Conducteurs Ioniques, 17 rue des Martyrs, 38054 Grenoble, France)

Session V18. DPOLY: Blends.

Thursday morning, 08:00, Room 10B, Austin Convention Center

Chair: Rangaramanujam Kannan, Wayne State University

- 08:00 **V18.001** Topography of phase-separated critical and off-critical polymer mixtures
J Cabral, J Higgins (Univ London Imperial Coll Sci & Technol, Dept Chem Engr, London SW7 2BY, England), SN Magonov (Digital Instruments Veeco Metrol Grp, Santa Barbara, CA 93117 USA)
- 08:12 **V18.002** Polymer Molecular Weight and Fluorination Effects on the Phase Behavior of PMMA/8CB Mixtures
Nathan Crawford, Mark Dadmun (University of Tennessee - Knoxville)
- 08:24 **V18.003** Dynamic Heterogeneity in Polymer Blends: Influence of Intermolecular Hydrogen Bonding
Shihai Zhang, Paul Painter, James Runt (Penn State University)
- 08:36 **V18.004** Temperature and composition dependence of dynamics in miscible polymer blends.
Jeffrey C. Haley, Timothy P. Lodge (University of Minnesota), Yiyong He, Mark D. Ediger (University of Wisconsin)
- 08:48 **V18.005** How Does Phase Separation Affect Crystallization Kinetics in a Polymer Blend?
Howard Wang (Department of Materials Science and Engineering, Michigan Technological University, Houghton, MI 49931), A.J. Müller (Universidad Simón Bolívar, Caracas 1080-A, Venezuela), K. Shimizu, Z.G. Wang, C.C. Han (Polymers Division, National Institute of Standards and Technology, Gaithersburg, MD 20899), B.S. Hsiao (Department of Chemistry, State University of New York, Stony Brook, New York 11794)
- 09:00 **V18.006** An NMR Study of Segmental Dynamics in a Blend of Poly(isobutylene) and Head to Head Poly(propylene)
Guoxing Lin, Ernest Krygier, Gatambwa Mukandata, Jessica Mendes, Alan Jones (Carlson School of Chemistry and Biochemistry, Clark University, Worcester, Massachusetts 01610)
- 09:12 **V18.007** Hydrodynamic simulations of ternary mixtures with reaction kinetics.
Kevin Good, Anna Balazs, Olga Kuksenok, Gavin Buxton (Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA, 15261, U.S.A.)
- 09:24 **V18.008** Diffusion-Controlled Interpolymer Radical Reactions in Bulk: Novel Strategy for Model Experiments and Reactive Compatibilization
John Torkelson, Michael Kinsinger, Maisha Gray (Northwestern University, Evanston, IL 60208)
- 09:36 **V18.009** Kinetics of Telechelics Used in Reactive Compatibilization Monitored by Secondary Ion Mass Spectrometry
Charles O'Brien, Mark Dadmun (The University of Tennessee), Peter Todd (Oak Ridge National Laboratory)
- 09:48 **V18.010** In Situ Compatibilization of Polymer Blends via Interpolymer Radical Coupling Leading to Block Copolymer Formation during Solid-State Shear Pulverization (SSSP)
Andrew Lebovitz, John Torkelson (Northwestern University, Evanston, IL 60208-3120)
- 10:00 **V18.011** Organizing Immiscible Polymers with a Balanced Surfactant
Megan Ruegg, Benedict Reynolds, Nitash Balsara (University of California, Berkeley), Timothy D. Shaffer Collaboration, Boualem Hammouda Collaboration
- 10:12 **V18.012** Dielectric Relaxations in Polypropylene-Polyamide Compatibilized Blends
Estrella Laredo, Mario Grimau, Freddy Sánchez, Alfredo Bello (Universidad Simón Bolívar, Caracas, Venezuela), Marian Gómez, Carlos Marco (Instituto de Ciencia y Tecnología de Polímeros, Madrid, Spain)
- 10:24 **V18.013** Thermal Composition Fluctuations and Phase Behavior of an A/B/A-B Homopolymer Blend / Diblock Copolymer Mixture
Vitaliy Pipich, Dietmar Schwahn, Lutz Willner (Institut für Festkörperforschung, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany)

10:36 **V18.014** Behavior of a A / A-C / B Ternary Polymer Blend
Benedict Reynolds, Megan Ruegg, Clayton Radke, Nitash Balsara (UC Berkeley)

10:48 **V18.015** Micellization and Interfacial Adsorption of Block Copolymer in Polymer Blends
K. Chang, D. C. Morse, C. W. Macosko (University of Minnesota)

Session W16. DPOLY: Thin Films.

Thursday morning, 11:15, Room 9C, Austin Convention Center

Chair: Lei Zhu, University of Connecticut

- 11:15 **W16.001** Evolution of Morphology in Thin Films of Poly(butadiene-b-ethylene oxide)
Xiaodong Wu, Zhiqun Lin, Dong Ha Kim, Samuel Gido, Thomas Russell (Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA 01003)
- 11:27 **W16.002** Morphology Evolution of Critical and Off-Critical Thin Polymer Blend Films Undergoing Phase Separation and Wetting
Hyun-joong Chung, Russell J. Composto (Materials Science and Engineering, Laboratory for Research on the Structure of Matter, Univ. of Pennsylvania, Philadelphia, PA 19104-6272), Howard Wang (Materials Science and Engineering, Michigan Technological Univ., Houghton, MI49931)
- 11:39 **W16.003** Swelling Behavior of Ultrathin Polymer Films in Supercritical Ethane
Yuan Ji, Tadanori Koga, Young-soo Seo, Miriam Rafailovich, Jonathan Sokolov (Department of Materials Science and Engineering, SUNY Stony Brook), Sushil Satija (NIST Center for Neutron Research)
- 11:51 **W16.004** Density-Fluctuation-Induced Swelling and Dynamics of Polymer Thin Films in Supercritical Carbon Dioxide
Tadanori Koga, Miriam Rafailovich, Jonathan Sokolov (Dept of Mat. Sci. & Eng., SUNY at Stony Brook), Benjamin Chu (Dept of Chem., SUNY at Stony Brook), Sushil Satija (Center for Neutron Research, NIST)
- 12:03 **W16.005** Co-solvent Effect of Supercritical Carbon Dioxide for Immiscible Polymer Interfaces
John Jerome, Tadanori Koga, Young-soo Seo, Miriam Rafailovich, Jonathan Sokolov (Dept of Mat. Sci. & Eng. SUNY at Stony Brook), (Affiliation), Sushil Satija (Center for Neutron Research, NIST)
- 12:15 **W16.006** Surface roughness of supported PS films above the glass transition
Laurence Lurio (Department of Physics, Northern Illinois University), Hyunjung Kim (Department of Physics, Sogang University), Adrian Ruhm (Max-Planck-Institut fuer Metallforschung), Joydeep Basu, Jyotsana Lal (Argonne National Laboratory), Sunil Sinha (Department of Physics, University of California San Diego), Simon Mochrie (Department of Physics, Yale University)
- 12:27 **W16.007** Morphological Transitions in Thin Films of Spinodal Decomposition
Xiaorong Wang (Bridgestone/Firestone Research Center, Akron, Ohio 44317)
- 12:39 **W16.008** Molecular layering of polydimethylsiloxane confined between hard walls
Hyeonjae Kim, Mark D. Foster (Maurice Morton Institute of Polymer Science, U. Akron, Akron, OH 44325), Hyunjung Kim, Oliver H. Seeck, Sunil K. Sinha (Advanced Photon Source, Argonne Nat'l Lab, Experimental Facilities Div., 9700 So. Cass Avenue, Argonne, IL 60439), Joydeep K. Basu (Materials Research Lab, U. Illinois, Urbana-Champaign, IL 61801), Michael S. Kent (Sandia Nat'l Labs, Dept 1851, POB 5800, Albuquerque, NM 87185)
- 12:51 **W16.009** Spontaneous Curvature of Polymer Brushes
Sergei Sheiko, Marcelo Da Silva, David Shirvanyants, Carlos Rodrigues (University of North Carolina), Kathryn Beers (NIST), Krzysztof Matyjaszewski (Carnegie Mellon University), Igor Potemkin (Moscow State University), Martin Moeller (Institut fuer Makromolekulare Chemie, RWTH Aachen)
- 13:03 **W16.010** Structural Analysis of Multilayer Thin Films Prepared by Dip/Spin Self-Assembly Methods
Kookheon Char, Hiesang Sohn, Sangcheol Kim, Jinhan Cho (School of Chemical Engineering, Seoul National University)
- 13:15 **W16.011** Charge Inversion and Layer-by-Layer Film Formation in Macroion Thin Films
Nily Dan (Department of Chemical Engineering, Drexel University)

- 13:27 **W16.012** The effect of strain rate on the deformation zone in thin polystyrene films
Lun Si (Department of Materials Science & Engineering, McMaster University, Hamilton, ON, Canada), Michael V. Massa, Kari Dalnoki-Veress (Department of Physics & Astronomy and Brockhouse Institute for Materials Research, McMaster University, Hamilton, ON, Canada)
- 13:39 **W16.013** Effect of Shear on the Diffusion of Individual Molecules in Confined Fluids
Ashis Mukhopadhyay, Jiang Zhao, Steve Granick (University of Illinois-Urbana Champaign)
- 13:51 **W16.014** Ultrafast Electromechanical Response in Non-Gibbs Thin Film of Polymers
Gaurav Singh, Vivek Maheshwari, Ravi F. Saraf (Dept. of Chemical Engineering, Virginia Tech, Blacksburg VA24061)
- 14:03 **W16.015** The Effects of Confinement of Thin Spin Cast Films of Perfluorinated Ionomers
Dvora Perahia, Teresa Hill (Chemistry Department, Clemson University, Clemson, Sc 2934-0973)

Session W17. DPOLY/DBP: Focus Session: Biopolymer and Biomimetic Structures.

Thursday morning, 11:15, Room 10A, Austin Convention Center

Chair: Mathias Loesche, John Hopkin University

- 11:15 **W17.001** Rheology and Microstructure of Cytoplasmic Extracts
M.T. Valentine (Dept. of Physics, Harvard University), Z. Perlman, T.J. Mitchison (Dept. of Cell Biology, Harvard Medical School), D.A. Weitz (Dept. of Physics, & DEAS Harvard University)
- 11:27 **W17.002** Self-Porating Copolymer Vesicles
Dennis Discher (Univ. Pennsylvania), Frank S. Bates, & Fariyal Ahmed Collaboration
- 11:39 **W17.003** Physical Properties of the Glycoprotein Mucin
Garrett Mathews, William Davis, Richard Superfine, Richard Boucher (UNC - Chapel Hill)
- 11:51 **W17.004** Dynamics of Binary Glasses and Relationship to Protein Preservation
Marcus Cicerone, Jan Obrzut, Oleksiy Anopchenko, Christopher Soles (National Institute of Standards and Technology)
- 12:03 **W17.005** Correlation and cross-linking effects in imprinting sites for divalent adsorption in gels
Kimani Stancil, Michael Feld, Mehran Kardar (Department of Physics and the George R. Harrison Spectroscopy Laboratory, Massachusetts Institute of Technology)
- 12:15 **W17.006** Domain Unfolding in Neurofilament Sidearms: Effects of Phosphorylation and ATP
Helim Aranda-Espinoza, Paul Janmey, Dennis Discher (Institute for Medicine and Engineering, University of Pennsylvania), Jean-Francois Leterrier (UMR 6558 CNRS, Poitiers, France)
- 12:27 **W17.007** Controlled protein adsorption using surface-patterned microhydrogels
Peter Krsko, Svetlana Sukhishvili, Matthew Libera (Stevens Institute of Technology)
- 12:39 **W17.008** Using High Resolution Force Spectroscopy to Study Haemocompatibility
Monica Rixman, Celia Macias ((1)), Delphine Dean ((2)), Christine Ortiz ((1), (1):Dept. of Mat. Sci. and Eng., (2):Dept. of Elec. Eng. and Comp. Sci.; Massachusetts Institute of Technology, Cambridge, MA)
- 12:51 **W17.009** Reading the sequence of HP model proteins
Namkyung Lee, Thomas Vilgis (Max-Planck Institute for Polymer Research), MPI-P Collaboration
- 13:03 **W17.010** Ultrastructure And Nanomechanics Of Biological Tissues : Cartilage And Bone
Laurel Ng, Kuangshin Tai (Massachusetts Institute of Technology), Anna Plaas (University of South Florida), Alan Grodzinsky, Christine Ortiz (Massachusetts Institute of Technology)
- 13:15 **W17.011** Enhanced cellular transport and drug targeting using dendritic nanostructures
R. M. Kannan, Parag Kolhe (Chemical Engineering and Materials Science, Wayne State University, Detroit, MI), Sujatha Kannan, Mary Lieh-lai (Children's Hospital of Michigan, Detroit, MI)
- 13:27 **W17.012** Single molecule visualization of stiffness- and curvature-tunable worm micelles with applications for micro and nano delivery
Paul Dalhaimer (University of Pennsylvania), Frank Bates (University of Minnesota), Dennis Discher (University of Pennsylvania), NSF-MRSEC Collaboration
- 13:39 **W17.013** Probing the nanostructure of bioerodible polyanhydrides with solid-state NMR
Matt Kipper (Department of Chemical Engineering, Iowa State University), Sheng-shu Hou, Klaus Schmidt-Rohr (Department of Chemistry, Iowa State University), Balaji Narasimhan (Department of Chemical Engineering, Iowa State University)

- 13:51 **W17.014** Thin film of biocompatible polysaccharides
Ludovic RICHERT, Philippe LAVALLE (INSERM U424), Pierre SCHAAF (Institut Charles Sadron and ECPM), Jean-Claude VOEGEL (INSERM U424), Catherine PICART (INSERM U424 and ECPM), INSERM U424 Team, Institut Charles Sadron Team, ECPM Team
- 14:03 **W17.015** The Effect of Terminal Hydroxyl Groups on the Self-Assembly of PEO in Water
Elena E. Dormidontova (Department of Macromolecular Science and Engineering, Case Western Reserve University, Cleveland, OH 44106)

Session W18. DPOLY/DCOMP: Focus Session: Multiscale Modeling of Polymer Systems.

Thursday morning, 11:15, Room 10B, Austin Convention Center

Chair: Jack Douglas, NIST

- 11:15 [W18.001 Linking Atomistic and Mesoscale Simulations of Water Soluble Polymers](#)
Janette Jones (Unilever Research and Development)
- 11:51 [W18.002 M3B: A coarse grain model for the simulation of oligosaccharides and their water mixtures.](#)
William A. Goddard (MSC - California Institute of Technology (Caltech)), Tahir Cagin, Valeria Molinero (MSC - Caltech)
- 12:03 [W18.003 First-principles simulations of thiophene oligomers](#)
Damian Scherlis, Nicola Marzari (DMSE, MIT), Ian Hunter Collaboration, Tim Swager Collaboration
- 12:15 [W18.004 Pyro- and piezoelectric properties of polar polymers from the first principles](#)
Serge Nakhmanson (Dep-t of Physics, NC State University, Raleigh, NC 27695), Marco Buongiorno Nardelli, Jerry Bernholc (Dep-t of Physics, NC State University, Raleigh, NC 27695 and Oak Ridge National Laboratory, Oak Ridge, TN 37830)
- 12:27 [W18.005 Automatic Self-Consistent Multiscale Modeling for Polymer Melts](#)
Roland Faller (University of California-Davis)
- 12:39 [W18.006 Phase behavior of random copolymers](#)
Marcus Mueller (Institut fuer Physik, WA331, Johannes Gutenberg Universitaet, D55099, Mainz, Germany), Jerome Houdayer (Service de Physique Theorique, Bat 774, Ormes des Merisiers, F-91191 Gif sur Yvette, Cedex, France)
- 12:51 [W18.007 Monte Carlo Simulation Investigating Threading of Poly\(ethylene oxide\) in the Melt](#)
Carin Helfer, Guoqiang Xu, Wayne Mattice, Coleen Pugh (University of Akron)
- 13:03 [W18.008 3-Dimensional Lattice Modeling of the Amorphous Interlamellar Region in Dense Semi-Crystalline Polymers](#)
Stevan Wilson, Joydeep Mukherjee, Antony Beris (University of Delaware)
- 13:15 [W18.009 Stochastic Integration of Epitaxial Systems](#)
Alvin Chua, Dimitri Vvedensky (Imperial College London)
- 13:27 [W18.010 Coarse Grained Modeling of Polyimides](#)
Thomas Clancy (NASA-Langley Research Center)
- 13:39 [W18.011 Monte Carlo Simulation of Ternary Polymer Systems](#)
Erik Luijten, Lei Guo (Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801)

Session X16. DMP/DPOLY: Focus Session: Organic Devices and Transport.

Thursday afternoon, 14:30, Room 9C, Austin Convention Center

Chair: C. Daniel Frisbie, University of Minnesota

- 14:30 [X16.001 Performance and Stability of Organic Thin-Film Field-Effect Transistors Based on Pentacene Channels](#)
Christos Dimitrakopoulos (IBM Research, T. J. Watson Research Center, Yorktown Heights, NY.)
- 15:06 [X16.002 Fabrication and IV characteristics of PEDOT-PSS based field effect devices and their applications to electric circuits](#)
J.H. Park, O. Waldmann, F.C. Hsu, N.R. Chiou, V.N. Prigodin, Y. Kim, A.J. Epstein (The Ohio State University, Columbus, Ohio 43210-1106)
- 15:18 [X16.003 Gated Nonlinear Transport in Organic Polymer Field Effect Transistors](#)
Behrang Hamadani, Douglas Natelson (Department of Physics and Astronomy, Rice University)
- 15:30 [X16.004 Characterization of 50 nm channel length polythiophene transistors](#)
Liang Wang (Microelectronics Research Center, University of Texas at Austin, Austin, TX 78758), Saiful Khondaker (Department of Physics, University of Texas at Austin, Austin, TX 78712), Heinz Seggern (Inst. of Materials Science, Technical University of Darmstadt, D-64287 Darmstadt, Germany), Taeho Jung (Microelectronics Research Center, University of Texas at Austin, Austin, TX 78758), Zhen Yao (Department of Physics, University of Texas at Austin, Austin, TX 78712), Zhenan Bao (Affiliation), Ananth Dodabalapur (Microelectronics Research Center, University of Texas at Austin, Austin, TX 78758)
- 15:42 [X16.005 Nano-Scale Organic Field Effect Transistor](#)
Zhiwei Liu, Ken K. Chin (Department of Physics, New Jersey Institute of Technology), Zhenan Bao (Bell Laboratories, Lucent Technologies), Jie Zheng (Department of Chemistry, Georgia Institute of Technology)
- 15:54 [X16.006 Electric force microscopy of pentacene thin film devices](#)
Erik M. Muller, William Silveira, Brian To, John A. Marohn (Cornell University)
- 16:06 [X16.007 Coherent Phonon-Assisted Charge Transport in Pentacene Crystals](#)
Mark Lee, Christian Kloc (Bell Laboratories), Misha Turlakov, Peter Littlewood (Cambridge University)
- 16:18 [X16.008 Electrical Injection from Magnetic Contacts into Conjugated Organic Materials](#)
Brian K. Crone (Los Alamos National Laboratory, Los Alamos New Mexico), Quanxi Jia, Ian H. Campbell, Darryl L. Smith
- 16:30 [X16.009 Graded n- and p-doping of multilayer OLEDs by strong organic Donor and Acceptor Molecules](#)
Christopher Donald Williams, Sergey Lee, Andrew Washington, John Ferraris, Anvar Zakhidov (NanoTech, Univ.of Texas at Dallas, P.O. Box 830688, M/S: BE26, Richardson, TX 75083), UTD Nanotech Team
- 16:42 [X16.010 Theoretical basis for enhanced electro-luminescent efficiency in organic LEDs.](#)
Eric Bittner, Stoyan Karabunarliev (University of Houston)
- 16:54 [X16.011 Modelling of the dynamics in an excited PPV/C₆₀](#)
Sven Stafström, Åsa Johansson (Linköping University), Computational Physics Team
- 17:06 [X16.012 Self-assembled Diode with Memory from Protein and Nanoparticles](#)
Vivek Maheshwari, Vivek Shivakumara (Affiliation), Ravi F. Saraf (Department of Chemical Engineering, Virginia Tech, Blacksburg, VA 24061)

Session X17. DPOLY: Charged Polymers-I.

Thursday afternoon, 14:30, Room 10A, Austin Convention Center

Thomas Seery, University of Connecticut

- 14:30 **X17.001** Pearl size of hydrophobic polyelectrolytes
Claudine E. Williams, Damien Baigl (Collège de France, CNRS UMR 7125, Paris, France), Michele Sferrazza (Univ. of Surrey, Guildford, UK)
- 14:42 **X17.002** Aggregation of Like-Charged Macroions: Formation of Finite Size Bundles
Mark L. Henle, Philip A. Pincus (University of California, Santa Barbara)
- 14:54 **X17.003** How Multivalent Must An Ion Be Before It Can Generate Like-Charge Polyelectrolyte Attraction?
John C. Butler (Materials Science & Engineering Dept.), Thomas Angelini (Physics Dept.), Hongjun Liang (Materials Science & Engineering Dept.), Gerard C.L. Wong (Materials Science & Engineering Dept., Physics Dept., Bioengineering Dept., University of Illinois at Urbana-Champaign)
- 15:06 **X17.004** Manning Counterion Condensation and Evaporation
Qingbo Yang, Ben O'Shaughnessy (Columbia University)
- 15:18 **X17.005** Effect of Counterion Fluctuations in a Polyelectrolyte Brush
C.D. Santangelo (University of California, Santa Barbara, CA), A.W.C. Lau (University of Pennsylvania, Philadelphia, PA)
- 15:30 **X17.006** Effect of Short-Range Interactions on Polyelectrolyte Adsorption at Charged Surfaces
Andrey Dobrynin (Polymer Program, Institute of Materials Science and Department of Physics, University of Connecticut, Storrs, CT 06269), Michael Rubinstein (Department of Chemistry, University of North Carolina, Chapel Hill, NC 27599)
- 15:42 **X17.007** Complexes of polyelectrolyte, surfactant, co-surfactant, and oil: A new type of microemulsion.
Waiken Wong, Helmut Strey (UMass Dept. of Polymer Science and Engineering, Amherst, MA, 01003)
- 15:54 **X17.008** On the structure of polyelectrolyte solutions at large Bjerrum lengths
J. P. Donley (The Boeing Company), D. R. Heine (Sandia National Laboratories), D. T. Wu (Colorado School of Mines)
- 16:06 **X17.009** Charge Inversion of a Weakly Charged Macroion in Sphere/Rod Shapes: Effects of Anions, Salt, and Polymer Cations
Motohiko Tanaka (National Institute for Fusion Science, Toki 509-5292, Japan), Alexander Yu. Grosberg (Physics Department, University of Minnesota, Minneapolis, MN55455)
- 16:18 **X17.010** Polyelectrolyte Self-diffusion: Fluorescence Recovery After Photobleaching of Sodium Poly(styrenesulfonate) in N-methyl Formamide
Thomas Seery (University of Connecticut), Amit Sehgal (NIST)
- 16:30 **X17.011** Small molecule templating of polyelectrolyte multilayers to enhance absorption
Solar Olugebefola, Anne Mayes, Michael Rubner (Massachusetts Institute of Technology), Department of Materials Science and Engineering Collaboration
- 16:42 **X17.012** Monte Carlo Simulations of solutions of rod-like charged chains
Min Sun Yeom, Monica Olvera de la Cruz (Dept. of Mats. Science and Engineering, Northwestern University)
- 16:54 **X17.013** Polyelectrolyte Chain Dimensions and Concentration Fluctuations near Phase Boundaries
V.M. Prabhu, M. Muthukumar (Department of Polymer Science and Engineering, Materials Research Science and Engineering Center, University of Massachusetts, Amherst, MA 01003.), G.D. Wignall, Y.B. Melnichenko (Condense Matter Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831-6393)
- 17:06 **X17.014** Integral Equation Theory for Counterion Interactions in Associating Polymer Melts
Jared Bushey, Kathleen Kolbet (Lebanon Valley College)
- 17:18 **X17.015** Phase Transitions in Stoichiometric Polyelectrolyte - Surfactant Complexes
Michael Leonard, Helmut Strey (Department of Polymer Science and Engineering, University of Massachusetts at Amherst)

Session X18. DPOLY: Focus Session: Molecular Aspects of Polymer Mechanical Behavior.

Thursday afternoon, 14:30, Room 10B, Austin Convention Center

Chair: Dilip Gersappe, SUNY Stonybrook

- 14:30 **X18.001** Temperature Dependence of Polyethylene Elastic Moduli using Molecular Simulations
Pieter in 't Veld, Gregory Rutledge (Dept. of Chem E, MIT)
- 14:42 **X18.002** Probing the Molecular Mechanisms of the Fracture of Semicrystalline Polyethylene
J. J. Benkoski (University of California, Santa Barbara), P. Flores (California Polytechnic State University), E. J. Kramer (University of California, Santa Barbara)
- 14:54 **X18.003** Ductile Fracture Criteria of Biaxially Oriented Polystyrene Films
C.C. Chau (The Dow Chemical Company), J.C.M. Li (The University of Rochester)
- 15:06 **X18.004** Fracture Simulation of Highly Crosslinked Polymer Networks: Triglyceride-Based Adhesives
Christian Lorenz, Mark Stevens (Sandia National Labs), Richard Wool (U. Delaware)
- 15:18 **X18.005** Effect of the Degree of Cross-linking and Crosslinker Functionality on the Mechanical Behavior of Cross-link d Polymers: A Molecular Dynamics Study
Mesfin Tsige, Chris Lorenz, Mark Stevens (Sandia National Labs.)
- 15:30 **X18.006** Fracture of Polymers and Interfaces: A Universal Molecular Approach
Richard Wool (Dept Chemical Engineering, University of Delaware, Newark DE 19716-3144)
- 15:42 **X18.007** Deformation of fluctuating chiral ribbons
Sergey Panyukov (P.N. Lebedev Physics Institute, Moscow, Russia), RYitzhak Rabin Collaboration
- 15:54 **X18.008** Nanometer scale deformation induced by simultaneous exposure of polymer surfaces to solvents and mechanical stress using an atomic force microscope
Ryan Leach, Forrest Stevens, Tom Dickinson (Washington State University)
- 16:06 **X18.009** Studies of Polymer Adhesion Using the Quartz Crystal Microbalance
F. Nelson Nunalee, Kenneth R. Shull, Cynthia Flanigan (Northwestern University)
- 16:18 **X18.010** Contact Mechanics Studies of Monolayer Interactions
Rachel L. McSwain, Kenneth R. Shull, SonBinh T. Nguyen, Hongying Zhou (Northwestern University)
- 16:30 **X18.011** Maximizing adhesion at a solid-elastomer interface
Kiriaki Chrissopoulou, Caroline Tardivat, Liliane Leger (Laboratoire de Physique de la Matière Condensée, URA CNRS 792, Collège de France, 11 Place Marcelin Berthelot, 75231 Paris Cedex 05, France)
- 16:42 **X18.012** Rate and Temperature Dependence of Adhesion Measured by JKR Method: Synthetically Modified Acrylic Pressure Sensitive Adhesives
Yev Garif, William Gerberich, Christopher Macosko (University of Minnesota), Alphonsus Pocius (3M Company)
- 16:54 **X18.013** Polymer-Solid Adhesion Dependence on Sticker Groups in a Bio-Based PSA
Shana P Bunker, Richard P. Wool (Chhemical Engineering, University of Delaware, Newark DE 19716-3144)
- 17:06 **X18.014** The Effects of Geometric Confinement on the Adhesive Debonding of Soft Elastic Solids
Rebecca Webber, Kenneth Shull (Northwestern University)
- 17:18 **X18.015** Experimental Studies of Adhesion of a Highly Swollen Gel
Phillip Cole, John Emerson (Sandia National Laboratories), J.L. Lenhart Collaboration, Y.Y. Lin Collaboration, C.Y. Hui Collaboration, J.T. Koberstein Collaboration, D.A. Schneider Collaboration, J.L. Schroeder Collaboration

Session X35. DPOLY: Dynamics and Glass Transitions.

Thursday afternoon, 14:30, Room 9B, Austin Convention Center

Chair: Francis W. Starr, NIST

- 14:30 X35.001 Effect of Composition Heterogeneity on the Calorimetric Glass Transition in Polymer/Solvent and Solvent/Solvent Mixtures
Timothy P. Lodge, Daniel A. Savin, Anne M. Larson (University of Minnesota)
- 14:42 X35.002 Entropy and the Length-scale of Dynamic Heterogeneity in Glass-Forming Systems
Sudesh Kamath, Ralph. H Colby (Penn State University), Sanat. K Kumar (Rensselaer Polytechnic Institute)
- 14:54 X35.003 Using Effective Hard Sphere Mappings to Examine the Glass Transition in Polymers
Joanne Budzien, John D. McCoy (New Mexico Institute of Mining and Technology), Douglas B. Adolf (Sandia National Laboratories)
- 15:06 X35.004 Glass transition of small polystyrene spheres with comparisons to free-standing films
M.D. Ediger (Department of Chemistry, University of Wisconsin-Madison, Madison, WI), Takashi Sasaki, Atsushi Shimizu (Department of Materials Science & Engineering, Fukui University, Fukui 910 8507, JAPAN)
- 15:18 X35.005 Ellipsometric and Dielectric Studies of the Relaxation Behavior in Ultrathin Films of Isotactic PMMA
J.A. Forrest, J.S. Sharp (Department of Physics, University of Waterloo, Waterloo, ON, N2L 3G1, Canada)
- 15:30 X35.006 A mesoscale model for predicting super-Arrhenian behavior in glasses
James Caruthers, Ritwik Bhatia, Grigori Medvedev (Purdue University)
- 15:42 X35.007 Probing the Influence of Interfaces on T_g in Polymer Films: Novel Fluorescence Approaches
Christopher J. Ellison, John M. Torkelson (Northwestern University, Evanston, IL 60208-3120)
- 15:54 X35.008 Dynamics of Glassy Ultra Thin Polymer films
Jean Harry Xavier, Jonathan Sokolov, Miriam Rafailovich (Stony Brook University)
- 16:06 X35.009 Highly non-equilibrium states in thin polymer films
Christopher Soles, Jack Douglas, Wen-Li Wu (NIST Polymers Division)
- 16:18 X35.010 Physical Basis of Fragility
J.T. Bendler, J.J. Fontanella (Physics Department, United States Naval Academy, Annapolis, MD 21402-5026, USA), M.F. Shlesinger (Physical Sciences Division, Office of Naval Research, 800 N. Quincy St., Arlington, VA 22217)
- 16:30 X35.011 Prediction of Enthalpy Relaxation in Glassy Polymers using Stochastic Model
Grigori Medvedev, James Caruthers (Purdue University)
- 16:42 X35.012 Direct Measurement of Molecular Mobility in Nanometer-Thick Films
Jerr Turner (Department of Chemistry, University of Illinois), Sung Chul Bae, Ashis Mukhopadhyay (Department of Materials Science, University of Illinois), Steve Granick (Departments of Materials Science, of Chemistry, of Chemical Engineering, and of Physics, University of Illinois)
- 16:54 X35.013 Molecular Simulation of Cavity Size Distributions and Diffusivity in Ultrahigh Free Volume Glassy Polymers
Xiao-Yan Wang, Isaac C. Sanchez, Benny D Freeman (Department of Chemical Engineering, University of Texas at Austin, Austin, Texas, TX 78712, USA)
- 17:06 X35.014 Nano scale Probing of time dependent polarization noise in glassy polymer near the glass transition temperature.
Koneswaran Sinnathamby, Nathan Israeloff (Department of Physics, Northeastern University, Boston)
- 17:18 X35.015 Relaxation Dynamics of Highly Aligned Polystyrene and Related Polymers
Z. Yang, Fengchao Xie (Dept. of Physics, HKUST), O.K.C. Tsui, Polymer Collaboration

Session Y3. DPOLY: Charged Polymers - II.

Friday morning, 08:00, Ballroom C, Austin Convention Center

Chair: Andrey Dobrynin, University of Connecticut

- 08:00 Y3.001 The Effect of Cations on the Morphology of Ionomers
Karen I. Winey (Materials Science and Engineering, University of Pennsylvania)
- 08:36 Y3.002 Control of Sizes and Interfaces in Block Copolymer Vesicles
Adi Eisenberg (McGill University)
- 09:12 Y3.003 Polyelectrolyte Solutions: Gelation and Segregation
Monica Olvera de la Cruz (Department of Materials Science and Engineering, Northwestern University, Evanston IL 60208)
- 09:48 Y3.004 pH-Triggered Reversible Swelling Transitions and Nanoporosity in Polyelectrolyte Multilayers
Michael Rubner (Department of Materials Science and Engineering, MIT)
- 10:24 Y3.005 Scaling Theories and Computer Simulations of Polyelectrolyte Solutions
Michael Rubinstein (Department of Chemistry, University of North Carolina, Chapel Hill, NC 27599-3290)

Session Y16. DMP/DPOLY: Focus Session: Transport Phenomena in Organic Materials.

Friday morning, 08:00, Room 9C, Austin Convention Center

Chair: C. Daniel Frisbie, University of Minnesota

- 08:00 **Y16.001** Correlations between Structure Instabilities, Charge and Spin in Nano-Cell Organics.
M. Jaime, G. Jorge, K.H. Kim, X. Chi (LANL), M.E. Ikis, S. Mandal, R.C. Haddon (UC Riverside), B.L. Zink, F. Hellman (UC San Diego)
- 08:12 **Y16.002** Bistability in magnetic, optical and electrical response of a phenalenyl-based neutral radical molecular conductor
M. E. ITKIS, X. CHI, R.C. HADDON (Center for Nanoscale Science and Engineering, University of California, Riverside, CA)
- 08:24 **Y16.003** Charge transport in columnar arrays of self-organizing molecular dendrons
Kenneth Singer, Irina Shiyankovskaya (Case Western Reserve University), Virgil Percec, Martin Glodde (University of Pennsylvania)
- 08:36 **Y16.004** Observation of optic and electric field effects in a new nanoscopic dendrimer
Nasir Basit, Wiley Kirk, Meng Tao, Kevin Clark, Fredrick MacDonnell, Kelly Wouters (University of Texas at Arlington)
- 08:48 **Y16.005** High sensitivity electric force microscopy (EFM) for organic polymer thin-films
William R. Silveira, Erik Muller, Neil Jenkins, Brian To, John A. Marohn (Cornell University)
- 09:00 **Y16.006** Nano- and Mesoscopic Soft Condensed Matter Architectures on Semiconductor Surfaces
Vladimir Samuilov, Young-Soo Seo (Department of Materials Science, SUNY at Stony Brook, Stony Brook, NY), Vitaly Ksenevich (Department of Physics, State University of Belarus, 220080, Minsk, Belarus), Jean Galibert (Laboratoire National des Champs Magnétiques Pulsés, F-31432 Toulouse CEDEX 4, France), John Sokolov, Miriam Rafailovich (Department of Materials Science, SUNY at Stony Brook, Stony Brook, NY)
- 09:12 **Y16.007** Analysis of trap distribution for smectic liquid crystals using time of flight spectroscopy
Akira Ohno, Jun-ichi Hanna (Tokyo Institute of Technology), David Dunlap (University of New Mexico)
- 09:24 **Y16.008** Electrical Conductivity in the Nonconjugated Polymer Styrene-Butadiene-Rubber (SBR)
Jitto Titus, Sanchit Khataavkar, Mrinal Thakur (Photonic Materials Research Laboratory, Auburn University, AL)
- 09:36 **Y16.009** Vibrational Microscopy/Spectroscopy and STM-Manipulation of Single Sexi-Phenyl Molecules.
Saw-Wai Hla (Nanoscale & Quantum Phenomena Institute, Physics & Astronomy Dept., Ohio University, Athens, OH 45701, USA), Kai-Felix Braun, Karl-Heinz Rieder (Institut fuer Experimental Physik, Arnimallee 14, Freie Universitaet Berlin, D-14195 Berlin, Germany.)
- 09:48 **Y16.010** Polarized Luminescence from Highly Oriented Mono-layers of Fully Conjugated Heterocyclic Aromatic Rigid-rod Polymer PBO
S. J. Bai, C. C. Wu, H. Y. Cheng (Institute of Materials Science and Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan), P. Y. Tsay (Department of Chemistry, Chung-Yuan Christian University, Chung-Li, Taiwan)
- 10:00 **Y16.011** Light Emitting Heterojunctions Based on Fully Conjugated Heterocyclic Aromatic Rigid-rod Polymer PBT
S. J. Bai, C. C. Wu, H. Y. Cheng (Institute of Materials Science and Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan), W. Wang (Department of Hydraulic and Ocean Engineering, National Cheng-Kung University, Tainan, Taiwan)
- 10:12 **Y16.012** Designing π -conjugated polymers with emission in the IR
Sumit Mazumdar, Sargis Dallakyan (U. Arizona), Michael Chandross (Sandia Nat'l Labs, NM)

- 10:24 **Y16.013** The Effects of Structural Disorder on the Threshold Field for Exciton Quenching in Poly (Phenylene Vinylene)
Daniel Moses (University of California), Roland Schmechel (Technische Universität-Damstadt), Cesare Soci (University of Pavia), Alan Heeger (University of California)
- 10:36 **Y16.014** Photovoltaic Properties of Star Polymer and Fullerene Blends
J. B. Ferguson (Air Force Research Laboratory), B. E. Taylor (University of Dayton Research Institute), F. Wang (EIC Laboratories, Inc.)
- 10:48 **Y16.015** Measurements of the transient photoconductivity of single crystals of pentacene
Chris Weber, Matthew Langner, Joseph Orenstein, Tuyen Le, Vivek Subramanian (University of California, Berkeley), Vladimir Butko, Arthur Ramirez (Los Alamos National Laboratory)

Session Y17. DPOLY: Surface Structure, Chain Dynamics and Phase Transitions.

Friday morning, 08:00, Room 10A, Austin Convention Center

Chair: Azar Alizadeh, GE Corporate R&D

- 08:00 **Y17.001** Surface Molecular Structure Determination of Lithium Salt of 10, 12-Nonacosadiynoic Acid Monomer and Polymer Langmuir-Blodgett Films by Scanning Force Microscopy Compared to Electron Diffraction Results
Jerome B. Lando, Scott C. Tseng (Department of Macromolecular Science, CWRU), Jr. Mann (Department of Chemical Engineering, Case Western Reserve University, Cleveland OH 44106), Polymer Molecular Devices Laboratory Collaboration
- 08:12 **Y17.002** Surface Structure of Asymmetric Perfluorinated Block Copolymers
Hideaki Yokoyama (National Institute of Advanced Industrial Science and Technology), Keiji Tanaka, Atsushi Takahara, Tisato Kajiyama (Kyushu University), Kenji Sugiyama, Akira Hirao (Tokyo Institute of Technology)
- 08:24 **Y17.003** Structural Investigation of Monolayers Prepared by Deposition of (CH₃S)₂ on the (111) Face of Single-Crystal Gold
Mehmet Danisman (Princeton University, Chemistry Department, Princeton, NJ), Loredana Casalis (Sincrotrone Trieste, Trieste, Italy), Gianangelo Bracco (INFN and Department of Physics, University of Genova, Italy), Giacinto Scoles (Princeton University, Chemistry Department, Princeton, NJ)
- 08:36 **Y17.004** Surface Composition in Mixtures of Two Monodisperse Polystyrenes with Different Molecular Weights
Keiji Tanaka, Atsushi Takahara, Tisato Kajiyama (Department of Applied Chemistry, Kyushu University), Seiji Tasaki (Research Reactor Institute, Kyoto University)
- 08:48 **Y17.005** Counterion Surface Segregation in Ionomer Thin Films: Effect of Counterion Type and Acid Content
Russel Walters, Andreas Taubert, Brian Kirkmeyer, Karen Winey, Russell Composto (University of Pennsylvania), Joon-Seop Kim (Chosun University)
- 09:00 **Y17.006** Design and Interfacial Activity of Random-Blocky Copolymers with Controlled Sequence Distributions
James J. Semler, Jan Genzer (NC State University)
- 09:12 **Y17.007** Dynamic Heterogeneity and Structural Relaxation of a Polymer Melt at an Attractive Interface
Grant Smith, Dmitry Bedrov (University of Utah)
- 09:24 **Y17.008** NEXAFS Study of Chain Dynamics at Polymer Surface
Wen-Li Wu, Daniel A. Fischer, Polymers Division Team, Brookhaven National Laboratory Team
- 09:36 **Y17.009** Relaxation of a Rubbed Polystyrene Surface
Alexander Schwab, Ali Dhinojwala (The University of Akron)
- 09:48 **Y17.010** The Effect of Surfaces on the Glass Transition Temperature of Thin Polystyrene Films
J.S. Sharp, J.A. Forrest (Department of Physics, University of Waterloo, Waterloo, ON, N2L 3G1, Canada)
- 10:00 **Y17.011** Observation of Novel Liquid Crystalline Phase above the Bulk Melting Temperature
Keshav Gautam, Ali Dhinojwala (The University of Akron), Satyendra Kumar (Kent State University), Didier Wermeille (Iowa State University), Doug Robinson (Argonne National Laboratory)
- 10:12 **Y17.012** Configuration of a polymer chain in bulk and close to surfaces near the coil-to-globule transition
Anastassia N. Rissanou (Affiliation), Ioannis A. Bitsanis, Spiros H. Anastasiadis (Foundation for Research and Technology - Hellas and University of Crete, Heraklion Crete, Greece)
- 10:24 **Y17.013** PNIPAM grafted chains at the silicon/water interface: temperature-dependent conformational changes by neutron reflection
Michael Kent, Hyun Yim (Sandia National Labs, Albuquerque, NM), Sergio Mendez, S. S. Balamurugan, S. Balamurugan, Gabriel Lopez (University of New Mexico, Albuquerque, NM), Sushil Satija (National Institutes of Standards and Technology, Gaithersburg, Md)

10:36 **Y17.014** Responsive Surface Finishing of Textiles using Smart Polymers
Karthik Ramaratnam, Qinguo Fan (University of Massachusetts Dartmouth), Samuel C. Ugbolue

10:48 **Y17.015** Microstructure of polymer "nano-particle" from small angle neutron scattering
Pradeep Bhat, Ingrid Stepanek, Jong H. Han, Matteo Pasquali (Affiliation), Michael S. Wong (Rice University, Chem. Eng. Dept, 6100 Main, Houston, TX 77005)

Session Z17. DPOLY: Polymer Solutions and Rheology.

Friday morning, 11:15, Room 10A, Austin Convention Center

Chair: Venkat Ganesan, University of Texas, Austin

- 11:15 Z17.001 Self-diffusion of a Rodlike Virus in the Isotropic Phase
Randy Cush, Paul Russo (Louisiana State University)
- 11:27 Z17.002 Microstructure of High Pressure Polyolefin/n-Alkane & Dimethyl Ether Solutions
John van Zanten (Chemical Engineering Department, North Carolina State University, Raleigh NC), Mark McHugh, Dan Li, Ozge Guney-Altay (Department of Chemical Engineering, Virginia Commonwealth University, Richmond VA), Todd DiNoia (W.R. Grace and Company, Cambridge MA), Thomas Kermis (Westvaco Corporation, Laurel MD), Il-Hyun Park (Kumoh National University, Korea)
- 11:39 Z17.003 Shear Effect on the Association of Nanoscale Rodlike Dinonyl-Poly(p-phenylene ethynylene) in Toluene Solutions.
Yunfei Jiang, Rakchart Traiphol, Dvora Perahia (Department of Chemistry, and MS&E Program Clemson University, Clemson, South Carolina 29634-0973), Uwe Bunz (Department of Chemistry and Biochemistry, and the USC NanoCenter, University of South Carolina, Columbia, South Carolina, 29208)
- 11:51 Z17.004 Clustering in Associating Polymer Solutions--Effects of Selective Solvent
Matthew Russell, Kathleen Kolbet (Lebanon Valley College), Kenneth Schweizer (University of Illinois at Urbana-Champaign)
- 12:03 Z17.005 Picot-Benoit Effect in Polymer Solutions
Gregory Beaucage (Dept. Materials and Chemical Engineering, University of Cincinnati), Sathish Sukumaran (Max Planck Institute, Mainz Germany), Jan Ilavsky (Purdue University/UNICAT APS Argonne National Laboratory)
- 12:15 Z17.006 Buckling instability of dilute semiflexible rods in shear flow: effects on conformational and rheological properties
Alberto Montesí, Matteo Pasquali (Department of Chemical Engineering, Rice University, Houston TX, USA)
- 12:27 Z17.007 Single and Dual Particle Microrheology of Polymer Solutions Using Oscillating Optical Traps
L.A. Hough, H.D. Ou-Yang (Lehigh University, Bethlehem, PA 18015)
- 12:39 Z17.008 Self-Consistent Brownian Dynamics Simulation of Inhomogeneous Polymeric Systems
Venkat Ganesan, Victor Pryamitsyn (Department of Chemical Engineering, University of Texas at Austin)
- 12:51 Z17.009 Correlations in Block Copolymers under Shear
Victor Pryamitsyn, Venkat Ganesan (Department of Chemical Engineering, University of Texas@Austin, Austin, Texas 78712)
- 13:03 Z17.010 Chain Dynamics in Entangled Polymers: Diffusion vs Rheology and Their Comparison
Shi-Qing Wang (University of Akron)
- 13:15 Z17.011 Effect of molecular architecture on the rheological and mechanical behavior in homopolymers and blends, probed by rheo-optical methods
Kannan Rangaramanujam (Wayne State University, Detroit, MI), Semen Kharchenko (NIST, Gaithersburg, MD)
- 13:27 Z17.012 When a molecule becomes a polymer
Yifu Ding, Alexander Kisluk, Alexei Sokolov (Department of Polymer Science, The University of Akron)
- 13:39 Z17.013 Rheology of Hyperbranched Polymers
S Suneel, DMA Buzza, TCB McLeish (University of Leeds), Dave Parker, RW Richards (University of Durham), Eduardo de Luca (University of Leeds), WJ Feast (University of Durham), University of Leeds Collaboration, University of Durham Collaboration

13:51 Z17.014 Lattice-based Modeling of the Interlamellar Amorphous Phase in Semicrystalline Polymers under Flow Deformation
Joydeep Mukherjee, Stevan Wilson, Antony Beris (University of Delaware, Newark, DE)

14:03 Z17.015 The scaling structure of a swollen entangled polymer globule
Albert Johner (Institut Charles Sadron), Nam-Kyung Lee (Max-Planck Institute for Polymer Research), Cameron Abrams (Drexel University), Sergei Obukhov (University of Florida)

Special DPOLY Events

Sunday March 2, 2003

DPOLY Reception

Stephen F. Austin Hotel

701 Congress Avenue

6 – 8 PM (18:00 – 20:00)

Tuesday March 3, 2003:

DPOLY Business Meeting

Room 10B, Austin Convention Center

5:30 – 6:30 PM (17:30 –18:30)

DPOLY Honorary Reception for Andy Lovinger and Helmut Strey

Austin Convention Center

The Rotunda

6:30 – 8 PM (18:30 – 20:00)

Other Events

Monday, March 3 – Wednesday, March 5:

APS Job Fair

Austin Convention Center

Monday, March 3 9:00am - 5:00pm

Tuesday, March 4 9:00am - 5:00pm

Wednesday, March 5 9:00am - 1:00pm