DPOLY Short Course

Glasses and the Glass Transition

Saturday March 16 8:00 am - 5:00 pm
Sunday March 17 8:00 am - 5:00 pm

Course description:
Glass formation occurs whenever crystallization is prevented while cooling a liquid. There are important features of glasses and the glass transition that are ubiquitous to all glass-forming liquids. These universal features, as well as distinct aspects of inorganic, organic and polymeric glasses, will be addressed. Experts will summarize the recent advances in this field in a tutorial style.

Who should attend:
Persons from both academic and applied/industrial institutions will benefit from attending this course. The course will be relevant to industrial physicists, chemists and engineers, as well as graduate students, post-docs and faculty interested in glassy materials. The course assumes a B. S. training in engineering or the physical sciences, but assumes no prior experience with glasses.

Topics to be covered:
Dynamic heterogeneities
Calorimetry methods
NMR methods
Scattering methods
Physical aging
Computer simulations
Energy landscape models
Mode coupling models

Confirmed speakers:
C. Austen Angell, Arizona State University
Pablo G. Debenedetti, Princeton University
Mark D. Ediger, University of Wisconsin
Sharon C. Glotzer, University of Michigan
Gregory P. McKenna, Texas Technological University
Francesco Sciortino, University of Rome
Alexei Sokolov, University of Akron
Bernhard Wunderlich, University of Tennessee

Registration fees:
$400 ($200 for students)

Organizer:

Ralph H. Colby
Materials Science and Engineering
The Pennsylvania State University
University Park, PA 16802
Tel: (814) 865-9857
Email: **rhc@plmsc.psu.edu**

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

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 A2. DPOLY: Organic and Inorganic Nanostructure in Polymers.

Monday morning, 08:00, Sagamore 4, Indiana Convention Center

Chair: Christopher Christenson, Dow Chemical Company

08:00 **A2.001** Mesostructure Control of Polymer-Inorganic Nanocomposites
R. Vaia (Air Force Researh Laboratory, Materials and Manufacturing Directorate)

08:36 **A2.002** Phase Behavior of Block Copolymer directed Nanostructured Organic/Inorganic Hybrids
Ulrich Wiesner (Department for Material Science and Engineering, Bard Hall, Cornell University, Ithaca, NY, 14853)

09:12 **A2.003** Dynamics of Polymeric Nanocomposites
Ramanan Krishnamoorti (Department of Chemical Engineering, University of Houston)

09:48 **A2.004** NT characterization and NT/polymer composites for LED's
David L. Carroll (Department of Physics and Astronomy, Clemson University)

10:24 **A2.005** Mechanical Compression of Carbon Nanotubes
Alan Windle (Department of Materials Science, Cambridge University, Pembroke Street, Cambridge, UK)

Session A9. DPOLY: Polymer Surfaces and Interfaces: Adhesion, Fracture, and Diffusion.

Monday morning, 08:00, 101-102, Indiana Convention Center

Chair: Yachin Cohen, Technion-Israel Institute of Technology

08:00 **A9.001** Polydimethylsiloxane/silicon oxide interface- A molecular dynamics study
S. W. Sides (University of California, Santa Barbara), T. Soddemann, M. O. Robbins (John Hopkins University), G. S. Grest, M. Stevens, M. Tsige (Sandia National Laboratories)

08:12 **A9.002** Quantifying Surface Interactions Using a Multilens JKR Approach
Alfred J. Crosby, Alamgir Karim, Eric J. Amis (National Institute of Standards and Technology)

08:24 **A9.003** Instability and Fracture of Confined Elastic Gels
Rebecca Webber, Kenneth Shull (Northwestern University), Alexandra Roos, Costantino Creton (Ecole Superior de Physique et de Chimie Industrielles)

08:36 **A9.004** Stress intensity in small viscoelastic contacts
W. N. Unertl, M. Giri (Univ. of Maine, Orono, ME 04469)

08:48 **A9.005** Combinatorial Measurement of Polymer Craze Growth and Fracture
Kathryn Beers, Alfred Crosby, Alamgir Karim, Eric Amis (National Institute of Standards and Technology)

09:00 **A9.006** Relating Fracture Strength to Entanglements at Partially Miscible Polymer Interfaces
Russell E. Gorga, Balaji Narasimhan (Iowa State University)

09:12 **A9.007** Probing Polymer-Polymer Interfaces
Gary Harp, Keshav Gautam, Ali Dhinojwala (Department of Polymer Science, The University of Akron)

09:24 **A9.008** Chain diffusion and microstructure at a glassy - rubbery polymer interface by SIMS
A. C.-M. Yang, H. C. Lin, I. F. Tsai (National Tsing Hua University, Department of Materials Science and Engineering, Hsinchu, TAIWAN), M. S. Hsu, Y. C. Ling (National Tsing Hua University, Department of Chemistry, Hsinchu, TAIWAN)

09:36 **A9.009** Neutron and X-ray Reflectometry Measurements of the Deprotection Reaction-Diffusion Front in Chemically Amplified Photoresist Thin Films
Eric Lin, Christopher Soles, Ronald Jones, Joseph Lenhart, Wen-li Wu, Sushil Satija (NIST), Dario Goldfarb, Marie Angelopoulos (IBM T. J. Watson Research Center), Brian Trinque, Sean Burns, C. Grant Willson (University of Texas - Austin)

09:48 **A9.010** Diffusion in Monolayer-Thick Films
Jiang Zhao, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, IL 61801)

10:00 **A9.011** Diffusion of Polymer into a Confined Matrix
Clive Li, Eric Petersen, Jonathan Sokolov, Miriam Rafailovich (Stony Brook University), Vladimir Zaitsev, Steven Schwarz (Queens College)

10:12 **A9.012** Real-Time Diffusion Dynamics of Polymer/Metal Nanocomposites Using X-Ray Standing Waves
Rodney S. Guico, Suresh Narayanan, Andrew Richter, Jin Wang (Advanced Photon Source, Argonne National Laboratory), Kenneth Shull (Northwestern University)

10:24 **A9.013** Probing In-Plane Distribution of Au Nanoparticles in Polymer Thin Films Using Resonance-Enhancement Effect*
Suresh Narayanan, Rodney Guico, Dong Ryeol Lee, Jin Wang (AdvancedPhoton Source, Argonne National Laboratory, Argonne, IL 60439.), Alain Gibaud (Université du Maine, Faculté des Sciences, CNRS 72085, Le Mans Cedex 09, FRANCE.), Sunil Sinha (Department of Physics, University of California, San Diego, CA 92093.)

10:36 **A9.014** Durability of Polymeric Coatings: Cyclic Loading and Free Volumes
Hongmin Chen, Qinghua Peng, Yichu Wu, Ying Li, Junjie Zhang, T.C. Sandreczki, Renwu Zhang, Y.C. Jean, J.R. Richardson (University of Missouri- Kansas City)

Session A10. DPOLY: Polyelectrolytes: Solutions and Adsorption.

Monday morning, 08:00, 103, Indiana Convention Center

Chair: Yvome Akpalu, Rensselaer Polytechnic Institute

08:00 **A10.001** Counterion Distribution and Osmotic Pressure of Polyelectrolyte Solutions
Michael Rubinstein, Qi Liao (Department of Chemistry, University of North Carolina, Chapel Hill, NC 27599-3290), Andrey Dobrynin (Institute of Materials Science and Department of Physics, University of Connecticut, Strolls, CT, 06269-3136)

08:12 **A10.002** Phase behavior of strongly charged polyelectrolytes in the presence of multivalent ions
Aleksander Ermoshkin, Monica Olvera de la Cruz (Department of Materials Science and Engineering, Northwestern University, Evanston, IL, USA 60208)

08:24 **A10.003** Structure and Dynamics of Hydrophobic Polyelectrolytes
Thomas A. P. Seery (Polymer Program and Dept. of Chemistry, University of Connecticut, Storrs, CT-06269), Damien Baigl, Claudine Williams (Laboratoire de Physique de la Matière Condensée, CNRS URA 792, Collège de France, 11, place Marcelin Berthelot, 75231 Paris Cedex 05, France)

08:36 **A10.004** Conformations of polyelectrolytes with annealed charge distribution: single-chain Self-consistent field theory calcultaions.
Mohsen Sabouri (Materials Research Laboratory, University of California, Santa Barbara), Henri Orland (Service de Physique Theorique, CE-Saclay), Glenn H. Fredrickson (Chemical Engineering amp; Materials Departments and Mitsubishi Chemical Center for Advanced Materials, University of California, Santa Barbara)

08:48 **A10.005** Integral Equation Theory for the Structure of DNA Solutions
Chwen-Yang Shew (Chemistry Department, College of Staten Island/CUNY, Staten Island, NY 10314), Arun Yethiraj (Chemistry Department, University of Wisconsin, Madison, WI 53706)

09:00 **A10.006** The Strongly Charged Polymer Brush
Ben O'Shaughnessy, Qingbo Yang (Columbia University)

09:12 **A10.007** Polyelectrolyte Brushes from Amphiphilic Block Copolymers
Feng Li, Matthew Tirrell (Department of Chemical Engineering, University of California, Santa Barbara, CA 93106)

09:24 **A10.008** Charge Fluctuations and Counterion Condensation
Andy W.C. Lau (University of Pennsylvania, Philadelphia), Dima B. Lukatsky (Weizmann Institute), Philip A. Pincus (University of California, Santa Barbara), Samuel A. Safran (Weizmann Institute)

09:36 **A10.009** Effect of Micellization on the Adsorption Kinetics of Polymeric Surfactants to the Solid/Water Interface
Ryan Toomey, Matthew Tirrell (Materials Research Laboratory, University of California at Santa Barbara)

09:48 **A10.010** Adsorption of Sodium Polystyrene Sulfonate to the Air Surface of Water by Neutron and X-ray Reflectivity and Surface Tension Measurements: Polymer Concentration Dependence
Mike Kent, Hyun Yim, Aaron Matheson, Mark Stevens (Sandia National Labs), Robert Ivkov, Sushil Satija (National Institute for Standards and Technology), Jaroslaw Majewski, Greg Smith (Los Alamos National Lab.)

10:00 **A10.011** Adsorption of hydrophobic polyelectrolytes at oppositely charged surfaces
Andrey Dobrynin (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, 27599-3290)

10:12 **A10.012** The Influence of Charge Density on Adsorbed Polyelectrolyte Dynamics
Maria Santore (Department of Polymer Science, University of Massachusetts), Nanthiya Hansupalak (Department of Chemical Engineering Lehigh U)

10:24 **A10.013** Adsorption of charged proteins on surfaces with grafted polymers
Igal Szleifer, Marcelo Carignano (Purdue University)

10:36 **A10.014** Multilayer Formation: Irreversible Model
Stella Park, Jonas Mendelsohn, Michael Rubner, Anne Mayes (MIT, Department of Materials Science and Engineering)

10:48 **A10.015** Quantitative Model of Ionization Response in Layered Polyelectrolyte Self-Assemblies
Dan Finkenstadt, D. D. Johnson (Depts. of Physics and Materials Science amp; Engineering, Univ. of Illinois at Urbana-Champaign, Urbana Il 61801)

Session B33. DPOLY: Poster Session I.

Monday morning, 11:00, Exhibit Hall, Indiana Convention Center

Chair: Stuart Croll, North Dakota State University

B33.001 Polymer Physics I

B33.002 Miscibility of Polymers under Pressure
Juan Gonzalez, You-Yeon Won, Anne M. Mayes (Department of Materials Science and Engineering, Massachusetts Institute of Technology), Kwan-Woo Shin, Sushil Satija (National Institute of Standards and Technology, Gaithersburg, Maryland)

B33.003 Morphology of Rigid Rod Polymers (PBO, PBT) Membranes
Rahmi Ozisik, S. Putthanarat, Lei Zhu, R.K. Eby (Dept. and Inst. of Polymer Science, University of Akron, Akron, OH 44325-3909), Soo Y. Park, Hilmar Koerner, Shane Juhl, Thuy A. Dang, Barry L. Farmer (AFRL/MLBP, WPAFB, OH 45433-7734), Fengji Yeh (Dept. of Chemistry, The State University of New York at Stony Brook, Stony Brook, NY, 11794-3400)

B33.004 The Crystallization Behavior of Strongly Interacting Chains
Amy M. Heintz, Robin L. McKiernan, Sam P. Gido, Jacques Penelle, Shaw L. Hsu (Polymer Science and Engineering Department and Materials Research Science and Engineering Center, University of Massachusetts at Amherst)

B33.005 Crystallization and Microstructure Formation of Poly(L-lactide-co-meso-lactide) Copolymers: A Time-Resolved Wide and Small-Angle X-ray Scattering Study
J. Cho, S. Baratian, J. Kim, J. Runt (Penn State University), F. Yeh, B. S. Hsiao (SUNY Stony Brook)

B33.006 A vibrational spectroscopic study on amorphous phase associated with crystallization and deformation behavior of poly(lactic acid)
Shuhui Kang (University of Massachussetts at Amherst, Dept. of physics and Dept. of polymer sciamp;eng.), Shaw Ling Hsu (University of Massachussetts at Amherst, Dept. of polymer sciamp;eng.)

B33.007 Copolymer Crystallization: Approaching Equilibrium
Buckley Crist, Terry Finerman (Northwestern University)

B33.008 Structural Studies on Naphthalene-Based Rigid-Rod Benzobisthiazole Polymers
Soo-Young Park (Air Force Research Lab), Jar-wha Lee (Syscom Technology Inc.), N. Venkatasubramanian (Univ. of Dayton Research Inst.), Thuy D. Dang, Fred E. Arnold, B. L. Farmer (Air Force Research Lab)

B33.009 The Study of Exciton relax Process in a Polymeric molecule
Xi-juan Zhang (Department of Physics, Yangzhou University, China.), Zheng-ming Shao (Yangzhou Skilled Workers' School, China.)

B33.010 The Effects of Strongly Interacting Chain Extenders on the Structure and Properties of Polyurethanes
Zhiyong Ren, Daniel J. Duffy, Amy M. Heintz, Shaw Ling Hsu (Polymer Science and Engineering, Univeristy of Massachusetts, Amherst 01003), Duzhu Ma (University of Science and Technology of China, Hefei, 230026, P.R.China)

B33.011 An Integra ted Approach to the ATHAS Data Bank
E. V. Kosyreva, A. I. Buzin, M. Pyda, B. Wunderlich (The University of Tennessee, Knoxville, and ORNL, Oak Ridge, TN)

B33.012 Friction on Macroscopic vs. Nanoscopic Objects: Solute Rotation in Small-Molecule and Polymer Solvents
Mark M. Somoza, Mikhail I. Sluch, Mark A. Berg (Department of Chemistry and Biochemistry, University of South Carolina, Columbia SC 29208)

B33.013 Polymer Dynamics of Entangled Mixtures in Both Terminal and Rouse Regimes
Shanfeng Wang, Shi-Qing Wang (Department of Polymer Science, University of Akron)

B33.014 Understanding the Mechanism of Cyanoacrylate Polymerization in Latent Fingerprinting
Steve Wargacki, Mark Dadmun (Chemistry Dept. University of Tennesse, Knoxville, TN 37996), Linda Lewis, Gerald Devault (Y-12 National Security Complex, Oak Ridge TN 37831)

B33.015 Molecular Modeling of Structural Evolution in PBO Fibers
Greg Hostetter, David Martin (The University of Michigan)

B33.016 Chirality Effects on the Morphology and Structure of Synthetic Chiral Main-chain Liquid Crystal Polyesters
X. Weng, C. Y. Li, J. Z. Zhang, F. Bai, S. Jin, F. W. Harris, S. Z. D. Cheng (The University of Akron, Akron, Ohio 44325-3909)

B33.017 Morphology Development and Dynamics of Thermally Initiated Polymerization-Induced Phase Separation in Mixtures of a Nematic Liquid Crystal and Self-Curable Monomer
Hatice Duran, Yamashita Atsushi, Thein Kyu (The University of Akron)

B33.018 Phase Behavior and Phase Structures of Hexa-n-octoxyl-triphenylene
J. Jing, Y. Tang, B. Monsdorf, H. W. Harris, S. Z. D. Cheng (Maurice Morton Institute and Department of Polymer Science)

B33.019 Structural and Morphological Cahracterization of PBO Mmembranes for High Temperature Fuel Cells
Hilmar Koerner, S. Juhl (Univ. of Dayton Research Inst.), S. Y. Park, T. D. Dang, Fred E. Arnold, B. L. Farmer (Air Force Research Lab), R. Ozisik, S. Puttanarat, R. K. Eby (Univ. of Akron)

B33.020 Spatio-Temporal simulation of Twisted Polymer Single Crystal
Rujul Mehta, Thein Kyu (Institute of Polymer Engineering, The University of Akron, Akron, Ohio 44325-0301)

B33.021 Structure and morphology of Nylon 6,6
W. Cai (The University of Akron, Akron, OH 44325), C. Y. Li (Department of materials engineering, Drexel University, Philadelphia, PA 19104), F. Khoury (NIST, 100 Bureau Drive, Stop 3460,Gaithersburg, MD 20899), S.Z.D. Cheng (The University of Akron, Akron, OH 44325)

B33.022 Phase Structure an d Properties of a Biodegradable Block Copolymer Coalesced from It's Crystalline Inclusion Compound Formed with alpha-Cyclodextrin
Xintao Shuai (ERC and Technical Research Center of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China), Min Wei, Francis Probeni, Todd A. Bullions (Fiber amp; Polymer Science Program, North Carolina State University, Raleigh, NC), I. Daniel Shin (Dept. of Pharmaceutical Sciences, School of Pharmacy, Campbell Universiuty, Buies Creek, NC), Alan E. Tonelli (Fiber amp; Polymer Science Program, North Carolina State University, Campus Box 8301, Raleigh, NC 27695-8301), NCState Fiber amp; Polymer science Collaboration, Chinese Academy of Sciences Collaboration, Campbell University School of Pharmacy Collaboration

B33.023 Calorimetric Study of Gradient Block-copolymers of Poly(butylacrylate) and Poly(methylmethacrylate)
(1) A. I. Buzin, (1) M. Pyda, (2) K. Matyjaszewski, (1) B. Wunderlich ((1) The University of Tennessee, Knoxville, and ORNL, Oak Ridge, TN;(2) Carnegie Mellon University, Pittsburgh, PA)

B33.024 Phase Separation in Poly(urethane urea) Multiblock Copolymers
J. T. Garrett, R. Xu, J. Cho, J. Runt (Penn State University)

B33.025 The Extensional Viscosity and Orientation of Triblock Copolymer
Eun Young Kim, Chris Macosko (University of Minnesota, Department of Chemical Engineering and Material Science), Tim Lodge (University of Minnesota, Department of Chemical Engineering and Material Science, Department of Chemistry)

B33.026 Application of Density Function Theory to Tethered Polymer Chains
John D. McCoy, Yuan Ye (Mate. Dept., New Mexico Tech, Socorro, NM 87801), John G. Curro (Sandia National Laboratories, Albuquerque, NM 87185)

B33.027 Ionic Transport in Polyimide Films as Probed by Impedance Spectroscopy
F. Nelson Nunalee, Kenneth R. Shull, Thomas O. Mason (Northwestern University)

B33.028 Scanning Force Microscopy Study of Surface Effe cts in Ion Containing Polymers
Russell J. Composto, Karen E. Sohn (Department of Materials Science amp; Engineering, Laboratory for Research on the Structure of Matter, University of Pennsylvania, Philadelphia, PA 19104), Yossef Yossef Elabd (U.S. Army Research Lab, Aberdeen, Md), Russel M. Walters (Department of Chemical Engineering, Laboratory for Research on the Structure of Matter, University of Pennsylvania, Philadelphia, PA 19104)

B33.029 Dewetting Studies of Perfluorinated Ionomer Thin Films
Yunfei Jiang, Teresa Hill, Jiao Xuesong, Dvora Perahia (Chemistry Department and Material Science and Engineering,Clemson University, Clemson, SC 29634)

B33.030 Formation of DNA-network embedding ferromagnetic Cobalt nano-particles
Teruo Kanki, Hidekazu Tanaka, Hideaki Shirakawa, Yu Sacho, Masateru Taniguchi, Hea-yeon Lee, Tomoji Kawai (The Institute of Scientific and Industrial Research, Osaka University, Japan), Nam-Jung Kang, Jinwoo Chen (Korea Advanced Institute of Science and Technology (KAIST), Korea)

B33.031 Studies of natural rubber clones by standard methods and nano mechanics techniques
Mariselma Ferreira (IFSC, USP, São Carlos, SP, Brazil, MIT, Cambridge, MA, USA), Luiz Henrique Capparelli Mattoso, Rogerio Moreno (Embrapa, São Carlos, SP, Brazil), Paulo Goncalves (IAC, Campinas, SP, Brazil), Dorothy Hosler, Christine Ortiz (MIT, Cambridge, MA, USA)

B33.032 Shear-Induced Structure in Asymmetric Polymer Blends
E. K. Hobbie, H. Wang, H. Jeon, H. Kim, D. J. Stout, C. C. Han (NIST)

B33.033 Dynamics of Polymer Blends with Intermolecular Hydrogen Bonding
S. H. Zhang, P. C. Painter, J. Runt (Penn State University)

B33.034 Synthesis and Characterization of Novel Alkyl Sulfonic Acid-Doped Polyaniline/Layered Silicate Nanocomposites
Dongkyu Lee, Kookheon Char (School of Chemical Engineering and Institute of Chemical Processes, Seoul National University, Seoul 151-744, Korea)

B33.035 Homopolymer/homopolymer blends with UCST and LCST
Du Yeol Ryu, Seung Hoon Chae, Jin Kon Kim (Department of Chemical Engineering and Polymer Research Institute, Electronic and Computer Engineering Divisions, Pohang University of Science and Technology, Kyungbuk 790-784, Korea)

B33.036 Phase Behavior of block copolymer and homopolymer blends with constituent blocks.
Du Yeol Ryu, Jin Kon Kim (Department of Chemical Engineering and Polymer Research Institute, Electronic and Computer Engineering Divisions, Pohang University of Science and Technology, Kyungbuk 790-784, Korea), Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA01003), Thomas P. Russell Collaboration

B33.037 Reaction of End-Functionalized Chains at the Interface between Immiscible Polymers
B. J. Kim, E. J. Kramer (UCSB), H. Kang, K. Char (SNU)

B33.038 Oriented Structure of Pentablock Copolymers Induced by Solution Extrusion
Tamotsu Harada, Frank S. Bates, Timothy P. Lodge (Department of Chemical Engineering and Materials Science, University of Minnesota)

B33.039 Cylinder Nucleation at T-Junction Grain Boundaries in Lamellar Block Copolymer / Homopolymer Blends
Engin Burgaz, Samuel Gido (Univ. of Massachusetts Amherst)

B33.040 Morphologies and tensile properties of Block-Double-Graft Copolymers
Yuqing Zhu, Samuel P. Gido (University of Massachusetts-Amherst), Gabriel Velis, Nikos Hadjichristidis (University of Athens)

B33.041 Micellization of PEO-PPO-PEO triblock copolymers in aqueous electrolyte solutions
S.K. Sukumaran, G. Beaucage (Dept. of Materials Science and Eng., University of Cincinnati), P. Thiyagarajan (Intensed Pulsed Neutron Source, Argonne National Laboratory)

B33.042 Exploring the Molecular Origins of Bio(in)compatibility: Adhesion Between Proteins and Individual Chains of Poly(ethylene oxide)
Monica A. Rixman (), Christine Ortiz (M.I.T., Cambridge, MA)

B33.043 On Annealing and Ferroelectric Behavior in Poly(Vinylidene Fluoride-Trifluoroethylene) Random Copolymers
M.C. Christie (Chemical and Physical Laboratory, Cordis Corporation, A Johnson amp; Johnson Company, Miami Lakes, Florida), J.I. Scheinbeim (Polymer Electroprocessing Laboratory, Department of Chemical amp; Biochemical Engineering, Rutgers - The State University of New Jersey, Piscataway, New Jersey)

B33.044 Diffusion of Polystyrene in PS/PVME Blends
Ha Seon Park, Timothy P. Lodge (University of Minnesota)

B33.045 Shear-induced droplet coalescence in immiscible fluids
Steven Hudson (NIST), Brian Burkhart (Goodyear Tire amp; Rubber Co.), Alex Jamieson (Case Western Reserve U.), Prasad Gopalkrishnan (Case Wesern Reserve U.), Robert Davis (U. Colorado, Boulder)

B33.046 Improving Compatibility of Melt Blending of Poly(methyl methacrylate) and Polystyrene by Using Nanoscale fillers
Mayu Si, Miriam Rafailovich, Jonathan Sokolov (Department of Material Science and Engineering, State University of New York at Stony Brook)

B33.047 Diffusion Studies of PS and PMMA Thin Films in Nanoparticles Filled Systems
Xuesong Hu (Dept. of Materials Sci. amp; Eng., SUNY at Stony Brook, NY 11794), M. Bronner (Rambam Mesivta High School, Cedarhurst, NY 11516), A. Shah (Harvard University, Cambridge, MA 02138), W. Zhang, M. Rafailovich, J. Sokolov (Dept. of Materials Sci. amp; Eng., SUNY at Stony Brook, NY 11794), V. Zaitsev, S. Schwarz (Dept. of Physics, Queens CUNY, Flushing, NY 11367), D. Peiffer (ExxonMobile Research and Engineering Company, Annandale, NJ 08801)

B33.048 Studies on the Phase Separation Dynamics of Polyetherimide Modified Thermosetting Polyimides
Gregory Yandek, Thein Kyu (The University of Akron), Jong-Beom Baek, Tan Loon-Seng (AFRL/MLBP, Air Force Research Laboratory, Wright-Patterson AFB)

B33.049 Solution Spinning and Characterization of Poly (vinyl alcohol) /Soybean Polyblend Fibers
Xiefei Zhang, Satish Kumar (School of Textile and Fiber Engineering, GIT)

B33.050 Effect Of Supercooling On Morphology Of Crystals Grown In Blends Of Syndiotactic Polypropylene And Polyolefin Elastomers
Wirunya Keawwattanna, Thein Kyu (Institute of Polymer Engineering, The University of Akron, Akron, Ohio 44304-0301)

B33.051 Broadband Dielectric Investigation of Poly(ethylene oxide) and Its Blends with Poly(styrene-co-p-hydroxystyrene)
X. Jin, J. Runt (Penn State University)

B33.052 Self-Assembled Morphology and Dewetting Pathway for Annealed Polymer Trilayer Films
C. Schultz-Nielsen, J.R. Dutcher (Univ. of Guelph, Canada)

B33.053 Roughness-induced morphology in polystyrene capped films of poly(ethylene oxide)
David Vader, James A. Forrest (Department of Physics, University of Waterloo, Waterloo, ON, Canada), Kari Dalnoki-Veress (Department of Physics and Astronomy, McMaster University, Hamilton, ON, Canada)

B33.054 Crystallization in Thin Films of Poly(ethylene-vinyl acetate)
Yantian Wang, Wenhua Zhang, Shouren Ge, Miriam Rafailovich, Jonathan Sokolov (Dept. of Materials Sci. amp; Eng., State Univ. of New York at Stony Brook)

B33.055 Nanoparticle Arrays via Polymer Template Thin Films
Matthew Misner, Habib Skaff, Todd Emrick, Thomas P. Russell (Polymer Science amp; Engineering Department, University of Massachusetts - Amherst)

B33.056 Dynamics of Dewetting Polymer Films
Ralf Seemann, Stephan Herminghaus, Karin Jacobs (University of Ulm, Dept. of Applied Physics, D-89069 Ulm)

B33.057 Determination of Surface Energies with Polymer Thin Film Dewetting
Sung-Hwan Choi, Bi-Min Zhang Newby (The University of Akron)

B33.058 Photoacid Generation in Thin Films of Chemically Amplified Photoresist
Adam Pawloski, Paul Nealey (Center for Nanotechnology and Department of Chemical Engineering, University of Wisconsin, Madison)

B33.059 Gradient Heterogeneous Surface
Irene Tsai, Masahiro Kimura, Zhiqun Lin, Rebecca Stockton, Alex Fadeev, Bruce Jacobson, Thomas P. Russell (University of Mass - Amherst)

B33.060 Optimization of a Chlorosilane Reaction with Oxidized Polydimethylsiloxane
Rachel L. McSwain, Kenneth R. Shull, SonBinh T. Nguyen, HongYing Zhou (Northwestern University)

B33.061 Building Micromachines out of Liquids
Shu Yang, Tom Krupenkin (Bell Labs, Lucent Technologies)

B33.062 Experimental investigation of the Ogston model for electrophoresis using calibrated matrices
Laurette McCormick, Gary Slater (University of Ottawa, Ottawa, Canada), Bernard Tinland (Institut Charles Sadron, CNRS, Strasbourg, France)

B33.063 Characterization of peptide based hydrogels using cryo-transmission electron microscopy
Bulent Ozbas, Lisa Pakstis, Vahik Krikorian, Darrin Pochan (Dept of Materials Science and Engineering, University of Delaware), Andrew P. Nowak, Timothy J. Deming (Depts of Materials and Chemistry, University of California, Santa Barbara)

B33.064 Behavior of Electrospinning Jet
Han Xu, Darrell Reneker (Maurice Morton Institute of Polymer Science, The University of Akron)

B33.065 Novel Fluorescence Methods for Characterizing Tg and Relaxation Dynamics in Ultrathin Polymer Films
Christopher J. Ellison, John M. Torkelson (Northwestern University)

B33.066 Role of water in polymer surface modification using organosilanes
Pradeep Kumar Thallapalle, Bi-Min Zhang Newby (The University of Akron)

B33.067 Critical Electric Field strength of alignment of symmetric diblock copolymers
Ting Xu, Yuqing Zhu (Department of Polymer Science and Engineering, University of Mass., Amherst), Thomas Russell (Department of Polymer Science and Engineering, University of Mass., Amherst)

B33.068 Imaging Polymer Surfaces with Time -Resolved Fluorescence
Jeff Turner (Department of Chemistry, University of Illinois), Sangmin Jeon, Sung Chul Bae (Department of Materials Science and Engineering, University of Illinois), Steve Granick (Departments of Chemistry, of Physics, and of Materials Science and Engineering, University of Illinois)

B33.069 Percolation Analysis of Lamella Melting and Thin Film Glass Transition Temperatures
Richard Wool (Department of Chemical Engineering, University of Delaware, Newark DE 19716-3144)

B33.070 Guided Self-assembly of Cylinder-forming Asymmetric Diblock Copolymers on Nano-patterned Substrates Produced by Interferometric Lithography
Qiang Wang, Paul Nealey, Juan de Pablo (Department of Chemical Engineering, University of Wisconsin - Madison)

B33.071 Dewetting on Coated Substrates
Sabrina Segnere, Ana Pinto, Holly Hudson, Matthew Clarke, Joseph Polidan, Alan Esker (Department of Chemistry, Virginia Tech)

B33.072 Electrospinning of Molten Polymers in Vacuum and Air
Ratthapol Rangkupan, Darrell Reneker (Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH)

B33.073 Ordering in thin films of novel block copolymers with thermo reactive blocks
H. -C. Kim, L. Li, E. Harth, C. J. Hawker (IBM Almaden Research Center, 650 Harry Road, San Jose, CA 95120), T. P. Russell (Polymer Science and Engineering Department, University of Massachusetts, Amherst, MA 01003)

B33.074 Polypropylene /Single Wall Carbon Nano Tube Composites – Crystallization Behavior and Fiber Processing Studies
T. V. Sreekumar, Arup R Bhattacharyya, Atul Kumar, Huina Guo, Satish Kumar (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA 30332), Lars Ericson, Richard E Smalley (Department of Chemistry, Rice University, Houston TX)

B33.075 Controlling Pore Size in Membranes prepared by Phase Separating Thin Film Polymer Blend
Hyun-joong Chung (Department of Materials Science and Engineering, University of Pennsylvania), Howard Wang (Polymer Division, National Institute of Standards and Technology), Russell J. Composto (Department of Materials Science and Engineering, University of Pennsylvania)

B33.076 Single Wall Carbon Nano Tube Films and Coatings
T. V. Sreekumar, Satish Kumar (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA 30332), Lars M. Ericson, Richard E. Smalley (Department of Chemistry, Rice University, Houston TX)

B33.077 Fluorinated Side -Chain Polystyrene-Based Polymers
A. Hexemer, E. J. Kramer (UCSB), X. Li, L. Andruzzi, C. K. Ober (Cornell), G. Galli, E. E. Chiellini (Univ. Pisa)

B33.078 Spreading of a chain macromolecule onto a cell membrane by a computer simulation Model
Jun Xie, Ras Pandey (University of Southern Mississippi)

B33.079 Mixed interactions in random copolymers
Toma Marinov, Jutta Luettmer-Strathmann (Department of Physics, The University of Akron)

B33.080 A lattice model of the Ogston Regime of gel electrophoresis: generalization to treat high electric field intensities.
Michel G. Gauthier, Gary W. Slater (University of Ottawa)

B33.081 Effects of Size Disparity of Filler Particles on Percolation and Thermal Properties of a Polymer Matrix: An Exact Model Calculation on Recursive Lattices
Andrea Corsi, P. D. Gujrati (Department of Physics and Department of Polymer Science, The University of Akron, Akron, Ohio 44325 USA)

B33.082 DNA Electrophoresis on Nanopatterned surfaces
Haobin Luo, Dilip Gersappe (Dept. of Materials Science and Engg, SUNY at Stony Brook)

B33.083 Entropic effects of copolymer localization at semiflexible polymer interfaces
Wentao Li (Dept of Materials Science and Engg, SUNY at Stony Brook), Glen Ko (MC-RIC, Cambridge MA), Dilip Gersappe (Dept of Materials Science and Engg, SUNY at Stony Brook)

B33.084 IR Dichroism of poly(trimethylene terephthalate) Fibers
Jing Wu (Chemical Engineering, New Jersey Institute of Technology), Baohua Guo, Rui Yang (Chemical Engineering, Tsinghua University, Beijing, China)

B33.085 The Hydration Dynamics of Polyelectrolyte Gels
Charles Wolgemuth (University of California, Berkeley), Alex Mogilner (University of California, Davis), George Oster (University of California, Berkeley)

B33.086 Single lamella studies of self-assembled block copolymers
Dennis Discher, Helim Aranda-Espinoza, Harry Bermudez, Aaron Brannan, Frank Bates (University of Pennsylvania amp; University of Minnesota)*

B33.087 Coarse -Grained Molecular Dynamics Simulation of Layered Silicate -Solvent System
Anuchai Sinsawat (Univ. of Virginia), R. A. Vaia, B. L. Farmer (Air Force Research Lab)

B33.088 Computer Simulation of the Mechanical Properties of Nanostructures of Polymer Glasses
Kevin Van Workum, Paul F. Nealey, Juan J. de Pablo (Center for NanoTechnology, University of Wisconsin - Chemical Engineering)

B33.089 Deformation Properties in Combinatorial Nanoscopic Polymer Structures
Mark P. Stoykovich, Kenji Yoshimoto, Heidi B. Cao, Paul F. Nealey (University of Wisconsin - Madison and Center for NanoTechnology), Leonidas E. Ocola (Agere Systems)

B33.090 From micro to nano stamps
Dong Ha Kim, Zhiqun Lin (Polymer Science and Engineering Department, University of Massachusetts Amherst), Ho-Cheol Kim (IBM Almaden Research Center), Kyu Soon Shin (Seoul National University), Thomas Russell (Polymer Science and Engineering Department, University of Massachusetts Amherst)

B33.091 NEXAFS of Poly(amidoamine- organosilicon) (PAMAMOS) Dendrimer Network Nanocomposites
Robert Bubeck, Jieming Li, Petar Dvornic (Michigan Molecular Institute), Alexander Hexemer (Univeristy of California at Santa Barbara), Xuefa Li (Cornell Univeristy), Luisa Andruzzi (Cornell University), Daniel Fischer (NIST)

B33.092 Phase behavior and transitions in nanostructured polymers
Hu Duan, Prartana Kewsuwan (Case Western Reserve U.), Steven Hudson (NIST), Virgil Percec (U. Pennsylvania)

B33.093 Processing, Structure, and Properties of Fibers from PMMA/ Carbon Nano Fiber Composites
Jijun Zeng, Satish Kumar (School of Textile and Fiber Engineering, Georgia Institute of Technology)

B33.094 Rheology of nanofilled polymer composites
Eihab Jaber, Dilip Gersappe (Dept. of Materials Science and Engg, SUNY at Stony Brook)

B33.095 Rod shaped MEH-PPV Nanoparticles that are Spatially Oriented
KK Pradeep Kumar, Mark Dadmun (Chemistry Dept., University of Tennessee, Knoxville, TN 37996), R.M. Dickson (School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30332), Michael D. Barnes (Chemical Sciences Division Oak Ridge National Laboratory, Oak Ridge TN 37830)

B33.096 Simulation of Nanoscale Inclusions in Binary Phase -separating Mixtures.
Gavin Buxton, Anna Balazs (Chemical Engineering Department, University of Pittsburgh.), David Jasnow (Department of Physics, University of Pittsburgh.)

B33.097 Structural Analysis of Photoresist Collapse
Kenji Yoshimoto (University of Wisconsin, Center for Nanotechnology), Mark Stoykovich, Heidi Cao, Paul Nealey

B33.098 Structure and Properties of poly (para phynelyne benzobisoxazole) (PBO) /single wall carbon nano tube composite fibers
Satish Kumar, Xiefei Zhang, Arup R. Bhattacharyya, Byung G. Min (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA-30332-0295), T.D. Dang, F.E. Arnold, Richard A. Vaia (Air Force Research Laboratory, WPAFB OH 45433 -7750), S. Ramesh, P.A. Willis, R.H. Hauge, R.E. Smalley (CNST, Rice University, Houston TX 77005)

B33.099 Confinement Free Energy of Polymer Solutions between Two Parallel Plates
Yongmei Wang, Yingchuan Gong (Department of Chemistry, North Carolina A amp;T State University), Michael Rubinstein (Department of Chemistry, University of North Carolina, Chapel Hill, North Carolina 27599-3290)

B33.100 Fast Position Measurements with Scanning Line Optical Tweezers
Rajalakshmi Nambiar, Jens-Christian Meiners (University of Michigan, Dept. of Physics and Biophysics Research Division)

Session D5. DPOLY: Polyelectrolytes.

Monday af ternoon, 14:30, Wabash 1, Indiana Convention Center

Chair: Michael Rubinstein, University of North Carolina

14:30 **D5.001** The Born Energy in Complex Fluids
Philip Pincus (Materials Research Laboratory, UCSB, Santa Barbara, CA)

15:06 **D5.002** Phase behavior of polyelectrolyte solutions
M Muthukumar (University of Massachusetts -Amherst)

15:42 **D5.003** Visualization of DNA Motion within an Ordered Matrix
David Hoagland (Dept. of Polymer Sci. & Eng., Univ. of Massachusetts Amherst)

16:18 **D5.004** Dielectric Measure of Polyelectrolyte Charge and Interaction with Water
Ralph H. Colby (Penn State University)

16:54 **D5.005** Hydrophobic Polyelectrolytes
Andrey Dobrynin (Institute of Materials Science and Department of Physics, University of Connecticut, Storrs, CT, 06269)

Session D9. DPOLY/DMP: Focus Session: Nanostructures in Polymers I.

Monday afternoon, 14:30, 101-102, Indiana Convention Center

Chair: Robert Bubeck, Michigan Molecular Institute

14:30 **D9.001** Single-walled Carbon Nanotube / Semicrystalline Polymer Composite Fibers
Reto Haggenmueller, John E. Fischer, Karen I. Winey (University of Pennsylvania, Dept of Materials Science and Engineering, Philadelphia, PA)

14:42 **D9.002** Multiscale Modeling of Polymer-Clay Composites
Tibor F. Nagy, P. M. Duxbury (Michigan State University)

14:54 **D9.003** Polymer-Layered Silicate Nanocomposites with Low Coverage and Mixed Surfactants
Rick Beyer (Army Research Laboratory, APG, MD), Arnab Dasgupta, Mary Kurian, Mary Galvin (Materials Science and Engineering, University of Delaware)

15:06 **D9.004** PMMA and PS / Clay Nanocomposites
Michael Goldman (Rambam Mesivta High School), Viveck Vaudevan (Wheatley High School), Mayu Si, Michael Gelfer, Benjamin Hsaio, Jonathan Sokolov, Miriam Rafailovich (SUNY at Stony Brook), Dennis Peiffer (EXXON/Mobil Research and Engineering)

15:18 **D9.005** 3-D Orientation and Properties of Polymer Layered Silicate Nanocomposites
Ayush Bafna, Gregory Beaucage, Francis Mirabella, Bryce Kohl (University of Cincinnati, Cincinnati, Ohio)

15:30 **D9.006** Crystalline forms in melt-crystallized syndiotactic polystyrene/clay nanocomposites
Tzong-Ming Wu, Sung-Fu Hsu (Department of Material Science and Engineering, National Chung Hsing University), Jeng-Yue Wu (Department of Chemical Engineering, National Chung Hsing University)

15:42 **D9.007** Inorganic Surfaces as Nucleating Agents for Semi-Crystalline Polymers
Kenneth Strawhecker, Evangelos Manias (The Pennsylvania State University, Department of Materials Science and Engineering)

15:54 **D9.008** Thermoset-Based Nanocomposites
Pele Bhembe (Tuskegee University), Mohammed Abdalla, Sabyasachi Ganguli, Sandi Campbell, Derric k Dean

16:06 **D9.009** Molecular mechanisms of failure in polymer nanocomposites
Dilip Gersappe (Dept. of Materials Science and Engineering, SUNY at Stony Brook)

16:18 **D9.010** Ordered Organosilicate Nanocomposites Templated by Block Copolymers
Shu Yang, Yoichi Horibe, Cheng-Hsuan Chen, Thomas Tatry, Paul Evans (Bell Laboratories, Lucent Technologies), Peter A. Mirau (Agere Systems)

16:30 **D9.011** Metal Nanoparticle Arrays from Diblock Copolymer Templates
Robert L. Sandstrom, C.T. Black, K.W. Guarini (IBM-Research)

16:42 **D9.012** Block Copolymer Templates for Optical Materials and Devices
Augustine Urbas, Maldovan Martin, W.C. Carter, E.L. Thomas (MIT), Michael Fasolka (NIST), Cassandra Fraser (UVA)

16:54 **D9.013** Effect of nanoscopic particles on microphase ordering of diblock copolymer/particle mixture
Jae Youn Lee, Russell Thompson (Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA 15261), David Jasnow (Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh, PA 15261), Anna Balazs (Department of Chemical and Petroleum Engineering, University of Pittsburgh, Pittsburgh, PA 15261)

17:06 **D9.014** Self-Consistent Field Theory for a Binary Hard Sphere/Diblock Copolymer Systems
Russell B Thompson, Jae Youn Lee, David Jasnow, Anna C Balazs (University of Pittsburgh)

17:18 **D9.015** Rigid Pore Structure from Highly Swollen Polymer Gels
H. Henning Winter, Souvik Nandi, Griffin Gappert (University of Massachusetts)

Session D10. DPOLY: Thin Film Structure and Properties.

Monday afternoon, 14:30, 103, Indiana Convention Center

Chair: Darrin J. Pochan, University of Delaware

14:30 **D10.001** Density Anomalies in Thin Liquid Films of Hydride Functional Siloxanes
G. Evmenenko, C.-J. Yu, J. Kmetko, P. Dutta (Northwestern University)

14:42 **D10.002** Chain Confinement Effects on the Crystal Growth Rate of Ultrathin Poly(ethylene oxide) Films
Michael V. Massa, Kari Dalnoki-Veress (Department of Physics and Astronomy, McMaster University, Hamilton, ON, Canada), James A. Forrest (Department of Physics, University of Waterloo, Waterloo, ON, Canada)

14:54 **D10.003** 3-Dimensional Structure of Polymers in Ultrathin Films
Ronald Jones, Christopher Soles, Francis Starr, Eric Lin, Joseph Lenhart, Wen-li Wu (NIST), Dario Goldfarb, Marie Angelopoulos (T.J. Watson Research Center, IBM)

15:06 **D10.004** Switching Shape of Cylindrical Brush Molecules at Interfaces
Sergei Sheiko, Marce lo da Silva (Department of Chemistry, University of North Carolina at Chapel Hill), Svetlana Prokhorova (Macromolecular Chemistry, University of Ulm, Germany), Kathryn Beers (National Institute of Standards and Technology, Gaithersburg), Hans Boerner, Krzy sztof Matyjaszewski (Department of Chemistry, Carnegie Mellon University, Pittsburgh)

15:18 **D10.005** Imaging Layers Based on Surface-Initiated Polymers
Martha Montague, Erik Edwards, Paul Nealey (University of Wisconsin - Madison)

15:30 **D10.006** Planar molecular and macromolecular gradients: preparation and properties
Jan Genzer, Tao Wu, Kirill Efimenko (NC State University)

15:42 **D10.007** Molecular Modeling of Tethered Polymer Chains
Sergio Mendez (U. of New Mexico), John Curro, Michael Kent, Hyun Yim (Sandia National Labs), John McCoy (New Mexico Institute of Min ing and Technology)

15:54 **D10.008** Microstructure and Durability-related Physical Properties of Fluoropolymer Coatings
Li-Piin Sung (National Institute of Standards and Technology, Gaithersburg, MD 20899), Silvia Vicini (ATOFINA Chemicals, Inc., King of Prussia, PA 19406), Derek Ho (National Institute of Standards and Technology, Gaithersburg, MD 20899), Kurt Wood (ATOFINA Chemicals, Inc., King of Prussia, PA 19406)

16:06 **D10.009** The Crystal Structure of Vinylidene Fluoride (70%) Trifluoroethylene (30%) Copolymer Studied by Transmission Electron Microscopy
Mengjun Bai (Department of Physics and Astronomy, University of Nebraska-Lincoln), Xingzhong Li (Center for Materials Research and Analysis, University of Nebraska-Lincoln), Shireen Adenwalla, Matt Poulsen (Department of Physics and Astronomy, University of Nebraska-Lincoln), Stephen Ducharme (Department of Physics and Astronomy, University of Nebraska-Lincoln), Vladimir M. Fridkin (Department of Physics and Astronomy, University of Nebraska-Lincoln, Institute of Crystallography, Russian Academy of Science, Moscow 117333, RUSSIA)

16:18 **D10.010** Imaging and Writing of Polarization Domain Patterns on Ultrathin Langmuir Blodgett Films of Polyvinylidene Fluoride Trifluoroethylene (70:30) Copolymers
Hongwei Qu, Tomas Garcia, Wei Yao, Jiandi Zhang (Florida International University), S Ducharme, P.A. Dowben, A.V. Sorokin (University of Nebraska-Lincoln), V.M. Fridkin (Insti. of Crystalography, The Russian Academy of Science)

16:30 **D10.011** Fabrication of Organic/Organic and Organic/Inorganic Laminated Films Based on Spin Self-Assembly Method
Kookheon Char, Jinhan Cho (School of Chemical Engineering and Institute of Chemical Processes, Seoul National University, Seoul 151-744, Korea), Ki-Bong Lee (Department of Physics, Pohang University of Science and Technology, San 31, Hyoja-dong, Nam-gu, Pohang 790-784, Kyoungbuk, Korea)

16:42 **D10.012** Probing Local Energy Transfer in Self-Assembled Polyelectrolyte Films using Near-Field Optics
Geoffrey Lowman, Natalie Daoud, Paul Carson, Steven Buratto (Dept. of Chemistry and Biochemistry, University of California, Santa Barbara, CA 93106)

Session D11. DPOLY: Electrically and Optically Active Materials.

Monday afternoon, 14:30, 104, Indiana Convention Center

Chair: Stuart Croll, North Dakota State University

14:30 **D11.001** Random Lasers based on Organic / Inorganic Hybrids
Spiros H. Anastasiadis, Maria Psyllaki, Andreas Stasinopoulos, Demetrios Anglos (Foundation for Research and Technology - Hellas, Heraklion Crete, Greece), R. Das, Emmanuel P. Giannelis (Cornell University, Ithaca, NY)

14:42 **D11.002** Laser-like Emission in the Blue Phase of a Cholesteric Liquid Crystal
Wenyi Cao, Antonio Muñoz, Peter Palffy-Muhoray, Bahman Taheri (Liquid Crystal Institute, Kent State University)

14:54 **D11.003** Optical Spectroscopic Studies of Conjugated Molecules/Polymers-a Comparative Study for a Planar, Semi-planar and a Non-planar Molecule
S. Guha, J.D. Rice, Y.T. Yau (Dept. of Physics, Astronomy and Materials Science, Southwest Missouri State University, Springfield MO 65804), C.M. Martin, M. Chandrasekhar, H.R. Chandrasekhar (Dept. of Physics and Astronomy, University of Missouri, Columbia MO 65211), U. Scherf (Institut for Physikalische und Theoretische Chemie, Universitaet Potsdam, Germany)

15:06 **D11.004** Pressure dependence of the luminescence and Raman modes in polyfluorene
C. M. Martin (University of Missouri, Columbia), S. Guha (Southwest Missouri State University), W. Graupner (Austriamicrosystems AG), M. Chandrasekhar, H. R. Chandrasekhar (University of Missouri, Columbia), U. Scherf (Universitaet Potsdam, Germany)

15:18 **D11.005** Morphological Underpinnings of High Performance in Oligofluorene-Thiophene Based Thin-Film Transistors
Andrew Lovinger, Zhenan Bao (Bell Laboratories, Lucent Technologies), Hong Meng (UCLA)

15:30 **D11.006** Control of electrical conduction in DNA using hole doping
Hea-yeon Lee, Masateru Taniguchi (The Institute of Scientific and Industrial Research (ISIR), Osaka University, Osaka, Japan), K.H. Yoo (Department of Physics, Younsei University, Seoul, Korea), Youichi Otsuka, Hidekazu Tanaka, Tomoji Kawai (The Institute of Scientific and Industrial Research (ISIR), Osaka University, Osaka, Japan)

15:42 **D11.007** Conductivity Enhancement of Polymer-Ceramic Nanoparticle Composite Electrolytes
B. Kumar, S.J. Rodrigues (University of Dayton Research Institute), L.G. Scanlon, R.J. Spry (Air Force Research Laboratory)

15:54 **D11.008** Microwave Response of Magnet-Polymer Composites
Ralph Skomski, Mircea Chipara, David Sellmyer (Department of Physics and Astronomy, University of Nebraska, Lincoln.)

16:06 **D11.009** Infrared conductivity of photocarriers in polyacene molecular crystals
C. P. Weber, J. W. Orenstein (Department of Physics, University of California, Berkeley, and Material Science Division, Lawrence Berkeley National Laboratory), Ch. Kloc, J. H. Schon, B. Batlogg (Bell Laboratories, Lucent Technologies)

16:18 **D11.010** Near-Field Optical Microscopy of Photonic Self-Assembled Polymer Systems
M.J. Fasolka, J. Hwang, L.S. Goldner (Optical Technology Division, NIST, Gaithersburg MD), A.M. Urbas, P. DeRege, E.L. Thomas (Dept. of Materials Science and Engineering, MIT, Cambridge MA), R.M. Johnson, A.P. Smith, C.L. Fraser (Dept. of Chemistry, University of Virginia, Charlottesville VA)

16:30 **D11.011** Electro-Mechanical Dynamics of Meso-Scale Polymer Thin Films
Gaurav Singh, Jayan Krishnaswamy, Ravi Saraf (Deptt. of Chemical Engineering, Virginia State University and Polytechnic University)

16:42 **D11.012** Crystal morphology and molecular modeling of planar defects in pentacene
Lawrence Drummy, Paul Miska, David Martin (Department of Materials Science amp; Engineering and the Macromolecular Science and Engineering Center, University of Michigan)

16:54 **D11.013** Toward Optimized Process Parameters for Ferroelectricity and Piezoelectricity in P(VF2-VF3) Copolymers
M.C. Christie (Chemical and Physical Laboratory, Cordis Corporation, A Johnson amp; Johnson Company, Miami Lakes, Florida), J.I. Scheinbeim (Polymer Electroprocessing Laboratory, Department of Chemical amp; Biochemical Engineering, Rutgers - The State University of New Jersey)

17:06 **D11.014** Acceptor behavior of functionalized fullerenes for photovoltaic applications
Mike Zwolak, Massimiliano Di Ventra (Virginia Tech)

17:18 **D11.015** Theoretical Modeling of Polymer Photovoltaic Devices
Jim Barker, Catherine Ramsdale, Neil Greenham, Cavendish Laboratory Collaboration

Session F2. DPOLY: Polymer Physics Prize Symposium.

Tuesday morning, 08:00, Sagamore 4, Indiana Convention Center

Chair: Sidney R Nagel, University of Chicago

08:00 **F2.001** The polymer mat: stretched polymers via compression
Thomas A. Witten [1] (James Franck Institute, University of Chicago)

08:36 **F2.002** Micromanipulation Study of DNA, DNA-protein Interactions, and Chromosomes
John F Marko (Department of Physics, University of Illinois at Chicago)

09:12 **F2.003** Entangling flow lines in a micro-channel: a simple chaotic mixer for microfluidics
Armand Ajdari (Laboratoire de Physico-Chimie Theorique, ESPCI, 10 rue Vauquelin, F-75231 Paris Cedex 05, France)

09:48 **F2.004** Cracks and Crazes: From molecular simulations to the macroscopic toughness of glassy polymers
Mark O. Robbins (Johns Hopkins University)

10:24 **F2.005** Simple Models of Complicated Rheology
Michael Cates (Dept of Physics and Astronomy, University of Edinburgh, Scotland)

Session F9. DPOLY: Charged and Ion-Containing Polymers.

Tuesday morning, 08:00, 101-102, Indiana Convention Center

Chair: Andrey Dobrynin, University of Connecticut

08:00 **F9.001** Polymer Physics Prize Break

08:48 **F9.002** Phase transitions in polyelectrolyte -surfactant complexes
Helmut Strey, Michael Leonard (PSE, Univ. of Massachusetts Amherst)

09:00 **F9.003** First imaging of Na-rich domains and qualitative determination of Na distribution in Na-neutralized poly(ethylene-ran-methacrylic acid) ionomers
Andreas Taubert, Karen I. Winey (Dept of Materials Science and Engineering, Univ. of Pennsylvania)

09:12 **F9.004** Vesicular Ionic Aggregates in Styrene-based Ionomers
Brian P. Kirkmeyer, Karen I. Winey (University of Pennsylvania)

09:24 **F9.005** Investigation into the Local Environment of Acid Groups in Ionomers by FT-IR
Karen E. Sohn (Department of Materials Science amp; Engineering, Laboratory for Research on the Structure of Matter, University of Pennsylvania, Philadelphia, PA 19104), Russel M. Walters (Department of Chemical Engineering, Laboratory for Research on the Structure of Matter, University of Pennsylvania, Philadelphia, PA 19104), Russell J. Composto (Department of Materials Science amp; Engineering, Laboratory for Research on the Structure of Matter, University of Pennsylvania, Philadelphia, PA 19104)

09:36 **F9.006** Shape and buckling of a short polyelectrolyte
Roya Zandi (Department of Chemistry and Biochemistry, UCLA), Joseph Rudnick (Department of Physics and Astronomy, UCLA), Ramin Golestantian (Institute for Advanced Studies in Basic Sciences, Zanjan, Iran)

09:48 **F9.007** The bulk phase behavior of short polyelectrolyte chains: A Monte Carlo study
Gerassimos Orkoulas, Sanat Kumar (Pennsylvania State University, University Park, PA 16802)

10:00 **F9.008** Phase Behavior of Lithium Perchlorate -Doped Poly(Styrene-b-Isoprene-b-Ethylene oxide) Triblock Copolymers
III Epps, Travis Bailey, Hoai Pham, Frank Bates (University of Minnesota, Department of Chemical Engineering)

10:12 **F9.009** Surface Segregation and Nanostructure Formation in Ionomer Films
Russel M. Walters, Joon-Seop Kim (Chosun University), Andreas Taubert, Karen Winey, Russell J. Composto (Department of Materials Science and Engineering, University of Pennsylvania, Philadelphia, PA 19104)

10:24 **F9.010** Pulse Field Gradient and Spin Diffusion NMR Study of Penetrants in Nafion Membrane
Marcus Giotto, Ghirmai Meresi, Wen-Yang Wen, Azi Tao, Steve Gong, Athinodorous Bandis, Yingzi Wang, Jinghui Zhang, Paul Inglefield, Alan Jones (Carlson School of Chemistry and Biochemistry, Clark University, Worcester, MA, 01610, USA)

10:36 **F9.011** Solvent Diffusion into Thin Perfluorinated Ionomer Films
Teresa A. Hill, Dvora Perahia (Department of Chemistry and Material Science and Engineering Clemson University, Clemson, SC 29630)

10:48 **F9.012** Ionic Conductivity of Water-soluble Fully Conjugated Heterocyclic Aromatic Polyelectrolytes
S. J. Bai, Y. S. Chen, J. P. Sun (Institute of Materials Science and Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan 80424), T. D. Dang, F. E. Arnold (Air Force Research Laboratory, Polymer Branch (AFRL/MLBP), Wright-Patterson AFB, Ohio 45433-7750)

Session F10. DPOLY: Processing and Aggregation of Hybrid and Composite Materials.

Tuesday morning, 08:00, 103, Indiana Convention Center

Chair: Richard Vaia, Air Force Research Laboratories

08:00 **F10.001** Polymer Physics Prize Break

08:48 **F10.002** Physics of elctrodriven jets in steady state regime
Sergey Fridrikh (MIT), Michael Brenner (Harvard University), Yong Li, Gregory Rutledge (MIT), Electrospinning Team

09:00 **F10.003** Physical Aging and Solvent Complexation in Triblock Copolymer Thermoreversible Gels
Peter L. Drzal, Kenneth R. Shull (Northwestern University)

09:12 **F10.004** Phase and Association Behavior of Poly(ethylene oxide) (PEO) and its Blends with Polyvinylpyrrolidone (PVP) in Water
Elena E. Dormidontova (Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN 55455), Mikhail M. Feldstein (Institute of Physical Chemistry, Russian Academy of Sciences, 117912, Moscow, Russia), Ronald A. Siegel (Department of Pharmaceutics, University of Minnesota, Minneapolis, MN 55455)

09:24 **F10.005** Polymer-assisted synthesis of giant, hollow and spherical polyoxomolybdate nanomolecules: the first example of 2nd-generation of C60-structure in nature?
Tianbo Liu (Department of Physics, Brokhaven National Laboratory, Upton, NY 11973), Quan Wan, Burger Christian, Benjamin Chu (Department of Chemistry, SUNY at Stony Brook, NY 11794), Anatoly Frenkel Collaboration, Carol Creutz Collaboration, Yimei Zhu Collaboration

09:36 **F10.006** Reversed Pressure Compaction: A Novel Method for Processing Composite Materials Directly from Polymer Fibers
Yachin Cohen, Dmitry M. Rein, Lev Vaykhansky (Chemical Engineering Dept. Technion, Israel 32000)

09:48 **F10.007** Block Copolymer Vesicles as Epoxy Modifiers
Jennifer Dean, Robert Cook, Frank Bates (Department of Chemical Engineering and Materials Science, University of Minnesota), Robert Grubbs (Department of Chemistry, Dartmouth College), Block Copolymer Modified Epoxy Team

10:00 **F10.008** Implications of Aggregation and Mass Fractal Nature of Aggregates on the Properties of Organic Pigments and Polymer Composites
Nikhil Agashe, Gregory Beaucage, George Skillas (Dept. of Materials Science, University of Cincinnati, Cincinnati, OH, USA.), Peter Jemian, Gabrielle Long, Jan Ilavsky, Lisa Clapp, Russell Schwartz (The Colors Group, Sun Chemical Corporation, Cincinnati, OH, USA.)

10:12 **F10.009** Mechanical Property Changes of a Polymer Composite Due to Conditioning at Elevated Temperatures for Several Months
Donald Wiegand (Picatinny Arsenal)

10:24 **F10.010** Effect of Pigment Particle Dispersion on the Crystallization Behavior of Polypropylene
Ayush Bafna, Nikhil Agashe, Gregory Beaucage (University of Cincinnati, Cincinnati, Ohio), Francis Mirabella (Equistar Technology Center, Cincinnati, Ohio)

10:36 **F10.011** Rheo-optical FTIR Investigation of Tacicity effects in Semi-syndiotactic Polypropylenes
Rangaramanujam Kannan, Gautam Parthasarathy, Michael Sevegney (Chemical Engineering and Materials Science, Wayne State University, Detroit, MI), Allen Siedle (3M Science Research Center, St. Paul, MN)

10:48 **F10.012** Properties of Poly (ethylene terephthalate) / Poly(ethylene terephthalate -co-4,4'bibenzoate) Blends
Satish Kumar, Byung-Gil Min (Georgia Institute of Technology), David Schiraldi (Kosa Co.), David Collard, Michael Hibbs, Chongfu Zhou, Hongming Ma (Georgia Institute of Technology)

Session G9. DPOLY: Frank J. Padden Award Education and Outreach Symposium.

Tuesday morning, 11:00, 101-102, Indiana Convention Center

Chair: Frank S. Bates, University of Minnesota

11:00 **G9.001** Polymer Chain Reinforcement across Narrow Interfaces: Entanglements Versus Chain Friction
Jason J Benkoski, Glenn H. Fredrickson, Edward J. Kramer (Materials Department, University of California, Santa Barbara)

11:12 **G9.002** Rheology of a Polymeric Bicontinuous Microemulsion
Kasiraman Krishnan, Timothy P. Lodge, Frank S. Bates (University of Minnesota), Wesley R. Burghardt (Northwestern University)

11:24 **G9.003** Structure Formation by Electrohydrodynamic Instabilities
Zhiqun Lin, Tobias Kerle, David A. Hoagland, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA, 01003), Erik Schaffer, Ullrich Steiner (Department of Polymer Chemistry, University of Groningen, The Netherland)

11:36 **G9.004** Mechanical properties of triblock copolymers as a function of morphology and chain architecture
Lei Qiao, Karen Winey (University of Pennsylvania)

11:48 **G9.005** Observing entanglements in craze formation and breakdown
Joerg Rottler, Mark O. Robbins (Dept. of Physics and Astronomy, The Johns Hopkins University, 3400 N. Charles Street, Baltimore, MD 21218)

12:00 **G9.006** Coffee Break

12:12 **G9.007** K-6 Science Curriculum Support Project (SCSP) at the Princeton Center for Complex Materials
Richard Register, David Reibstein, Yueh-Lin Loo, Li-Bong Lee, Neena Tierney, John Sebastian (Chemical Engineering and Princeton Materials Institute, Princeton University), Claire Grubb (Lawrenceville Intermediate School), Jill Piotrowski, Emily DeFilippo (Antheil Elementary School)

12:24 **G9.008** NIST Combinatorial Methods Center: Model for Industrial Outreach
Eric J. Amis, Alamgir Karim (Polymers Division, NIST, Gaithersburg, MD 20899; www.nist.gov/combi)

12:36 **G9.010** Educational Outreach by the NSF Polymers Program
Andrew J. Lovinger (National Science Foundation)

Session G10. DPOLY/DBP: Focus Session: Polymer-Cell Interactions.

Tuesday morning, 11:00, 103, Indiana Convention Center

Chair: Christine Ortiz, Massachusetts Institute of Technology

11:00 **G10.001** Cellular Interactions and Biocompatibility of Self-Assembling Diblock Polypeptide Hydrogels
Lisa Pakstis, Bulent Ozbas, Darrin Pochan (Material Sciences and Engineering and Delaware Biotechnology Institute, University of Delaware, Newark, DE), Clifford Robinson (Department Chemistry and Biochemistry and Delaware Biotechnology Institute, University of Delaware, Newark, DE), Andrew Nowak, Timothy Deming (Depts. of Materials and Chemistry, University of California, Santa Barbara, CA)

11:12 **G10.002** Tailoring the Temperature-Response of Polymers in Water by Monomer Design
Mindaugas Rackaitis, Kenneth Strawhecker, Evangelos Manias (The Pennsylvania State University, Department Materials Science amp; Engineering)

11:24 **G10.003** Use of Methacrylic Acid-Containing Hydrogels to Increase Protein Transport Across the Intestinal Epithelium
James Blanchette, Jennifer Lopez, Kinam Park, Nicholas Peppas (Department of Biomedical Engineering, School of Chemical Engineering, School of Industrial and Physical Pharmacy, Purdue University, West Lafayette, IN.)

11:36 **G10.004** Small angle neutron scattering (SANS) study of gastric mucin solutions
Z. Hong, R. Bansil (Boston University), T. Waigh (Univ. of Leeds), B. Turner, K.R. Bhaskar, N. Afdhal (Beth Israel Deaconess Medical Center), J. Lal (Argonne National Lab.)

11:48 **G10.005** Targeted Cellular Drug Delivery using Tailored Dendritic Nanostructures
Rangaramanujam Kannan, Parag Kolhe (Chemical Engineering and Materials Science, Wayne State University), Sujatha Kannan, Mary Lieh-lai (Children's Hospital of Michigan, WSU, Detroit, Michigan)

12:00 **G10.006** DNA transport dynamics threaded through a nanopore
Mark Bates, Amit Meller (The Rowland Institute for Science)

12:12 **G10.007** Dendrimeric Drug Delivery Agents Interacting with Membranes
Almut Mecke (Department of Physics, University of Michigan), Mark Banszak Holl (Department of Chemistry, University of Michigan), Bradford Orr (Department of Physics, University of Michigan), Anil K. Patri, Inhan Lee, James Baker Jr. (Center for Biologic Nanotechnology, University of Michigan)

12:24 **G10.008** Biomimetic Materials for Selective Recognition of Biologicals: Theoretical and Experimental Analysis
M.E. Byrne, K. Park, N.A. Peppas (NSF IGERT Center on Therapeutic and Diagnostic Devices, School of Chemical Engineering, Department of Biomedical Engineering, Department of Industrial and Physical Pharmacy, Purdue University, West Lafayette, IN, USA)

12:36 **G10.009** Single Dimer E-Cadherin Interaction Forces Characterized Using Modified AFM Cantilevers
Robert Rudnitsky, Frauke Drees, W. James nelson, Thomas Kenny (Stanford University), Stanford Nano-Biology Research Collaboration

12:48 **G10.010** Counterion Correlations on Condensed Biopolymers
Tommy Angelini (Department of Physics, University of Illinois), John Butler (Department of Materials Science, University of Illinois), James Ho (Department of Bioengineering, University of California, Berkeley), Hongjun Liang (Department of Materials Science, Univeristy of Illinois), Gerard Wong (Departments of Physics, Materials Science, and Bioengineering, University of Illinois)

13:00 **G10.011** Protein-Polyelectrolyte Coacervates: A Novel State of Biomacromolecular Fluids
P. Dubin (IUPUI), H. Bohidar (Jawarharlal Nehru Univ.), A. Hashizdume (Osaka Univ.), P. Ké (IUPUI), V. Bloomfield (Univ. Minnesota), J. Lal (ANL), Y. Morishima (Osaka Univ.), C. Naumann (IUPUI), P. Russo (Louisiana State Univ.), V. Skobeleva (Moscow State Univ.)

13:12 **G10.012** An Automated Method to Monitor Cell Migration.
Ivar Giaever, Charles R. Keese (School of Science, Rensselaer Polytechnic Institute and Applied BioPhysics, Inc., Troy, NY 12180)

13:24 **G10.013** Bundling of bacterial flagella
Thomas R. Powers, Annemarie J. Van Parys, Kenneth S. Breuer (Division of Engineering, Brown University)

G10.014 Cell interactions with Polymersomes
Dennis Discher, Peter Photos, Nily Dan (University of Pennsylvania amp; Drexel University)

Session G11. DPOLY: Semicrystalline Polymers.

Tuesday morning, 11:00, 104, Indiana Convention Center

Chair: Azar Alizadeh, GE Corporate R&D

11:00 **G11.001** Crystal Thicknesses in Crystalline-Amorphous Block Copolymers
Li-Bong Lee, Scott Trzaska, Richard Register (Chemical Engineering, Princeton University)

11:12 **G11.002** Reversible Melting of UHMMPE and PE Extended-chain Crystals Detected by Temperature-modulated Calorimetry
Jeongihm Pak, Bernhard Wunderlich (Department of Chemistry, The University of Tennessee, Knoxville, TN 37996-1600 and ORNL, Oak Ridge, TN)

11:24 **G11.003** Chain-extended Crystals in Ethylene-Octene Copolymers
Paul Phillips, Samir Abu-Iqyas (University of Tennessee)

11:36 **G11.004** The Influence of Regime on Band Spacing in an Ethylene Copolymer
Samir Abu-Iqyas, Paul Phillips (University of Tennessee)

11:48 **G11.005** The Specific Reversibility of Crystallization and Melting of Polymers
Rene Androsch, Igor Kolesov (Martin-Luther-University Halle-Wittenberg, Institute of Material Science, 06099 Halle/S., Germany)

12:00 **G11.006** Melting Behavior and Ringed Lamellae in Poly(trimethylene terephthalate)
Pi Ling Wu, Ea Mor Woo (Department of Chemical Engineering, National Cheng Kung University, Tainan, 701-01, Taiwan)

12:12 **G11.007** Determining Equilibrium Lamellar Thickness by Small Angle Light Scattering
Ying Li, Yvonne Akpalu (Department of Chemistry, Rensselaer Polytechnic Institute, Troy NY 12180)

12:24 **G11.008** Compositionally Modulated Phase in n-Alkane Crystals
Eric B. Sirota (ExxonMobil Research and Engineering Company)

12:36 **G11.009** Deformation of Lamellar Structures: Simultaneous Small- and Wide-angle
N. Sanjeeva Murthy (Honeywell International), David T. Grubb (Cornell University)

12:48 **G11.010** Influence of branch length on the texture of linear low density polyethylene
Dongsheng Li, Hamid Garmestani (Department of Mechanical Engineering, Florida State University)

13:00 **G11.011** Heat Capacity of Poly(L-lactic acid)
Marek Pyda (The University of Tennessee, Knoxville, and ORNL, Oak Ridge, TN), C. Bopp Richard C. Bopp, C. Richard (Cargill Dow LLD, Minnetonka, MN), Bernhard Wunderlich (The University of Tennessee, Knoxville, and ORNL,Oak Ridge, TN)

13:12 **G11.012** Gas Solubility and Density of Rigid Amorphous Phase in Semi-Crystalline Poly(Ethylene Terephthalate).
Sergei Shenogin, Jun Lin, Sergei Nazarenko (Department of Macromolecular Science, Case Western Reserve University, Cleveland, Ohio 44106)

13:24 **G11.013** Positron Annihilation Lifetime Study of Semicrystalline Syndiotactic Polystyrene
Brian G. Olson (Physics Department, Case Western Reserve University, Cleveland, OH 44106), Alexander Jamieson (Macromolecular Science and ENgineering Department, Case Western Reserve University, Cleveland, OH 41106), Thummanoon Prodpran, Sergei Nazarenko (Macromolecular Science and Engineering Department, Case Western Reserve University, Cleveland, OH 44106)

13:36 **G11.014** The effect of physical and chemical crosslinks on the crystallization of PDMS
Thilo Dollase (Stadler Minerva Center for Mesoscale Macromolecular Eng., Ben Gurion University, Beer Sheva 84105 Israel), Hans Wolfgang Spiess (Max-Planck-Institut fur Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany), Moshe Gottlieb, Rachel Yerushalmi-Rozen (Chemical Eng. Dept., Ben-Gurion-University, Beer-Sheva, 84105, Israel)

13:48 **G11.015** The Effect of Fluoroalkyl Units on the Molecular Aggregation of Polyesters
K. Kojio, A. Heintz, S.L. Hsu, J. Schall, J. Penelle (Polymer Science and Engineering, University of Massachusetts, Amherst), S. Sasaki, A. Takahara, T. Kajiyama (Kyushu University, Fukuoka, Japan)

Session J2. DPOLY: John H. Dillon Medal Symposium.

Tuesday afternoon, 14:30, Sagamore 4, Indiana Convention Center

Chair: Wade Adams, Wright-Patterson Air Force Base

14:30 **J2.001** Holographic Photopolymerization-Induced Active and Passive Optical Structures
Timothy Bunning (Air Force Research Laboratory, Materials and Manufacturing Directorate/MLPJ, WPAFB)

15:06 **J2.002** Mechanism of Formation of Three Dimensional Structures of Particles Dispersed in a Liquid Crystal
John West, Anatoliy Glushchenko, Guangxun Liao (Liquid Crystal Institute, Kent State University, Kent, Ohio 44242), Yuriy Reznikov, Denis Andrienko, Michael Allen (H.H.Wills Physics laboratory, University of Bristol, Royal Fort, Tyndall Avenue, Bristol BS8 1TL, United Kingdom)

15:18 **J2.003** Self-diffraction of recording beams in polymer-dispersed liquid crystal holograms: grating chirp and index taper
Richard L. Sutherland, Lalgudi V. Natarajan, Stephen Siwecki, Suresh Chandra, Vince P. Tondiglia (Science Applications International Corporation), Timothy J. Bunning (Air Force Research Laboratory)

15:30 **J2.004** MesoScale Morphology Development in PDLCs: Real-Time Synchrotron Small Angle X-ray Scattering Studies
R Vaia, T Bunning (Air Force Research Laboratory, Materials and Manufacturing Directorate), H Koerner (University of Dayton Research Institute), D Tomlin (Air Force Research Laboratory, Materials and Manufacturing Directorate)

15:42 **J2.005** Modeling Spatial Effects in Photopolymerizations
Christopher N. Bowman, Allison K. O'Brien (University of Colorado)

15:54 **J2.006** Pattern Polymerization-induced Phase Separation in a Polymer-dispersed Liquid Crystal System
Thein Kyu (University of Akron)

16:06 **J2.007** Controlling the Nanoscale Patterns in Block Copolymers
Edwin L. Thomas (M.I.T.)

16:18 **J2.008** Toward Photonic Crystals from Crosslinked Block copolymers
Nitash P. Balsara, Hyeok Hahn, Hany B. Eitouni (University of California, Berkeley)

16:30 **J2.009** New Strategies for Patterning at nm Dimensions
Christopher Ober, Gina Weibel (Materials Science amp; Engineering, Cornell University), Victor Pham (Chemical Engineering, Cornell University), Tianyue Yu (Chemistry, Cornell University)

16:42 **J2.010** Rubbing-Induced Molecular Reorientation on an Alignment Surface of an Aromatic Polyimide Containing Cyanobiphenyl Side Chains
S.Z.D. Cheng, Jason J. Ge, Christopher Y. Li, Frank W. Harris (The University of Akron), Seok-Cheol Hong, Xiaowei Zhuang, Y.R. Shen (University of California, Berkeley)

16:54 **J2.011** Molecular Dynamics Simulations of the Formation of Polymer Nanocomposites
B. L. Farmer, R. A. Vaia (Air Force Research Lab), Anuchai Sinsawat (Univ. of Virginia)

17:06 **J2.012** Plasma Polymerized Optical Interference films
Hao Jiang (Anteon Co.), Eric Johnson (TMCI), Kurt Eyink (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLP), John Grant (UDRI), Walter Johnson (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLP), Dave Tomlin (TMCI), Paul Fleitz, Tim Bunning (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLP)

17:18 **J2.013** Cure Evolution of Textural Dynamics in Liquid Crystalline Thermosets
Patrick Mather (University of Connecticut)

Session J9. DPOLY: Focus Session: Glass Transition in Bulk Polymers.

Tuesday afternoon, 14:30, 101-102, Indiana Convention Center

Chair: Lynn Loo, Bell Labs, Lucent Technologies

14:30 **J9.001** Dillon Medal Break

15:06 **J9.002** Glassy Formation and Pressure Effects
John T. Bendler, John J. Fontanella (Physics Department, US Naval Academy, Annapolis, MD 21402), Michael F. Shlesinger (Office of Naval Research, Arlington, VA 22217)

15:18 **J9.003** Stochastic model prediction of pressure-jump effects on volume relaxation in Polystyrene near Tg
Grigori Medvedev, James Caruthers (Purdue University)

15:30 **J9.004** Rheo-Optical Behavior Across the Glass Transition in Amorphous Polymers
Young Bok Lee (Dept. of Mech. Engr, Pohang Univ. of Science and Technology), Kyunghwan Yoon (Dept. of Mech. Engr, Dankook University), Julia A. Kornfield (Chem. Engr., California Institute of Technology), Tai Hun Kwon (Dept. of Mech. Engr, Pohang Univ. of Science and Technology)

15:42 **J9.005** Continuum model with super-Arrhenian behavior
Ritwik Bhatia, Grigori Medvedev, James Caruthers (Purdue University)

15:54 **J9.006** Dependence of the Relaxation Time for Volume Recovery on Thermal History
Paul Bernazzani, Sindee L. Simon (Texas Tech University)

16:06 **J9.007** Viscoelastic fluctuations and FDR in polymer glasses
Philip Crider, Shomeek Mukhopadhyay, Michael Rose, N. E. Israeloff (Northeastern University)

16:18 **J9.008** Segmental Dynamics in poly(ethylene oxide) poly(methyl methacrylate) miscible blends
Chunxia Chen, Janna Maranas (Dept. of Chemical Engineering, Penn State University), Ralph Colby, Sudesh Kamath (Dept. of Materials Science amp; Engineering, Penn State University), Bela Farago (Institut Laue-Langevin), Tim Long (Virginia Polytechnic Institute amp; State University)

16:30 **J9.009** Novel Heat-Resistant Polyolefin-based Multi-Block Copolymers
Jingjing Xu, Frank Bates (University of Minnesota), Steve Hahn, Michelle Hudack (Dow Chemical Company)

16:42 **J9.010** Replace with abstract title
Mircea Chipara (Indiana University, Cyclotron Facility, Bloomington, Indiana), Roberto Benson (University of Tennessee,Department of Materials Science Engineering, Knoxville, TN 37996-2012), Charles Foster (Indiana University, Cyclotron Facility, Bloomington, Indiana)

16:54 **J9.011** Orientation and Relaxation of Poly(methylmethacrylate)Networks
M. A. Sharaf (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0295), M. K. Hassan (Department of Chemistry, University of Cincinnati, Cincinnati, OH 45221-0172)

17:06 **J9.012** Effects of Gelation in the Glassy State
Xiaorong Wang (Bridgestone/Firestone Research, Akron, Ohio 44317)

Session J10. DPOLY: Phase Behavior and Wetting in Thin Films.

Tuesday afternoon, 14:30, 103, Indiana Convention Center

Chair: Howard Wang, National Institute of Standards and Technology

14:30 **J10.001** Dillon Medal Break

15:06 **J10.002** Spontaneous Thin Film Formation from Aqueous Two-Phase Systems
Sai V. Pingali, \v Sárka Málková, Benjamin Stull, Mark L. Schlossman (Univ. of Ill., Chicago.), Ming Li (Inst. of Phys., CAS, Beijing, CHINA.)

15:18 **J10.003** Long Range Surface Effects on the Phase Behavior in Thin Polymer Blend Films
Ananth Indrakanti (Chem E Dept., Penn State University), Ronald Jones (Polymer Division, NIST), Sanat Kumar (Mat Sci amp; Engg Dept., Penn State University), Robert Briber (Dept. of Nuclear and Materials Engg., University of Maryland)

15:30 **J10.004** Autophobic Phase Separation of Linear and Physically Crosslinked PDMS: Unusual Film-Thickness-Dependent Morphology
S.D. Kim, J.M. Torkelson (Northwestern Univ.)

15:42 **J10.005** Interfacial Segregation In Thin Film Of Polymers Containing Alternating Protonated Fluorinated Segments: A Neutron Reflectivity Study.
Rakchart Traiphol, Dennis Smith, Dvora Perahia (Department of Chemistry and MSamp;E, Clemson University, Clemson, Sc 29634), Gian Felcher (Material Division, Argonne National Laboratory, Argonne, IL 60439)

15:54 **J10.006** Interfacial Modification by Copolymers: The Importance of Copolymer Microstructure
Mark Dadmun, Eric Eastwood (Chemistry Dept., University of Tennessee, Knoxville, TN 37996)

16:06 **J10.007** Gradient Energy Substrates for Self-organizing Polymer Thin Film Libraries
Alamgir Karim, Archie Smith, Amit Sehgal, Jack Douglas, Eric Amis (Polymers Div., National Institute of Standards and Technology, Gaithersburg, MD 20899)

16:18 **J10.008** Dewetting Patterns and Molecular Forces: a Reconciliation
Ralf Seemann, Stephan Herminghaus, Karin Jacobs (University of Ulm, Dept. of Applied Physics, D-89069 Ulm)

16:30 **J10.009** Distinguishing Spinodal and Nucleation Phase Separation in Dewetting Polymer Films
Ophelia K. C. Tsui, Binyang Du, Fengchao Xie, Zhiyu Yang, Yongjian Wang (Physics Department and Institute of Nano Science and Technology, Hong Kong University of Science and Technology)

16:42 **J10.010** Transition of Linear to Exponential Hole Growth Modes in Thin Free Standing Films.
Jean-Harry Xavier, Jonathan Sokolov, Miriam Rafailovich, Yuxie Pu (SUNY at Stony Brook), Tom Peterse n (Princeton University)

16:54 **J10.011** Spontaneous fingering instabilities in thin polymer films
Peter Green (Chemical Engineering, The University of Texas at Austin, Austin TX 78712), Jean-Loup Masson (Texas Materials Institute, The University of Texas at Austin, Austin, TX 78712)

17:06 **J10.012** Ultrathin POSS-Polymer Blends
Alan Esker, Joseph Polidan, Jianjun Deng, Catherine Farmer-Creely (Department of Chemistry, Virginia Tech), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)

17:18 **J10.013** Dewetting dynamics in nanofilled polymer thin films
Haobin Luo, Dilip Gersappe (Dept of Materials Science and Engg, SUNY at Stony Brook)

Session J29. DBP/DPOLY: Rheological Properties of Bipolymer Networks.

Tuesday afternoon, 14:30, 209, Indiana Convention Center

Chair:

14:30 **J29.001** Rheology and microrheology of biopolymer networks and biopolymer-membrane complexes
F C MacKintosh (Division of Physics amp; Astronomy, Vrije Universiteit, Amsterdam)

15:06 **J29.002** Microrheology and micromechanics of actin-coated membranes
Laurent Bourdieu (Laboratoire de Dynamique des Fluides Complexes, U.M.R. C.N.R.S. 7506, Strasbourg, France)

15:42 **J29.003** One- and Two-bead Microrheology in Semiflexible Biopolymer Solutions
Christoph Schmidt (Vrije Universiteit Amsterdam, Div. Physics)

16:18 **J29.004** Rheological Measurements of Composite Cytoskeletal Networks
Paul Janmey (Institute for Medicine and Engineering, Departments of Physiology and Physics & Astronomy, University of Pennsylvania)

16:54 **J29.005** Practical Constraints in Measuring Rheological Properties of Biopolymer Networks
Jay Tang (Indiana University)

Session L2. DPOLY: Interactions between Cells and Organic Materials.

Wednesday morning, 08:00, Sagamore 4, Indiana Convention Center

Chair: Alamgir Karim, National Institute of Standards and Technology

08:00 **L2.001** Cells on Polymer Surfaces
Linda G. Griffith (Massachusetts Institute of Technology)

08:36 **L2.002** Model Substrates for Understanding and Controlling the Interactions of Cells with Materials
Milan Mrksich (The University of Chicago, Department of Chemistry)

09:12 **L2.003** Cell Spreading and Function on Peptide Tethered Organic Surfaces
Russell J. Composto (Materials Science and Eng., Center for Bioactive Mat. and Tissue Eng., University of Pennsylvania, Philadelphia PA)

09:48 **L2.004** Controlled surface chemistries and quantitative cell response
Anne L. Plant (NIST- Biotechnology Division)

10:24 **L2.005** Bioactive Hydrogels
Jeffrey T. Koberstein (Columbia University)

Title	A2: Organic and Inorganic Nanostructures in Polymers	A9: Polymer Surfaces and Interfaces: Adhesion, Fracture and Diffusion	A10: Polyelectrolytes: Solutions and Absorption
Room	Sagamore 4	101-102	103
Chair	*Christenson, C.*	*Cohen, Y.*	*Akpalu, Y.*
8:00		Sides, S.W.	Rubinstein, M.
8:12	Vaia, R.A.	Crosby, A.J.	Ermoshkin, A.
8:24		Webber, R.	Seery, T.A.P.
8:36		Unertl, W.N.	Sabouri, M.
8:48	Wiesner, U.	Beers, K.	Shew, C.-Y.
9:00		Gorga, R.E.	O'Shaughnessy, B.
9:12		Harp, G.	Li, F.
9:24	Krishnamoorti, R.	Yang, A.C.-M.	Lau, A.W.C.
9:36		Lin, E.K.	Toomey, R.
9:48		Zhao, J.	Kent, M.S.
10:00	Carroll, D.L.	Li, C.	Dobrynin, A.V.
10:12		Guico, R.S.	Santore, M.
10:24		Narayanan, S.	Szleifer, I.
10:36	Windle, A.H.	Chen, H.	Park, S.
10:48			Finkenstadt, D.

Title	B33: DPOLY Poster I			
Room	Exhibit Hall			
Chair	*Croll, S.*			
	Gonzalez, J.	Nunalee, F.N.	Schultz Nielsen, C.	Hexemer, A.
	Ozisek, R.	Composto, R.J.	Vader, D.	Xie, J.
	Heintz, A.M.	Jiang, Y.	Wang, Y.	Marinov, T.
	Cho, J.	Kanki, T.	Misner, M.	Gauthier, M.G.
	Kang, S.	Ferreira, M.	Seemann, R.	Corsi, A.
	Crist, B.	Hobbie, E.K.	Choi, S.-H.	Luo, H.
	Park, S.-Y.	Zhang, S.H.	Pawloski, A.	Li, W.
	Zhang, X.J.	Lee, D.	Tsai, I.	Wu, J.
	Ren, Z.	Ryu, D.Y.	McSwain, R.L.	Wolgemuth, C.
	Kosyreva, E.V.	Ryu, D.Y.	Yang, S.	Discher, D.
	Somoza, M.M.	Kim, B.J.	McCormick, L.	Sinsawat, A.
	Wang, S.	Harada, T.	Ozbas, B.	Van Workum, K.
	Wargacki, S.	Burgaz, E.	Xu, H.	Stoykovich, M.P.
	Hostetter, G.	Zhu, Y.	Ellison, C.J.	Kim, D.H.
	Weng, X.	Sukumaran, S.K.	Thallapalle, P.K.	Bubeck, R.
	Duran, H.	Rixman, M.A.	Xu, T.	Duan, H.
	Jing, J.	Christie, M.C.	Turner, J.D.	Zeng, J.
	Koerner, H.	Park, H.S.	Wool, R.	Jaber, E.
	Mehta, R.	Hudson, S.	Wang, Q.	Kumar, K.K.P.
	Cai, W.	Si, M.	Segnere, S.	Buxton, G.
	Shuai, X.	Hu, X.	Rangkupan, R.	Yoshimoto, K.
	Buzin, A.I.	Yandek, G.	Kim, H.-C.	Kumar, S.
	Garrett, J.T.	Zhang, X.	Sreekumar, T.V.	Wang, Y.
	Kim, E.Y.	Keawwattanna, W.	Chung, H.J.	Nambiar, R.
	McCoy, J.D.	Jin, X.	Sreekumar, T.V.	

Title	D5: Polyelectrolytes	D9: Focus Session: Nanostructures in Polymers I	D10: Thin Film Structure and Properties	D11: Electrically and Optically Active Materials
Room	Wabash 1	101-102	103	104
Chair	*Rubinstein, M.*	*Bubeck, R.*	*Pochan, D.*	*Croll, S.*
14:30		Haggenmueller, R.	Evmenenko, G.	Anastasiadis, S.H.
14:42	Pincus, P.A.	Nagy, T.F.	Massa, M.V.	Cao, W.
14:54		Beyer, R.	Jones, R.L.	Guha, S.
15:06		Goldman, M.	Sheiko, S.	Martin, C.M.
15:18	Muthukumar, M.	Bafna, A.	Montague, M.	Lovinger, A.J.
15:30		Wu, T.-M.	Genzer, J.	Lee, H.-Y.
15:42		Strawhecker, K.	Mendez, S.	Kumar, B.
15:54	Hoagland, D.A.	Bhembe, P.	Sung, L.-P.	Skomski, R.
16:06		Gersappe, D.	Bei, M.	Weber, C.P.
16:18		Yang, S.	Qu, H.	Fasolka, M.J.
16:30	Colby, R.H.	Sandstrom, R.L.	Char, K.	Singh, G.
16:42		Urbas, A.	Lowman, G.	Drummy, L.
16:54		Lee, J.Y.		Christie, M.C.
17:06	Dobrynin, A.	Thompson, R.B.		Zwanak, M.
17:18		Winter, H.H.		Barker, J.A.

Other items of interest:
Session 1A: APS Welcome Reception, 18:30, ICC

Tuesday, March 19

Title	F2: Polymer Physics Prize Symposium	F9: Charged and Ion-Containing Polymers	F10: Processing and Aggregation of Hybrid and Composite Materials	
Room	Sagamore 4	101-102	103	
Chair	*Nagel, S.R.*	*Dobrynin, A.*	*Vaia, R.*	
8:00				
8:12	Witten, T.A.			
8:24				
8:36				
8:48	Marko, J.F.	Strey, H.	Fridrikh, S.	
9:00		Taubert, A.	Drzal, P.L.	
9:12		Kirkmeyer, B.P.	Dormidontova, E.E.	
9:24	Ajdari, A.	Sohn, K.E.	Liu, T.	
9:36		Zandi, R.	Cohen, Y.	
9:48		Orkoulas, G.U.	Dean, J.	
10:00	Robbins, M.O.	Epps, T.H.	Agashe, N.L.	
10:12		Walters, R.M.	Wiegand, D.	
10:24		Giotto, M.	Bafna, A.	
10:36	Cates, M.E.	Hill, T.A.	Kannan, R.	
10:48		Bai, S.J.	Kumar, S.	

Title	G9: Frank J. Padden Award, Education and Outreach Symposium	G10: Focus Session: Polymer-Cell Interactions	G11: Semicrystalline Polymers	
Room	101-102	103	104	
Chair	*Bates, F.S.*	*Ortiz, C.*	*Alizadeh, A.*	
11:00	Benkoski, J.	Pakstis, L.	Lee, L.-B.	
11:12	Krishnan, K.	Rackaitis, M.	Pak, J.	
11:24	Lin, Z.	Blanchette, J.	Phillips, P.	
11:36	Qiao, L.	Hong, Z.	Abu-Iqyas, S.	
11:48	Rottler, J.	Kannan, R.	Androsch, R.	
12:00		Bates, M.	Wu, P.L.	
12:12	Register, R.A.	Mecke, A.	Li, Y.	
12:24	Amis, E.J.	Byrne, M.E.	Sirota, E.B.	
12:36	Lovinger, A.J.	Rudnitsky, R.	Murthy, N.S.	
12:48		Angelini, T.	Li, D.	
13:00		Dubin, P.	Pyda, M.	
13:12		Giaever, I.	Shenogin, S.	
13:24		Powers, T.R.	Olson, B.G.	
13:36		Discher, D.	Dollase, T.	
13:48			Kojio, K.	

Title	J2: John H. Dillon Medal Symposium	J9: Focus Session: Glass Transitions in Bulk Polymers	J10: Phase Behavior and Wetting in Thin Films	J29: Rheological Properties of Biopolymer Networks
Room	Sagamore 4	101-102	103	209
Chair	*Adams, W.W.*	*Loo, L.*	*Wang, H.*	
14:30				
14:42	Bunning, T.J.			MacKintosh, F.C.
14:54				
15:06	West, J.L.	Bendler, J.T.	Pingali, S.V.	
15:18	Sutherland, R.L.	Medvedev, G.	Indrakanti, A.	Bourdieu, L.
15:30	Vaia , R.A.	Lee, Y.B.	Kim, S.D.	
15:42	Bowman, C.N.	Bhatia, R.	Traiphol, R.	
15:54	Kyu, T.	Bernazzani, P.	Dadmun, M.	Schmidt, C.
16:06	Thomas, E.L.	Crider, P.	Karim, A.	
16:18	Balsara, N.	Chen, C.	Seemann, R.	
16:30	Ober, C.K.	Xu, J.	Tsui, O.K.C.	Janmey, P.
16:42	Cheng, S.Z.	Chipara, M.	Xavier, J.-H.	
16:54	Farmer, B.L.	Sharaf, M.A.	Green, P.	
17:06	Jiang, H.	Wang, X.	Esker, A.	Tang, J.
17:18	Mather, P.T.		Luo, H.	

Other items of interest:
H1: Panel Discussion with PR/PRL Editor, 14:00, Room 120, ICC
K9: DPOLY Business Meeting, 17:30, Room 101-102, ICC
DPOLY Honorary Reception, 18:30, 500 Reception Room, ICC

Wednesday, March 20

Title	L2: Interactions between Cells and Organic Materials	L9: Focus Session: Nanocomposites and Filled Elastomers	L10: Focus Session: Simulation of Polymer Thermodynamics	L11: Thin Films: Confinement Effects on Dynamics
Room	Sagamore 4	101-102	103	104
Chair	*Karim, A.*	*Crosby, A.J.*	*Balazs, A.C.*	*Soles, C.L.*
8:00			Jones, J.	Schwab, A.
8:12	Griffith, L.G.	Ratna, B.	Ganesan, V.	Lequeux, F.
8:24			Bandyopadhyaya, R.	Wuebbenhorst, M.R.
8:36		Fried, E.	Dotera, T.	Pasqualini, S.
8:48	Mrksich, M.	Selinger, J.V.	Rasmussen, K.O.	Kim, H.J.
9:00		Mukhopadhyay, R.	Mihajlovic, M.	Thomas, J.
9:12		Lacoste, D.	Schultz, A.J.	McKenna, G.
9:24	Composto, R.J.	Drzal, P.L.	Vega, D.	Chow, T.S.
9:36		Kohls, D.J.	Lo, T.S.	Tate, R.S.
9:48		Pan, X.-D.	Jablonski, E.	McCoy, J.D.
10:00	Plant, A.L.	Bronner, M.J.	Batman, R.	Roth, C.B.
10:12		Si, M.	McGrother, S.	Murray, C.A.
10:24		Sun, Y.	Salaniwal, S.	Deh, B.
10:36	Koberstein, J.T.	Kim, J.	Luijten, E.	Wang, X.
10:48		Zhong, Y.	Zitha, P.L.J.	Green, P.

Title	M33: DPOLY Poster II			
Room	Exhibit Hall			
Chair				
	Rane, S.	Peng, H.G.	Khanna, V.	Xu, H.
	Hayward, R.C.	Gillman, E.	Lavery, K.A.	Yang, J.
	Hammond, M.R.	Lee, M.	He, Y.	Hee, L.K.
	Kim, D.H.	Kang, H.	Huang, P.	Abu-Iqyas, S.
	Krikorian, V.	Yim, H.	Savin, D.	Wang, B.
	Kataphinan, W.	Dean, D.	Edwards, E.W.	Islam, M.R.
	Gluck, G.	Seog, J.	Pickett, G.T.	Liu, W.
	Tang, P.	Li, J.	Burghardt, W.	Kyung, H.
	Doerr, T.P.	Patil, R.	Stevens, M.	Tate, R.S.
	Helfer, C.A.	Polidan, J.	Giotto, M.V.	Srinivasarao, M.
	Xu, G.	Lutz, T.R.	Borodin, O.	Alam, M.M.
	Rangarajan, P.	Hobbie, E.K.	Retsos, H.	Zhang, F.
	Angelescu, D.	Xiao, S.	Vandoolaeghe , W.L.	Hurka, R.
	Kirkmeyer, B.P.	Zhang, W.	Habenschuss, A.	Bhaskaran, K.
	Taubert, A.	Mezzenga, R.	Duffy, D.J.	Annis, B.
	Lin, Z.	Asoo, B.Y.	deAzevedo, E.R.	Shi, X.F.
	Jaggari, K.R.	Hwang, J.H.	Weng, X.	Briatico-Vangosa, F.
	Leach, K.A.	Srdanov, V.I.	Jin, S.	Loo, Y.-L.
	Shin, K.	Meng, S.	Ruan, J.	Wu, C.C.
	Kwon, K.-W.	Matsuba, G.	Xue, C.	Shumate, W.
	Fasolka, M.J.	Shimizu, K.	Wei, M.	Matsunaga, N.
	Belyi, V.	Gray, M.	Kolesov, I.	Soos, Z.G.
	Chen, Y.	Tyler, C.	Kanchanasopa, M.	Tan, L.
	Soles, C.	Ruokolainen, J.	Wu, J.	

Title	Q2: Heterogeneities near the Glass Transition	Q9: Focus Session: Nanostructures in Polymers II	Q10: Theory & Simulation	Q11: Controlled Structures and Morphology in Thin Films
Room	Sagamore 4	101-102	103	104
Chair	*Colby, R.H.*	*Winey, K.I.*	*Ozisik, R.*	*Krause, S.*
14:30		Gutman, L.	Porter, J.A.	Russell, T.P.
14:42	Sciortino, F.	Wu, J.	Chen, Y.-L.	Niu, T.
14:54		Camacho, M.	Kant, R.	Segalman, R.A.
15:06		Chen, E.-Q.	Nguyen, K.A.	Angelescu, D.
15:18	Long, D.	Zhao, Y.	Smith, G.D.	Costa, A.C.
15:30		Shankar, V.	Patel, H.	Lee, S.-H.
15:42		Webber, S.E.	Schultz, J.	Szamel, G.
15:54	Spiess, H.W.	Papoutsakis, L.	Mueller-Nedebock, K.	Frischknecht, A.L.
16:06		Bansil, R.	Beris, A.	Dutcher, J.R.
16:18		Bendejacq, D.	Jacobsen, J.	Jones, R.L.
16:30	Kivelson, D.	Guo, Q.	Duan, C.-G.	Buckley, S.
16:42		Falus, P.	Spakowitz, A.	Srinivasarao, M.
16:54		Fabbroni, E.	Wang, Q.	Briber, R.M.
17:06	Richert, R.	Wang, C.-Y.	Slater, G.W.	Kim, H.-C.
17:18				

Other items of interest:
N1: Students Lunch with the Experts, 12:30– 14:00, ICC

Thursday, March 21

Title	S2: Dynamics and Thermodynamics of the Glass Transition	S5: Photonic Properties of Organic Systems	S9: Block Copolymers	S10: Focus Session: Simulations of Polymer Dynamics and Thermodynamics	S11: Polymer Gels and Solutions
Room	Sagamore 4	Wabash 1	101-102	103	104
Chair	*Liu, A.*	*Wiltzius, P.*	*Anthematten, M.*	*Gersappe, D.*	*Mather, P.*
8:00			Bates, F.S.	Milner, S.T.	Beaucage, G.
8:12	Yu, C.	Braun, P.V.	Jaffer, K.M.	Grest, G.S.	Chakrapani, M.
8:24			Ryu, D.Y.	Shnidman, Y.	Torkelson, J.M.
8:36			Vogt, B.	Rutledge, G.C.	Pochan, D.
8:48	Granato, A.	Pine, D.J.	Davidock, D.	Luettmer-Strathmann, J.	Crichton, M.
9:00			Cochran, E.	Kuppa, V.	Wang, X.
9:12			Burghardt, W.	Heine, D.	Tian, J.
9:24	Poole, P.H.	Thomas, E.J.	Trawick, M.	Ozisik, R.	Plischke, M.
9:36			Zhu, L.	Budzien, J.H.	Xie, T.
9:48			Wu, L.	Kim, E.-G.	Huang, J.-R.
10:00	Angell, C.A.	Asher, S.A.	Tyler, C.	Chen, Y.	Cheng, G.
10:12			Cavicchi, K.	Soddemann, T.	Wilder, E.
10:24			Bang, J.	Tsige, M.	Sukumaran, S.K.
10:36	Sastry, S.	Turberfield, A.J.	Wickham, R.	Chang, R.	Chekal, B.
10:48			Hermel, T.J.	Kenward, M.	Meechai, N.

Title	T5: Simulations in Polymer Physics	T9: Experimental Techniques	T10: Rheology of Melts and Blends
Room	Wabash 1	101-102	103
Chair	*Milner, S.T.*	*Fasolka, M.*	*Krishnamoorti, R.*
11:00		Muller, E.M.	Kannan, R.
11:12	Escobedo, F.	Marcus, M.S.	Curro, J.G.
11:24		Zhang, R.	Shanbhag, S.
11:36		Reneker, D.H.	Wang, S.
11:48	Sides, S.W.	Burcica, C.	von Meerwall, E.D.
12:00		Samuels, R.	Park, S.J.
12:12		Petrowski, A.M.	Guenza, M.
12:24	Mueller, M.	Croll, S.	Mriziq, K.S.
12:36		Hawley, M.	Wang, Z.
12:48		Miller, A.F.	Wang, H.
13:00	Bedrov, D.A.	Ortiz, C.	Pathak, J.
13:12		Krupenkin, T.N.	Migler, K.B.
13:24		Mukhopadhyay, A.	Thurman, D.W.
13:36	Vinals, J.	Xie, A.F.	Somani, R.H.
13:48		Nnebe, I.	FernandezBallester, L.

Title	U9: Focus Session: Glass Transition in Bulk Polymers	U10: Polymer Blends: Morphology and Phase Transitions
Room	101-102	103
Chair	*Sokolov, A.P.*	*Jones, R.L.*
14:30	Thurau, C.T.	Foster, M.
14:42	Sinnathamby, K.	Chang, L.-L.
14:54	Soles, C.	Zhang, S.H.
15:06	Mukhopadhyay, S.	Appel, G.K.
15:18	Kumar, S.	Lipson, J.E.G.
15:30	Quirin, J.C.	Lin, Y.
15:42	Swallen, S.	Sigalov, G.
15:54	Kamath, S.	Wang, Z.-G.
16:06	Taylor, P.L.	Gonzalez, J.
16:18	Novikov, V.	Dormidontova, E.E.
16:30	Kisliuk, A.	Yeung, C.
16:42	Gujrati, P.D.	Arlen, M.J.
16:54	Erwin, B.	Ionescu-Zanetti, C.
17:06	Wunderlich, B.	Pickett, G.T.
17:18	Ougizawa, T.	Rusa, C.C.

Session L9. DPOLY/GSNP: Focus Session: Nanocomposites and Filled Elastomers.

Wednesday morning, 08:00, 101-102, Indiana Convention Center

Chair: Alfred J Crosby, National Institutes of Standards and Technology

08:00 **L9.001** Artificial muscle using nonlinear elastomers
Banahalli Ratna (Naval Research Laboratory, Washington DC)

08:36 **L9.002** Existence of disclinations in nematic elastomers
Eliot Fried, Russell E. Todres (University of Illinois at Urbana-Champaign)

08:48 **L9.003** Isotropic-Nematic Transition in Liquid-Crystalline Elastomers
Jonathan V. Selinger, Hong G. Jeon, B. R. Ratna (Naval Research Laboratory, Washington, DC)

09:00 **L9.004** Elasticity and Broken Symmetry in Nematic Elastomers
Ranjan Mukhopadhyay (NEC Research Institute), T.C. Lubensky (University of Pennsylvania), Xiangjun Xing, Leo Radzihovsky (University of Colorado at Boulder)

09:12 **L9.005** Collapse of nematic gels driven by isotropic-nematic transition
David Lacoste, Andy W. C. Lau, Tom C. Lubensky (University of Pennsylvania, Philadelphia)

09:24 **L9.006** Elasticity, Fracture, and Thermoreversible Gelation of Highly Filled Physical Gels
Peter L. Drzal, Kenneth R. Shull (Northwestern University)

09:36 **L9.007** Nano-structured silica fillers for elastomer reinforcement
Douglas Kohls, Gregory Beaucage (University of Cincinnati), Sotiris Pratsinis, Hendrik Kammler (ETH, Zurich)

09:48 **L9.008** Bulk Viscoelastic Contribution to the Wet Sliding Friction of Rubber Compounds
Xiao-Dong Pan (Bridgestone/Firestone Research, Inc., 1200 Firestone Parkway, Akron, Ohio 44317-0001)

10:00 **L9.009** The Effect of Carbon Black Fillers on Interfacial Adhesion
Mordechai Joseph Bronner (Rambam Mesivta High School), Anshul Shah (Harvard University), Hong Joon Kim (Seoul National University), Xuesong Hu (SUNY Stony Brook), Dennis Peiffer (EXXON/Mobil Research and Engineering), Jonathan Sokolov, Miriam H Rafailovich (SUNY at Stony Brook)

10:12 **L9.010** The Effect of Filler Mixtures on Fracture Toughness at Polymer Interfaces
Mayu Si (SUNY Stony Brook), Mordechai Joseph Bronner (Rambam Mesivta High School), Dennis Peiffer (EXXON/Mobil Research and Engineering), Jonathan Sokolov (SUNY Stony Brook), Miriam H Rafailovich (SUNY at Stony Brook)

10:24 **L9.011** The Effect of Clay on the Compatibilization of PS and PMMA Blend
Ying Sun (Ward Melville High School, Setauket, New York), Wenhua Zhang, Xuesong Hu, Miriam Rafailovich, Jonathan Sokolov (Material Science Department, SUNY Stony Brook)

10:36 **L9.012** Nanoparticles in Mesostructured Polymers: Stabilizations and Morphology Selection
Jaeup Kim, Ben O'Shaughnessy (Columbia University)

10:48 **L9.013** Physical Properties of Polystyrene and PMMA Nanocomposites
Yu Zhong, Shi-Qing Wang (Department of Polymer Science, University of Akron)

Session L10. DPOLY/DCOMP: Focus Session: Simulation of Polymer Thermodynamics.

Wednesday morning, 08:00, 103, Indiana Convention Center

Chair: Anna C Balazs, University of Pittsburgh

08:00 **L10.001** Application of the dissipative particle dynamics simulation method to materials
Janette Jones, Patrick Warren (Unilever Research, Port Sunlight Laboratory, The Wirral, UK)

08:12 **L10.002** Field-Theoretic Polymer Simulations
Venkat Ganesan (University of Texas at Austin), Glenn Fredrickson (University of California at Santa Barbara)

08:24 **L10.003** Effect of fillers on structure and dynamics of polymer nanocomposites
Rajdip Bandyopadhyaya, Oleg Borodin, Grant Smith (Univ. of Utah)

08:36 **L10.004** Monte Carlo Lattice Simulations of Cubic Phases in ABC/A/C Copolymer and Homopolymer Blends
Tomonari Dotera (Saitama Study Center, the University of the Air, 682-2 Nishiki-cho, Saitama 331-0851, Japan)

08:48 **L10.005** Efficient computation of structural behavior of block copolymers
Kim Rasmussen, Lookman Turab, Avadh Saxena (Theoretical Division, Los Alamos National Laboratory)

09:00 **L10.006** Block Copolymers at Interfaces of Polymer Blends Under Shear: A Comparative DSCF-MD Study.
Maja Mihajlovic, Yitzhak Shnidman (Polytechnic University and the NSF MRSEC on Polymers at Engineered Interfaces), Wen Tao Li, Dilip Gersappe (SUNY, Stony Brook, and the NSF MRSEC on Polymers at Engineered Interfaces)

09:12 **L10.007** Computer Simulation of Block Copolymer Copolymer Phase Behavior
Andrew J. Schultz, Carol K. Hall, Jan Genzer (NC State University)

09:24 **L10.008** Cell Dynamics Simulations of Pattern Coarsening in Thin Films of Sphere-Forming Block Copolymers
Daniel Vega, Richard Register, Christopher Harrison, Dan Angelescu, Matthew Trawick, David Huse, Paul Chaikin, Douglas Adamson (Princeton University)

09:36 **L10.009** Comparative Study of Interfacial Slip in Sheared Polymer Blends using Dynamic Self Consistent Field Theory and Molecular Dynamics
Tak Shing Lo, Maja Mihajlovic, Yitzhak Shnidman (Dept. of Chemistry, Chemical Engineering amp; Materials Science, Polytechnic University), Wentao Li, Dilip Gersappe (Dept. of Materials Science and Engineering, SUNY Stony Brook)

09:48 **L10.010** Modeling Interdiffusion at Partially Miscible Polymer Interfaces
Erin Jablonski, Balaji Narasimhan (Iowa State University)

10:00 **L10.011** Numerical Investigation of a Compressible Interacting Binary Blend of Fixed-length Star and Linear Polymers Next to a Surface
Richard Batman, P.D. Gujrati (The University of Akron)

10:12 **L10.012** Multiscale modeling of compatibilized polymer blends
Simon McGrother, Gerhard Goldbeck-Wood (Accelrys, 9685 Scranton Rd, San Diego, CA 92121), Albert Widmann-Schupak (MatSim GmbH, Zurich)

10:24 **L10.013** Concentration fluctuation and chain connectivity effects in miscible polymer blends
Sumeet Salaniwal, Rama Kant, Ralph Colby, Sanat Kumar (The Pennsylvania State University, University Park, PA-16801)

10:36 **L10.014** Phase behavior of polymer--polymer–solvent mixtures
Erik Luijten (Department of Materials Science and Engineering, University of Illinois, Urbana, Illinois 61801)

10:48 **L10.015** Adsorption of Flexible Polymers in Porous Media under Weak and Strong Flows
Pacelli L.J. Zitha (Delft University of Technology)

Session L11. DPOLY: Thin Films: Confinement Effects on Dynamics.

Wednesday morning, 08:00, 104, Indiana Convention Center

Chair: Christopher L Soles, National Institute of Standards and Technology

08:00 **L11.001** Dynamics of Polystyrene Thin Films and Surfaces
Alexander Schwab, Ali Dhinojwala (University of Akron, Akron, OH)

08:12 **L11.002** How the shift of the glass transition temperature near a surface contributes to reinforcement in filled elastomer
Francois Lequeux, Julien Berriot, Helene Montes (LPM/PCSM, ESPCI, 10 rue Vauquelin 75005 PARIS Cedex France), Didier Long, Paul Sotta (LPS/Bat 510, Centre Universitaire d'ORSAY 91 405 ORSAY France)

08:24 **L11.003** Effects of Film Thickness and Tacticity on \alpha and \beta - Relaxations in Thin Films of PMMA
M.R. Wuebbenhorst (Delft Univ. of Technology, The Netherlands), C.A. Murray, J.R. Dutcher (Univ. of Guelph, Canada), E. Muresan, J.A. Forrest (Univ. of Waterloo, Canada)

08:36 **L11.004** Glass transition temperature of films of PMMA/PMMA-OH blends
Silvia Pasqualini, Ranjeet S. Tate, Juan J. de Pablo, Paul F. Nealey (University of Wisconsin, Madison)

08:48 **L11.005** X-ray Photon Correlation Spectroscopy on polymer films with Molecular Weight Dependence
Hyunjung Kim (Advanced Photon Source, Argonne National Laboratory and Dept. of Physics, Univ. of California San Diego), A. Ruehm (Center for Materials Science and Engineering, MIT), L. B. Lurio (Dept. of Physics, Northern Illinois University), J. K. Basu (Materials Research Laboratory, Univ. of Illinois, Urbana-Champaign), J. Lal (Intense Pulsed Neutron Source, Argonne National Laboratory), S. K. Sinha (Dept. of Physics, Univ. of California San Diego), S. G. J. Mochrie (Departments of Physics and Applied Physics, Yale University)

09:00 **L11.006** Dynamics and Morphology of Spincoated Polymer Wedges
J. Thomas, C.A. Murray, J.R. Dutcher (Univ. of Guelph, Canada)

09:12 **L11.007** Modeling the Reduced Enthalpy Recovery of a Glass-Former Confined in Nanopores: Evidence for an Intrinsic Size Effect on Tg
Gregory McKenna, Sindee Simon (Texas Tech University)

09:24 **L11.008** Glass Transition of Nanofilms
T. S. Chow (Xerox Corporation, Webster, NY)

09:36 **L11.009** Local thermal analysis of thin polymer films: calorimetry or rheology?
Ranjeet S. Tate, Juan J. de Pablo, Paul F. Nealey (University of Wisconsin, Madison)

09:48 **L11.010** Conjectures on the Glass Transition of Polymers in Confined Geometries
John D. McCoy (New Mexico Tech), John G. Curro (Sandia NationalLaboratories)

10:00 **L11.011** Glass Transition Temperature of Freely-Standing Poly (methyl methacrylate) Films
C.B. Roth, J.R. Dutcher (Univ. of Guelph, Canada)

10:12 **L11.012** Effect of Annealing of Polystyrene Films in the Freely-Standing State
C.A. Murray, J. Thomas, J.R. Dutcher (Univ. of Guelph, Canada)

10:24 **L11.013** Character of Hole Growth in Freely-Standing Polystyrene Films
B. Deh, C.B. Roth, J.R. Dutcher (Univ. of Guelph, Canada)

L11.014 Glass Transition Behavior of Cross-linked Thin films
Xiaorong Wang (Bridgestone/Firestone Research, Akron, Ohio 44317)

L11.015 Interfacial Interactions and Confinement Effects on the Glass Transition of Thin Film Polymer/Polymer Blends
Peter Green, Joseph Pham (Chemical Engineering, The University of Texas at Austin)

Session M33. Poster Session IV.

Wednesday morning, 11:00, Exhibit Hall, Indiana Convention Center

M33.001 Polymer Physics II

M33.002 Does the free volume theory really explain the ideal glass transition (IGT)?
Sagar Rane, Andrea Corsi, P. D. Gujrati (Department of Polymer Science, University of Akron, Akron, OH 44325)

M33.003 Control of Nanoscale Ordering in Templated Metal Oxide Thin Films
Ryan C. Hayward, Peter Alberius, Galen D. Stucky, Bradley F. Chmelka, Edward J. Kramer (University of California, Santa Barbara)

M33.004 Surface-Induced Ordering in Cylindrical-Phase Diblock Copolymer Thin Films
M. R. Hammond, E. J. Kramer (UCSB)

M33.005 Nanoscopic SiO2 posts via block copolymer templates
Dong Ha Kim, Xinqiao Jia, Ting Xu (Polymer Science and Engineering Department, University of Massachusetts Amherst), Ho-Cheol Kim (IBM Almaden Research Center), Kathryn Guarini (IBM T. J. Watson Research Center), Thomas McCarthy, Thomas Russell (Polymer Science and Engineering Department, University of Massachusetts Amherst)

M33.006 Polylysine-Clay Nanocomposite
Vahik Krikorian, Darrin Pochan, Mary Kurian, Mary Galvin (Materials Science an d Engineering Dept. of University of Delaware)

M33.007 Encapsulation in polymer nanofibers by electrospinning
Woraphon Kataphinan (Maurice Morton Institite of Polymer Science, The University of Akron, Akron, OH 44325-3909, USA), Sally Dabney, Daniel Smith (Department of Chemistry, The University of Akron, Akron, OH 44325-3909, USA), Darrell Reneker (Maurice Morton Institite of Polymer Science, The University of Akron, Akron, OH 44325-3909, USA)

M33.008 Analysis of adhesive binding forces between laminin-1 and C2C12 muscle cell membranes measured via high resolution force spectroscopy
George Gluck (Department of Biology at MIT), Richard Gilbert (Department of Mechanical Engineering at MIT), Christine Ortiz (Department of Material Science and Engineering at MIT)

M33.009 Comparison of the electronic structures of three phases of the organic conducting material (BEDT-TTF)\cdotPF_6
Ping Tang, N. A. W. Holzwarth, J. S. Qualls (Wake Forest U.)

M33.010 Simulation of a Liquid Crystal at a Polymer Surface
T. P. Doerr, P. L. Taylor (Case Western Reserve University)

M33.011 Analysis of Chain Packing in the Unit Cell of a Chiral Main-Chain Polyester
Carin A. Helfer, Wayne L. Mattice, Christopher Y. Li, Stephen Z. D. Cheng (University of Akron), Gregory C. Rutledge (M.I.T.)

M33.012 Simulation of a Free-Standing Thin Film of n-Tetracontane on 2nnd Lattice
Guoqiang Xu, Wayne L. Mattice (Department of Polymer Science, The University of Akron, Akron, OH, 44325-3909)

M33.013 Visual perception and optical measurements of scratches
P. Rangarajan, M. Sinha, V. Watkins, K. Harding, M. Gardner (GE Corporate Research and Development, Schenectady, NY 12301)

M33.014 Atomic force microscopy (AFM) aliasing technique for studying microdomain grains in diblock copolymer thin films
Dan Angelescu (Princeton University), Christopher Harrison (National Institute for Standards and Technology), Matthew Trawick, John Sebastian, Paul Chaikin, Richard Register, Douglas Adamson (Princeton University)

M33.015 Solution Versus Melt Neutralization in Ethylene- and Styrene-based Ionomers
Brian P. Kirkmeyer, Karen I. Winey (University of Pennsylvania)

M33.016 Qualitative and quantitative comparison of local chemical composition, aggregate shapes, sizes, and spatial distribution in Na- and Zn-neutralized poly(ethylene-ran-methac rylic acid) ionomers
Andreas Taubert (Dept. of Materials Science and Engineering, Univ. of Pennsylvania), Karen I. Winey (Dept. of Materials Science and Engineering, Univ. of PennsylvaniaDept. of Materials Science and Engineering, Univ. of Pennsylvania)

M33.017 Flow Induced Deformation at Liquid/Liquid Interface: Dewetting Versus Structure Formation by Electric Field
Zhiqun Lin, Tobias Kerle, Thomas P. Russell (Polymer Sci. & Engineering Dept., Univ. of Mass., Amherst, MA, 01003), Erik Schaffer, Ullrich Steiner (Polymer Chem. Dept., Univ. of Groningen, The Netherland)

M33.018 Incorporation of capsaicin in silicone coatings for enhanced antifouling performance
Karunakar Reddy Jaggari, Bi-min Zhang Newby (Department of Chemical Engineering , The University of Akron)

M33.019 Growth of Electric Field-Induced Fluctuations of Thin Liquid Polymer Films
K. Amanda Leach, Zhiqun Lin, Thomas P. Russell (Polymer Science and Engineering Department, Univ. of Massachusetts - Amherst)

M33.020 Simple Evaporative Route to Nanoscopic Structures
Kyusoon Shin, Jae Young Jho (School of Chemical Engineering and Hyperstructured Organic Materials Research Center, Seoul National University, Shillim, Kwanak, Seoul 151-742, Korea), K. Amanda Leach, James Goldbach, Dong Ha Kim, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003, USA)

M33.021 Fluids at rough surfaces in a confined geometry
Kwan-Wook Kwon, Hyunjung Lee, Yingxi Zhu, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, Illinois 61801, USA)

M33.022 Block Copolymer Thickness-Gradient Surface Patterns on Topographically Structured Substrates
M.J. Fasolka, A. Karim, E.J. Amis (Polymers Division, NIST, Gaithersburg MD), T.A. Germer (Optical Technology Division, NIST, Gaithersburg MD)

M33.023 Domain Alignment Accompanying Terrace Growth in Copolymer Thin Films
Vladimir Belyi, Thomas A. Witten (James Frank Institute, University of Chicago)

M33.024 Crystallization and Melting Behavior of PEO Nano-film Confined Between Glassy Walls
Yan Chen, Lei Zhu, Ping Huang, Szd Cheng (Department of Polymer Science, The University of Akron)

M33.025 Using Incoherent Neutron Scattering to Study the Dynamics of Support Thin Polymer Films
Christopher Soles, Jack Douglas, Wen-li Wu (NIST Polymers Division), Rob Dimeo (NIST Center for Neutron Research)

M33.026 Thermophysical Behaviors of Ultrathin Polycarbonate Films
H. G. Peng, D. W. Gidley (University of Michigan, Ann Arbor), C. L. Soles, J. F. Douglas, W. L. Wu (NIST Polymers Division)

M33.027 Angle Resolved X-ray Photelectron Spectroscopy of 2-methyl-4-nitroanaline Thin Films
Edward Gillman (Jefferson Lab), Kang Seo, Liqun Wang (Norfolk State University)

M33.028 Organization of Amphiphilic Molecular Disks with Branched Hydrophilic Tails and Hexa-peri-hexabenzocoronene Core
Myongsoo Lee, Jung-Woo Kim, Yong-Sik Yoo (Department of Chemistry, Yonsei University, Seoul 120-749, Korea), Sergey Peleshanko, Kirsten Larson (Department of Materials Science and Engineering, Iowa State University, Ames, IA 50011, USA), David Vaknin (Ames Laboratory and Department of Physics and Astronomy, Iowa State Univeristy, Ames, IA 50011, USA), Sergei Markutsya, Vladimir V. Tsukruk (Department of Materials Science and Engineering, Iowa State University, Ames, IA 50011, USA)

M33.029 Dewetting and Layer Inversion of PVP/PS Bilayer Thin Films
Huiman Kang, Sangcheol Kim, Kookheon Char (School of Chemical Engineering and Institute of Chemical Processes, Seoul National University, Seoul 151-744, Korea)

M33.030 PNIPAM grafted chains at the silicon/water interface: temperature-dependent conformational changes and protein adsorption
Hyun Yim, Michael Kent, Dale Huber (Sandia National Labs), Kwanwoo Shin, Sushil Satija (NIST), Jaroslaw Majewski, Greg Smith (Los Alamos National Labs)

M33.031 Modeling of Electrostatic Forces between Glycosaminoglycan Molecules
Delphine Dean, Joonil Seog, Christine Ortiz, Alan Grodzinsky (MIT)

M33.032 Measurement of GAG-GAG nano-electromechanical interactions via high resolution force spectroscopy
Joonil Seog, Eliot Frank, Delphine Dean (MIT), Shirley Wong-Palms, Anna Plaas (Shriner's Hospital for Children), Alan Grodzinsky, Christine Ortiz (MIT)

M33.033 Morphology of some immiscible polymer blends made by free radical polymerization of one component in an electric field
Jing Li, Sonja Krause (Department of Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180)

M33.034 Structure and Thermodynamics of Branched Polymer Melts and Blends
R. Patil, K.S. Schweizer (University of Illinois at Urbana -Champaign), T.M Chang (University of Wisconsin -Parkside)

M33.035 Interfacial Properties of POSS-Nanofillers
Joseph Polidan, Jianjun Deng, Catherine Farmer-Creely, Alan Esker (Department of Chemistry, Virginia Tech), Brent Viers (Air Force Research Laboratories, Edwards Air Force Base)

M33.036 D_4-PEO/PMMA Blend Dynamics Probed Via ^2H-NMR
Thomas R. Lutz, Yiyong He, Mark D. Ediger (University of Wisconsin -Madison)

M33.037 Structure of Polymer -Nanotube Complexes Under Shear
E. K. Hobbie, H. Wang, H. Kim, C. C. Han (NIST), E. A. Grulke (University of Kentucky)

M33.038 Phase behavior of ternary blend thin films of block copolymer and homopolymers
Shuaigang Xiao, Paul Franklin Nealey (Department of Chemic al Engineering and Center for Nanotechnology, University of Wisconsin, Madison, Wisconsin 53706)

M33.039 Control of Polymer Blend Morphology Using Artificial Clays
Wenhua Zhang (Materials Sci amp; Eng, State Univ of New York Stony Brook, NY 11794 -2275), Nina Bai (John F. Kennedy High School, Plainview, NY 11803), Xuesong Hu, Miriam Rafailovich, Jonathan Sokolov (Materials Sci amp; Eng, State Univ of New York Stony Brook, NY 11794-2275), Steven Schwarz (Queens College, NY 11367), A Winesett, H Ade (North Carolina State University NC 27604)

M33.040 Equilibrium and Non-equilibrium Morphologies in Polystyrene(PS) /Poly -2-vinylpyridine(PVP)/PS-PVP Diblock Copolymer Blends
Raffaele Mezzenga, Glenn H. Fredrickson, Edwards J. Kramer (University of California, Santa Barbara)

M33.041 Particles in Co-continuous Morphologies of Polymer Blends
B.Y. Asoo, G.H. Fredrickson, E.J. Kramer (UCSB)

M33.042 Bulk Thermodynamics of Blends of Linear and Branched Functionalized Polymers
Jong Hwi Hwang, Mark Foster, Roderic Quirk (Maurice Morton Institute of Polymer Science, University of Akron)

M33.043 Polarization effects of Eu(dnm)3phen complex in stretched polyethylene
V.I. Srdanov (Center for Polymers and Organic Solids,University of California,Santa Barbara CA 93106), M. Robinson, M. Bartl, X. Bu, G. Bazan (Department of Chemistry,University of California,Santa Barbara CA 93106)

M33.044 Studies on Dynamics of Polymerization Induced Phase Separation in the Multifunctional Reactive Thermosets
Scott Meng, Jaehyung Lee, Thein Kyu (The University of Akron)

M33.045 Kinetics of phase separation and crystallization of poly(ethylene-co-hexene) and poly(ethylene-co-octene) blends.
Go Matsuba, Howard Wang, Katsumi Shimizu, Zhigang Wang, Charles C. Han (Polymers Division, National Institute of Standards and Technology, Gaithersburg, MD 20899)

M33.046 Phase separation behavior in copolymer blends of poly(ethylene-co-hexene) and poly(ethylene-co-butene)
Katsumi Shimizu, Howard Wang, Zhigang Wang, Hongdoo Kim, Go Matsuba, Charles C. Han (NIST)

M33.047 Gradient Copolymers Made via Nitroxide-Mediated Controlled Radical Polymerization
Maisha Gray, SonBinh Nguyen, Hongying Zhou, John Torkelson (Northwestern University)

M33.048 Stability and Strucutre of the Non-Cubic, Multiply Continuous "B" Phase in Triblock CopolymersMelts
Christopher Tyler, David Morse (Dept of Chemical Engineering and Materials Science, University of Minnesota)

M33.049 Deformation and Fracture Properties of Semicrystalline-Glassy Block Copolymers: The Effect of Microdomain Orientation
Janne Ruokolainen, Glenn H. Fredrickson, Edward J. Kramer (UCSB), Sergei Magonov (Digital Instruments), Steve Hahn (Dow Chemical Co.)

M33.050 Deformation and Fracture of Pentablock Copolymers with Unentangled Glassy Matrices: Effect of Molecular Weight and Composition
Vikram Khanna, Janne Ruokolainen, Glenn Fredrickson, Edward Kramer (University of California, Santa Barbara), Steve Hahn (Dow Chemical)

M33.051 Neutron Reflectivity Measurement of Lamellar Block Copolymers Ordered in the Presence of Supercritical Carbon Dioxide
Kristopher A. Lavery (University of Massachusetts, Department of Polymer Science and Engineering), Ravi R. Gupta, James J. Watkins (University of Massachusetts, Department of Chemical Engineering), Thomas P. Russell (University of Massachusetts, Department of Polymer Science and Engineering)

M33.052 NMR Investigation of Dynamics in Styrene-Isoprene Tetrablocks
Yiyong He, Thomas R. Lutz, M.D. Ediger (Department of Chemistry, University of Wisconsin Madison), T.P. Lodge Team

M33.053 Phase morphology and crystal orientation changes in two-dimensionally confined nano-cylinders in a poly(ethylene oxide)-b-polystrene diblock copolymer
P. Huang, J. Jing, L. Zhu, Y. Chen, S.Z.D. Cheng, Y. Guo, Q. Ge, R.P. Quirk (The University of Akron, Akron, Ohio 44325-3909), B.S. Hsiao, L. Liu, F. Yeh (The State University of New York at Stony Brook,), B. Lotz (Institute Charles Sadron, 6 Rue Boussingault, Strasbourg 67083, France)

M33.054 Characterization of Polystyrene-Silica Hybrid Nanoparticles: Effect of Constraint on the Tg of Spherical Polymer Brushes
Daniel Savin, Gary Patterson, Jeffrey Pyun, Tomasz Kowalewski, Krzysztof Maty jaszewski (Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213)

M33.055 Chemically Amplified Imaging Layers for Guided Block Copolymer Self -Assembly
Erik Edwards (University of Wisconsin Madison and Center for Nanotechnology), Martha Montague, Paul Nealey

M33.056 Microphases of Hyperbranched Copolymers
Galen T. Pickett (Physics and Astronomy, CSULB)

M33.057 In Situ X-ray Scattering Measurements of Lamellar BCP Shear Alignment in Oscillatory Shear
Wesley Burghardt, Franklin Caputo (Northwestern University)

M33.058 Simulations of DNA
Mark Stevens, Paul Crozier (Sandia National Laboratories, Albuquerque, NM)

M33.059 Phase Behavior and Dynamics of the ABA Triblock Copolymer Poly(Ethylene Glycol) Distearate Doped with Lithium Perchlorate
Marcus V. Giotto (Carlson School of Chemistry, Clark University, Worcester, Massachusetts, 01610, USA), Clausymara L. Sangiorge (Departamento de Química, ICEx, UFMG, Caixa Postal 702, CEP:30161-970, Belo Horizonte, MG, Brazil), Douglas J. Harris (Sandia National Laboratories, Albuquerque, NM, 87185, USA), Armando L. de Oliveira (Departamento de Química, ICEx, UFMG, Caixa Postal 702, CEP:30161-970, Belo Horizonte, MG, Brazil), Klaus Schmidt-Rohr (Department of Chemistry and Ames Laboratory, Iowa State University, Ames, Iowa, 50011, USA), Tito J. Bonagamba (Instituto de Física de São Carlos, USP, Caixa Postal 369, CEP:13560-970, São Carlos, SP, Brazil)

M33.060 Molecular Dynamics Simulation Study of PEO-Based Nanocomposite Polymer Electrolytes el
Oleg Borodin, Rajdip Bandyopadhyaya (Department of Materials Science amp; Eng., University of Utah), Grant D. Smith (Department of Materials Science amp; Eng., Chem. Eng. Dept.; University of Utah)

M33.061 Method of Assessing Crack Growth in Epoxy due to Hydrothermal Fatigue
H. Retsos, E.J. Kramer (U.C.S.B.), C.-Y. Hui, M. Sivasambu (Cornell Univ.)

M33.062 Crosslinking of gels to flat surfaces
Wendy Leigh Vandoolaeghe, Kristian Müller-Nedebock (Institute of Theoretical Physics, University of Stellenbosch)

M33.063 The structure factor of poly(dimethylsiloxane) from wide angle X-ray scattering, molecular dynamics and PRISM
A. Habenschuss (Oak Ridge National Laboratory), J . D. Londono (E. I. Dupont, Experimental Station Laboratory), J. G. Curro, S. W. Sides, G. S. Grest, M. J. Stevens (Sandia National Laboratories), T. Soddeman (Johns Hopkins University)

M33.064 Miscibility of Ternary Polymer Blends in the Melt
D.J. Duffy (Dept. of Chemistry, University of Massachusetts, Amherst), S.L. Hsu (Dept. of Polymer Science amp; Engineering, University of Massachusetts, Amherst), H.D. Stidham (Dept. of Chemistry, University of Massachusetts, Amherst)

M33.065 Local Motions in Glassy Poly(alkyl methacrylate)s (PRMAs) and Motional Heterogeneities in Siloxane/Poly(ethylene glycol) Nanocomposites (Ormolytes) Studied by 13C Solid-State Exchange NMR
E. R. deAzevedo, F. Becker-Guedes, E. L. G Vidoto (USP-IFSC-Brazil), D. Reichert (Martin-Luther Universitaet Halle -Germany), K. Dahmouche (UNESP-IQ-Brazil), P. Judeinstein (Universite Paris-Sud-France), K. Schmidt-Rohr (Iowa State University, USA), T. J. Bonagamba (USP-IFSC-Brazil)

M33.066 Chirality Effects on the Morphology and Phase Behavior of a Synthetic Main-chain Liquid Crystal Polyester
Xin Weng, John Z. Zhang, Feng Bai, Christopher Y. Li, Shi Jin, Frank W. Harris, Stephen Z.D. Cheng (The University of Akron, Akron, Ohio 44325-3909)

M33.067 Phase Transitions, Crystallization Behaviors and Structure of a Nonracemic Chiral Main-Chain Liquid Crystalline Polyester
Shi Jin, Feng Bai, Christopher Y. Li, Frank W. Harris, S.Z.D. Cheng (Dept. of Polymer Science, The University of Akron)

M33.068 Polymorphous Structures and Their Phase Relationships in a Main-chain/Side-chain Liquid Crystalline Polyester
J. Ruan, J. Ge, A. Zhang, S. Jin, S.-Y. Wang, F. W. Harris, S.Z.D Cheng (Maurice Morton Institute and Department of Polymer Science, The university of Akron, Akron, ohio 44325-39090)

M33.069 Self-assembled Supra-molecular Liquid Crystalline Behaviors in Symmetrically Tapered Bisamides via Hydrogen Bonding
C. Xue, J. Ge, C. Y. Li, A. Zhang, X. Weng, H. Huang, F. W. Harris, S. Z. D. Cheng (Maurice Morton Institute and Department of Polymer Science, The University of Akron, Akron, Ohio 44325-3909)

M33.070 Reorganization of PET via Coalescence form It's Crystalline Inclusion Compound Formed with gamma-Cyclodextrin
Min Wei, Todd A. Bullions (Fiber amp; Polymer Science Program North Carolina State University Raleigh, NC), Alan E. Tonelli (Fiber amp; Polymer Science Program North Carolina State University Campus Box 8301 Raleigh, NC 27695-8301)

M33.071 Effect of the morphology of poly(ethylene-co-1-octene) of different comonomer concentration on the mechanical relaxation behavior
Igor Kolesov, Rene Androsch, Hans-Joachim Radusch (Martin-Luther-University Halle -Wittenberg, Institute of Material Science, 06099 Halle/S., Germany)

M33.072 Solid State Microstructure of Poly(L-lactide-co-meso-lactide) Copolymers by AFM
M. Kanchanasopa, E. Manias, J. Runt (Penn State University)

M33.073 Evaluation of the Oriented Amorphous Phase Percentage of Polymer Fibers
Jing Wu (Chemical Engineering, New Jersey Institute of Technology), Jerold Schultz (Chemical Engineering, University of Delaware)

M33.074 Modeling on the Spatio-Temporal Emergence of Transcrystalline Morphology of a Crystalline Polymer under Temperature Gradient
Haijun Xu, Thein Kyu (Institute of Polymer Engineering, The University of Akron)

M33.075 Crystal Structure and Morphology of Nascent Symmetric Aromatic Polyesters: PPT, PPN, PNN
Junyan Yang, Jin-Feng Wang, Giancarlo Sidoti, Jiang Liu, Frantisek Rybnikar, Phillip Geil (University of Illinois at Urbana-Champaign)

M33.076 A Study on Morphology Development on PET/PTT Blend
Lee Kwang Hee, Lee Jong Kwan, Lim Jeong Eun, Kim Ji Seon, Nam Joo young (Center for Advanced Functional Polymers, School of Chemical Science and Engineering, Inha University, Inchon 402 -751, South Korea)

M33.077 Phase Diagrams and Phase Transformations in Ethylene-Octene Copolymers
Samir Abu- Iqyas, Paul Phillips (University of Tennessee)

M33.078 Crystal Structure and Morphology of Different Length Scales in Poly(trimethylene teraphthalate)
B. Wang, H. M. Xiong, C. Y. Li, S. Z. D. Cheng (The University of Akron, Akron, Ohio 44325)

M33.079 Current transient study in sandwitched safranine-Tdye doped PVA system
Md. Rabiul Islam, Nabin Baran Manik, Ashok Nath Basu (Condenced Matter Research Centre, Department of Physics, Jadavpur University, Kolkata-700032, India.)

M33.080 Observation of capture of oil droplets on nanofibers
Wenxia Liu (Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH44325-3909), Alexander L. Yarin (Faculty of Mechanical Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel), Darrell H. Reneker (Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH 44325 -3909)

M33.081 Interactions Between DNA and Charged Nanoparticles: Condensation and Self-assembly
Hee Kyung, Hongjun Liang, Gerard C. L. Wong (University of Illinois at Urbana-Champaign)

M33.082 Thermal probe heating rate dependence of the assigned transition temperature of thin glassy supported poly mer films
Ranjeet S. Tate, Juan J. de Pablo, Paul F. Nealey (Center for NanoTechnology and Department of Chemical Engineering)

M33.083 Forced Wetting of Nematic Fluids on Cylindrical Substrates
Mohan Srinivasarao, Jung Park (Georgia Institute of Technology), Alejandro Rey (McGill University)

M33.084 Insulator-to-metal transition and evolution of electronic structure of ladder polymers upon protonation by poly(styrenesulfonic acid)
Maksudul M. Alam, Samson A. Jenekhe (Departments of Chemical Engineering and of Chemistry, University of Washington, Box 351750, Seattle, WA 98195-1750)

M33.085 An X-ray Diffraction Study of PEDOT Films
Fan Zhang, Paul Heiney (University of Pennsylvania), Nikolay Nikolov, Rangan Shashidhar (Naval Research Laboratory)

M33.086 Modeling the Flow of Binary Polymeric Fluids Within Three-dimensional, Chemically Patterned Microchannels
Rene Hurka (Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh PA), Olga Kuksenok, Anna Balazs (Chemical Engineering Department, University of Pittsburgh, Pittsburgh PA), David Jasnow (Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh PA)

M33.087 Ideal Glass transition in Ising Antiferromagnet with Frustration
Karthikeyan Bhaskaran, P. D. Gujrati (Department of Physic s, The University of Akron, OH 44325.)

M33.088 Inelastic Neutron Scattering Study of Amorphous Polypropylenes Below the Glass Transition
Brian Annis, Man-Ho Kim (Oak Ridge National Laboratory), Craig Brown (National Institute of Standards and Technology)

M33.089 Mechanical Hole Burning Spectroscopy: A Comparison with Non-resonant Spectral Hole Burning
Xiang Fu Shi, Gregory McKenna (Texas Tech University)

M33.090 Physical Aging of an Epoxy Resin Subsequent to Carbon Dioxide Pressure Jumps
Francesco Briatico-Vangosa (Politecnico di Milano), Mataz Alcoutlabi, Lamec k Banda, Gregory McKenna (Texas Tech University)

M33.091 High-Resolution, Non-Lithographic Transfer of Patterned Metal Films via an Interfacial Dehydration Reaction
Yueh-Lin Loo, John A. Rogers (Bell Laboratories, Lucent Technologies)

M33.092 Polarized Luminescence from Highly Oriented Thin-films of Fully Conjugated Heterocyclic Aromatic Rigid-Rod Polymer
C.C. Wu, S.J. Bai (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)

M33.093 Rectification In A Langmuir-Blodgett Monolayer Of 2,6-Bis-[2-(4-Dibutylamino-Phenyl)-Vinyl]-1-Butylpyridinium Iodide Sandwiched Between Gold Electrodes
Walter Shumate, Jeffrey Baldwin, Ramiya Amaresh, Michael Cava, Robert Metzger (Laboratory for Molecular Electronics, Chemistry Department, The University of Alabama, Tuscaloosa, AL 35487), Geoffrey Ashwell

M33.094 Resonant Tunneling and the Substituent Effects for Molecules Exhibiting Negative Differential Resistance in Molecular Electronic Junctions
Nikita Matsunaga (Department of Chemistry and Biochemistry, Long Island University, Brooklyn, NY 11201), Karl Sohlberg (Department of Chemistry, Drexel University, Philadelphia, PA 19104)

M33.095 Self-consistent approach to electronic polarization of organic molecular crystals
Zoltan G. Soos, Eugene V. Tsiper (Princeton University)

M33.096 Transient Short-circuit Current in Organic Bi-layer Devices
Li Tan (Macromolecular Sci. amp; Eng. Center, University of Michigan, Ann Arbor, MI, 48109-1055), Anthony H. Francis (Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109-1055), M. David Curtis (Macromolecular Sci. amp; Eng. Center and Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109-1055)

Session Q2. DPOLY/DCMP: Heterogeneities Near the Glass Transition.

Wednesday afternoon, 14:30, Sagamore 4

Chair: Ralph H. Colby, The Pennsylvania State University

14:30 **Q2.001** Energy landscape approach to the physics of glass forming liquids
Francesco Sciortino (Universita' di Roma La Sapienza, Piazzale A. Moro 5 I-00185 ROMA)

15:06 **Q2.002** "Heterogeneous Dynamics (Theory)."
Didier Long (Laboratoire de Physique des Solides, Université de Paris XI-Orsay)

15:42 **Q2.003** NMR Measures of Heterogeneity Length
Hans W. Spiess (Max-Planck-Institute of Polymer Research, P.O. Box 31 48, 55021 Mainz, Germany)

16:18 **Q2.004** Correlated regions in amorphous materials: relating heterogeneity and fragility
Daniel Kivelson (University of California, Los Angeles)

16:54 **Q2.005** Deep Supercooling of Glass-Forming Liquids
Ranko Richert (Department of Chemistry and Biochemistry, Arizona State University, Tempe, AZ 85287, USA)

Session Q9. DPOLY/DMP: Focus Session: Nanostructures in Polymers II.

Wednesday afternoon, 14:30, 101-102, Indiana Convention Center

Chair: Karen I. Winey, University of Pennsylvania

14:30 **Q9.001** Field Theory and Orientational Phase Ordering of Sequence Disordered LC Heteropolymers
Lorin Gutman, Eugene Shakhnovich (Harvard University)

14:42 **Q9.002** The Structure and Morphology of Desaminotyrosyl Polyarylates
Jing Wu (Chemical Engineering, NJIT), Zohar Ophir (Biomedical Engineering, NJIT), Baohua Guo (Chemical Engineering, NJIT), Michael Jaffe (Biomedical Engineering, NJIT), Joshua Samon, Jack Zhou (Ethicon, Inc.)

14:54 **Q9.003** Photomechanical response of liquid crystalline elastomers
Miguel Camacho, Peter Palffy-Muhoray (Liquid Crystal Institute, Kent State University, Kent OH 44242), Heino Finkelmann (Institut für Makromolekulare Chemie, Universität Freiburg, D79104 Freiburg)

15:06 **Q9.004** Phase Structures and Transition of Side-Chain Liquid Crystalline Polyacetylene
Er-Qiang Chen, Chun Ye (Dept. of Polymer Science and Engineering, Peking University), S.Z.D. Cheng (Dept. of Polymer Science, The University of Akron), Jacky W.Y. Lam, Ben-Zhong Tang (Dept. of Chemistry, Hong Kong University of Science and Technology)

15:18 **Q9.005** Effect of Molecular Weight on the Electrorheological (ER) Behavior of Side-Chain Liquid Crystal Polymers In Nematic Solvents
Yiqiang Zhao, Yen-Ching Chiang, Alex. M. Jamieson (Department of Macromolecular Science, Case Western Reserve University), Andrea Kasko, Coleen Pugh (Department of Polymer Science, The University of Akron)

15:30 **Q9.006** Hydrodynamic coefficients for dynamical mean field models of nematic LCP's from single-chain simulations
V Shankar (Department of Chemical Engineering and Materials Science, University of Minnesota.), David Morse (Chemical Engineering and Materials Science, University of Minnesota)

15:42 **Q9.007** Using Polymer Micelle Self-Organization to Modify SiO2 Surfaces
Stephen E. Webber (Department of Chemistry & Biochemistry, The University of Texas), Jungsoek Hahn (Department of Chemistry & Biochemistry, The University of Texas at Austin)

15:54 **Q9.008** Micellization in PEO-block-PV2P Diblock Copolymers in Aqueous Media and the Formation of Metal Nanoparticles
Lambros Papoutsakis, Spiros H. Anastasiadis (Foundation for Research and Technology - Hellas, Heraklion Crete, Greece), Panayiota Fragouli, Hermes Iatrou, Nikos Hadjichristidis (Univ. of Athens, Athens, Greece), Stas Sidorov, V. Zhirov, Lyudmila Bronstein (Nesmeyanov Inst. of Organoelement Compounds, Moscow, Russia)

16:06 **Q9.009** Structure and Dynamics of Solutions of Pentablock Copolymers in Selective Solvents
Rama Bansil, Huifen Nie (Department of Physics, Boston University), Èestmír Koòák (Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic), Martin Helmstedt (Fakultät für Physik und Geowissenschaften, Universität Leipzig)

16:18 **Q9.010** Novel colloids of controlled shape from self-assembled amphiphilic diblock copolymers: soft nano-objects and polyelectrolyte brushes of variable curvature
Denis Bendejacq, Virginie Ponsinet, Mathieu Joanicot (CNRS-Rhodia)

16:30 **Q9.011** Formation of Wormlike Micelles and Vesicles in Thermoset Resins
Qipeng Guo, Jennifer M. Dean, Robert B. Grubbs, Frank S. Bates (University of Minnesota, Department of Chemical Engineering and Materials Science)

16:42 **Q9.012** Directly Probing Block Copolymer Micelle Dynamics using X-ray Photon Correlation Spectroscopy
Péter Falus, Matthew A. Borthwick, Adrian Rühm, Laurence B. Lurio (Department of Physics and Center for Material Science and Engineering Massachusetts Institute of Technology), Simon G. J. Mochrie (Department of Physics and Applied Physics, Yale University)

16:54 **Q9.013** Structure and Mechanical Properties of Diblock Copolymer Micelles at Nanoscopic and Mesoscopic Scales
Elizabeth Fabbroni, Kenneth Shull, Mark Hersam (Northwestern University)

17:06 **Q9.014** Complex Mechanisms and Kinetics of the Cylinder-to-Gyroid Transition in a Block Copolymer Solution
Chia-Ying Wang, Timothy P. Lodge (Department of Chemistry, University of Minnesota, 207 Pleasant Street SE, Minneapolis, MN 55455)

Session Q10. DPOLY: Theory and Simulation.

Wednesday afternoon, 14:30, 103, Indiana Convention Center

Chair: Rahmi Ozisik, University of Akron

14:30 **Q10.001** Working Towards Square-well Polymeric Fluids
J.A. Porter, J.E.G. Lipson (Dept. of Chemistry, Dartmouth College)

14:42 **Q10.002** Nonlocal Entropic Repulsion Effects on Rod Polymer Induced Depletion Attraction between Spherical Particles
Yeng-Long Chen, Kenneth Schweizer (University of Illinois at Urbana-Champaign)

14:54 **Q10.003** Effect of concentration fluctuation in miscible polymer blends
Rama Kant, Ralph Colby, Sanat Kumar (Material Science and Engineering Department, The Pennsylvania State University, University Park, PA 16801)

15:06 **Q10.005** The Prediction of Photophysical Properties for Organic Materials: A Density Functional Theory Study
Kiet A. Nguyen, Ruth Pachter (Air Force Research Laboratory, Materials and Manufacturing Directorate, Wright-Patterson Air Force Base, OH 45433)

15:18 **Q10.006** Influence of self-assembly on the dynamic and viscoelastic properties of telechelic polymer solutions
Grant Smith, Dmitry Bedrov (University of Utah), Jack Douglas (National Institute of Standards and Technology)

15:30 **Q10.007** A new model for predicting the steady-state morphology of interpenetrating networks
Harshit Patel (Department of Chemical Engineering, Rensselaer Polytechnic Institute, Troy NY 12180), Yvonne Akpalu (Department of Chemistry, Rensselaer Polytechnic Institute, Troy NY 12180)

15:42 **Q10.008** Self-Generated Field Model of Crystal Twisting
Jerold Schultz (University of Delaware)

15:54 **Q10.009** Matrix models for stiff and helical polymer molecules
Kristian Müller-Nedebock (Dept of Physics/Inst. for Theoretical Physics, University of Stellenbosch, Stellenbosch, South Africa), Harry Frisch (Dept of Chemistry, University at Albany, Albany, NY)

16:06 **Q10.010** Lattice based modeling of the amorphous phase of lamellar semi-crystalline polymers.
Antony Beris, Joydeep Mukherjee (University of Delaware, Newark, DE-19711)

16:18 **Q10.011** Continuous polymer melting in two dimensions
Jesper Jacobsen (LPTMS, Universite Paris-Sud, Orsay, France), Jane' Kondev (Physics Department, Brandeis University, Waltham, MA)

16:30 **Q10.012** Theoretical investigation on the electronic structures of poly(vinylidene fluoride) crystals
Chun-gang Duan, W. N. Mei (Department of Physics, University of Nebraska at Omaha, Omaha, Nebraska 68182-0266), Jianjun Liu, J. R. Hardy (Department of Physics and Center for Electro-Optics, University o f Nebraska at Lincoln, Lincoln, Nebraska 68588), Stephen Ducharme, Jaewu Choi, P. A. Dowben (Department of Physics and Center for Materials Research and Analysis, University of Nebraska at Lincoln, Lincoln, Nebraska 68588)

16:42 **Q10.013** Shape dynamics of elastic filaments due to internal strain
Andrew Spakowitz (Division of Chemistry and Chemical Engineering, California Institute of Technology), Zhen-Gang Wang (Division of Chemistry and Chemical Engineering)

16:54 **Q10.014** A Comparison between Monte Carlo Simulations and Self-consistent Mean-Field Theory for Ordered Structures of Diblock Copolymers
Qiang Wang, Paul Nealey, Juan de Pablo (Department of Chemical Engineering, University of Wisconsin - Madison)

17:06 **Q10.015** Viscosity gradients and their effect on capillary electrophoresis resolution
Gary W. Slater, Laurette C. McCormick, Steve Guillouzic (University of Ottawa)

Session Q11. DPOLY: Controlled Structure and Morphology in Thin Films.

Wednesday afternoon, 14:30, 104, Indiana Convention Center

Chair: Sonja Krause, Rensselear Polytechnic Institute

14:30 **Q11.001** A Rapid Route to Oriented Arrays of Nanoscopic Cylindrical Domains
Thomas P. Russell, Zhiqun Lin, Dongha Kim, Laurie Boosahda, Daria Stone, Luanne LaRose (Polymer Sci. and Engineering Dept., Univ. of Mass., Amherst, MA, 01003)

14:42 **Q11.002** Dynamic Response to Abrupt Change in Interfacial Conditions in Block Copolymer Mesoscale Thin Film
Sanjun Niu, Ravi Saraf (Department of Chemical Engineering, Virginia Tech)

14:54 **Q11.003** The Thermodynamics of Epitaxial Ordering of Arrays of Block Copolymer Spheres
R. A. Segalman, A. Hexemer, E. J. Kramer (UCSB)

15:06 **Q11.004** Melting microdomain patterns in a diblock copolymer thin film
Dan Angelescu (Princeton University), Christopher Harrison (National Institute for Standards and Technology), Matthew Trawick, John Sebastian, Paul Chaikin, Richard Register, Douglas Adamson (Princeton University)

15:18 **Q 11.005** Thin Films of Block Copolymers/Homopolymer: Effect of Non-Adsorbing Block Length on the Interfacial Properties
Ana Claudia Costa, Russell J. Composto (Materials Science and Engineering, University of Pennsylvania), Petr Vlcek (Institute of Macromolecular Chemistry, Prague), Mark Geoghehan (Physics, University of Sheffield), Costantino Creton (PCSM, ESPCI, Paris)

15:30 **Q11.006** Hierarchical Surface Topography in Block Copolymer Thin Films
Seung-Heon Lee, Huiman Kang, Youn Sang Kim, Kookheon Char (School of Chemical Enigneering, Seoul National University, Seoul 151-744, KOREA)

15:42 **Q11.007** Monte Carlo Simulations of Triblock Copolymer Thin Films
Grzegorz Szamel, Marcus Mueller (Institut fuer Physik, Johannes Gutenberg Universitaet Mainz)

15:54 **Q11.008** Morphology of Block Copolymer Thin Films from Density Functional Theory
Amalie L. Frischknecht, Jeffrey D. Weinhold, Laura J. Frink, Andrew G. Salinger, John G. Curro (Sandia National Laboratories, Albuquerque, NM), John D. McCoy (New Mexico Inst. of Mining and Tech., Socorro, NM)

16:06 **Q11.009** Self-Assembled Microencapsulation and Reorganization of Morphology in Freely-Standing Polymer Trilayer Films
J.R. Dutcher, C.A. Murray, J. Thomas (Univ. of Guelph, Canada)

16:18 **Q11.010** Controlling Morphology during Pattern Development in Polymer Photoresists
Ronald Jones, Eric Lin, Joseph Lenhart, Christopher Soles, Wen-li Wu (Polymers Division, NIST), Dario Goldfarb, Marie Angelopoulos (T.J. Watson Research Center, IBM)

16:30 **Q11.011** Control of Surface Roughness in Polymer Films by Solvent Vapor Exposure
Steven Buckley, Christopher Chancellor, April Nissen, Evelyn Fearon, Stephen Letts, Robert Cook (Lawrence Livermore National Laboratory)

16:42 **Q11.012** Ordered Array of Holes in a Polymer Film Formed by Crystallization of Breath Figures
Mohan Srinivasarao, Jung Ok Park (Georgia Institute of Technology)

16:54 **Q11.013** Structural Characterization of Nanoporous PMSSQ Thin Films
R. M. Briber, G. Y. Yang (University of Maryland, College Park, MD 20742), E. Huang, H. C. Kim, P. M. Rice, W. Volksen, R. D. Miller (IBM Almaden Research Center, 650 Harry Road, San Jose, CA 95120), K. Shin (NCNR-NIST, Gaithersburg, MD / SUNY at Stony Brook, NY)

17:06 **Q11.014** Nanoporous PMSSQ Films: NR and QCM study on sorption selectivity
H.-C. Kim, W. Hinsberg, W. Volksen, T. Magbitang, V. Lee, J. Hedrick, C. J. Hawker, R. D. Miller (IBM Almaden Research Center, 650 Harry Road, San Jose, CA 95120), E. Huang (IBM T.J.Watson Research Center, Yorktown Heights, NY 10595), J. B. Wilds (Tennessee Technological University), R. M. Briber, G. Y. Yang (Department of Materials and Nuclear Eng. University of Maryland, College Park, MD 20742), K. W. Shin (NCNR-NIST Gaithersburg, MD)

Session S2. DCMP/DPOLY: Dynamics and Thermodynamics of the Glass Transition.

Thursday morning, 08:00, Sagamore 4, Indiana Convention Center

Chair: Andrea Liu, University of California-Los Angeles

08:00 **S2.001** Probing the Glass Transition
Clare Yu (University of California, Irvine)

08:36 **S2.002** The Nature of Simple Liquids and Glasses*
Andrew Granato (The University of Illinois at Urbana-Champaign)

09:12 **S2.003** Fragile-to-strong transition and polyamorphism in the energy landscape of liquid silica
Peter H. Poole (Department of Applied Mathematics, University of Western Ontario, London ON N6A 5B7, Canada)

09:48 **S2.004** Specific Heats of Glass Forming Liquids and Fragility
C. Austen Angell (Department of Chemistry, Arizona State University)

10:24 **S2.005** Glass forming liquids and the glass transition: The energy landscape approach
Srikanth Sastry (Jawaharlal Nehru Centre For Advanced Scientif)

Session S5. DPOLY: Photonic Properties of Organic Systems.

Thursday morning, 08:00, Wabash 1, Indiana Convention Center

Chair: Pierre Wiltzius, University of Illinois-Urbana-Champaign

08:00 **S5.001** Multi-photon Polymerization of Waveguide Structures within Photonic Crystals
Paul Braun (University of Illinois at Urbana-Champaign)

08:36 **S5.002** Colloidal Engineering of New Photonic Materials
David Pine (Department of Chemical Engineering amp; Department of Materials, University of California, Santa Barbara, CA 93106-5080)

09:12 **S5.003** Polymer Based Microphotonics
Edwin L. Thomas (M.I.T.)

09:48 **S5.004** Superparamagnetic Colloidal Particles for Magnetically Controllable Photonic Crystals
Sanford Asher (Department of Chemistry, University of Pittsburgh, Pittsburgh, PA 15260)

10:24 **S5.005** Holographic Lithography of Photonic Crystals
A. J. Turberfield (University of Oxford, Department of Physics)

Session S9. DPOLY: Block Copolymers.

Thursday morning, 08:00, 101-102, Indiana Convention Center

Chair: Mitch Anthematten, Lawrence Livermore National Laboratory

08:00 **S9.001** A Non-cubic Triply Periodic ABC Triblock Network Morphology
Frank S. Bates, Travis S. Bailey (University of Minnesota, Minneapolis MN 55455)

08:12 **S9.002** Non-centrosymmetric lamellar phase in ABCD block copolymers
Karim M. Jaffer, Robert A. Wickham, An-Chang Shi (McMaster University)

08:24 **S9.003** Close-loop type of order ing transition for a Diblock copolymer melt
Du Yeol Ryu, Jin Kon Kim (Department of Chemical Engineering and Polymer Research Institute, Electronic and Computer Engineering Divisions, Pohang University of Science and Technology, Kyungbuk 790-784, Korea), Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA01003), Thomas P. Russell Collaboration

08:36 **S9.004** The effect of compressible solvents on the phase behavior of block copolymers
Bryan Vogt, James Watkins (University of Massachusetts)

08:48 **S9.005** Self-Assembly of a Selectively Modified Fluorinated Block Copolymer
Drew Davidock, Marc Hillmyer, Timothy Lodge (University of Minnesota)

09:00 **S9.006** RPA Use to Determine the Order-Disorder Transition in ABC Triblock Copolymers
Eric Cochran, Frank Bates (University of Minnesota - Chemical Engineering and Materials Science)

09:12 **S9.007** Test of Lamellar BCP Grain Rotation Model in Inception of Unidirectional Shear Flow
Wesley Burghardt, Franklin Caputo (Northwestern University)

09:24 **S9.008** Tracking Topological Defects in Arrays of Block Copolymer Spherical Microdomains
Matthew Trawick, Dan Angelescu, Paul Chaikin, John Sebastian, Richard Register, Douglas Adamson (Princeton University), Christopher Harrison (Polymers Division, National Institute of Standards and Technology, Gaithersburg, Maryland)

09:36 **S9.009** Hexagonally Perforated Layer Phase Formed under Plastic Deformation
Lei Zhu, Ping Huang, Yan Chen, S.Z.D. Cheng, Qing Ge, Roderic P. Quirk (Dept. of Polymer Science, The University of Akron), Benjamin S. Hsiao, Fengji Yeh, Lizhi Liu (Dept. of Chemistry, The State University of New York at Stony Brook)

09:48 **S9.010** Architecture Effect on Shear Alignment of Block Copolymers
Lifeng Wu, Timothy P. Lodge, Frank S. Bates (Department of Chemical Engineering and Material Science, University of Minnesota)

10:00 **S9.011** Linear Elasticity of Cubic Phases in Block Copolymer Melts.
Christopher Tyler, David Morse (Dept of Chemical Engineering and Materials Science, University of Minnesota)

10:12 **S9.012** Dynamics in a Sphere Forming Block Copolymer
Kevin Cavicchi, Timothy Lodge (University of Minnesota)

10:24 **S9.013** The FCC to BCC Phase Transition in a Block Copolymer Solution
Joona Bang, Timothy P. Lodge (Department of Chemical Engineering and Materials Science, University of Minnesota)

10:36 **S9.014** Nucleation of cylinders from metastable lamellae in diblock copolymer melts
Robert Wickham, An-Chang Shi (McMaster University), Zhen-Gang Wang (Caltech)

10:48 **S9.015** The influence of reciprocating shear amplitude on lamellar orientation in multi-block copolymer systems.
Theresa J. Hermel, William W. Gerberich, Frank S. Bates (Chem Eng amp; Mate Sci Dept, University of Minnesota)

Session S10. DPOLY/DCOMP: Focus Session: Simulations of Polymer Dynamics and Thermodynamics.

Thursday morning, 08:00, 103, Indiana Convention Center

Chair: Dilip Gersappe, SUNY-Stony Brook

08:00 **S10.001** Thermodynamic Admissability of Reptation Models.
Scott Milner (ExxonMobil Corporate Research)

08:12 **S10.002** What is the entanglement length in a polymer melt?
Gary S. Grest (Sandia National Laboratories), Rolf Auhl, Ralf Everaers, Mathias Pütz, Carsten Svaneborg, Kurt Kremer (Max Planck Institute)

08:24 **S10.003** Dynamic Self-Consistent Field Lattice Models of Entangled Polymer Fluids.
Yitzhak Shnidman (Polytechnic University, Brooklyn, NY 1120, and the NSF MRSEC on Polymers at Engineered Interfaces), Tak Shing Lo (Polytechnic University, Brooklyn, NY 11201)

08:36 **S10.004** Performing molecular simulations with the benefit of experimental data
Gregory C. Rutledge, Frederick L. Colhoun, Robert C. Armstrong (Department of Chemical Engineering, Massachusetts Institute of Technology)

08:48 **S10.005** Effect of local environments on polymer chain mobility
Jutta Luettmer-Strathmann (Department of Physics, The University of Akron), Rajesh Khatri (Department of Chemical Engineering, The University of Akron)

09:00 **S10.006** Computer Simulation Studies of PEO nanometer confinement
Vikram Kuppa, Evangelos Manias (Department of Materials Science and Engineering, The Pennsylvania State University, University Park, PA)

09:12 **S10.007** Simulation and integral equation studies of isotactic polypropylene and polyethylene blends
David Heine, David Wu (Colorado School of Mines), John G. Curro, Gary S. Grest (Sandia National Laboratories)

09:24 **S10.008** Diffusion of Alkane Melts: Theory, Simulation, and Experiment
Rahmi Ozisik, Wayne L. Mattice (Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH 44325-3909, U.S.A.), Pascal M. Pfister, Ulrich W. Suter (Institute of Polymers, Swiss Federal Institute of Technology (ETH Zentrum), CNB E92, Universitatsrasse 6, Zurich, CH 8092, Switzerland), Ernst von Meerwall (Maurice Morton Institute of Polymer Science, Departments of Physics and Chemistry, The University of Akron, Akron, OH 44325-3909, U.S.A.)

09:36 **S10.009** Molecular dynamics of polypropylene: Effect of temperature and tacticity on segmental dynamics
Joanne Budzien, Mark D. Ediger, Juan J. de Pablo (University of Wisconsin-Madison)

09:48 **S10.010** Molecular Dynamics Simulation of Knot Dynamics in Polyethylene Melts
Eung-Gun Kim, Michael L. Klein (Department of Chemistry, University of Pennsylvania)

10:00 **S10.011** Theoretical modeling of a poly(vinylidene fluoride) chain under a uniform electric field
Yong Chen, Chwen-Yang Shew (Chemistry Department, College of Staten Island and CUNY-Graduate Center, New York)

10:12 **S10.012** Yield of Polymethylmethacrylate (PMMA) - a Simulation Study
Thomas Soddemann, Mark O. Robbins (Dept. of Physics amp; Astronomy, Johns Hopkins University)

10:24 **S10.013** Molecular dynamics simulations of penetrant diffusion into polymers
Mesfin Tsige, Gary S. Grest (Sandia National Laboratories)

10:36 **S10.014** Brownian Dynamics Simulations of Polyelectrolyte Solutions
Rakwoo Chang, Arun Yethiraj (Department of Chemistry, University of Wisconsin-Madison)

10:48 **S10.015** Molecular Dynamics simulations of polymer collisions
Martin Kenward, Gary W. Slater (University of Ottawa)

Session S11. DPOLY: Polymer Gels and Solutions.

Thursday morning, 08:00, 104, Indiana Convention Center

Chair: Patrick Mather, University of Connecticut

08:00 **S11.001** Neutron Scattering from Equilibrium Swollen Networks
Greg Beaucage, Sathish Sukumaran, Suresh Murugesan (University of Cincinnati)

08:12 **S11.002** Dynamic Light Scattering Studies of Surfactant - Acrylamide Systems
Mukundan Chakrapani, David H Van Winkle (Department of Physics and Center for Materials Research and Technology, Florida Sta te University, Tallahassee, FL 32306)

08:24 **S11.003** Confinement Effects on Self-Assembly/Physical Crosslin king in an Associative Polymer: Gelation Dependence on Film Thickness
J.M. Torkelson, S.D. Kim (Northwestern Univ.)

08:36 **S11.004** Construction Of Micro- And Nanoporous Hydrogels Via Designed Diblock Copolypeptide Self-Assembly And Oligopeptide Self-Assembly
Darrin Pochan (Materials Science and Engineering and Delaware Biotechnology Institute, University ofDelaware), Tim Deming (Department of Chemistry and Materials, UCSB), Joel Schneider (Department of Chemistry and Biochemistry, University of Delaware)

08:48 **S11.005** Interaction of Surfactants with Block Polyelectrolyte Gels
Mark Crichton, Surita Bhatia (University of Massachusetts Amherst)

09:00 **S11.006** Formation of Layer Networks in Solutions
Xiaorong Wang (Bridgestone/Firestone Research, Akron, Ohio 44317)

09:12 **S11.007** Microstructure of Hydrophobically Modified Alkyl Acrylamide Polymers
Jun Tian (Chemical Engineering Department and Polymer Program, University of Connecticut, Storrs, CT 06269), T. A. P. Seery (Chemistry Department and Polymer Program, University of Connecticut, Storrs, CT 06269), R. A. Weiss (Chemical Engineering Department and Polymer Program, University of Connecticut, Storrs, CT 06269)

09:24 **S11.008** Effect of solvent on structure and rheology near the gel point
Michael Plischke (Physics Department, Simon FraserUniversity, Burnaby, BC, Canada V5A 1S6), Béla Joós (Ottawa-Carleton Institute of Physics, University of Ottawa, Ottawa, Canada K1N 6N5)

09:36 **S11.009** Physical Aging of Polymer Networks
Tian Xie (Department of Chemistry), Sanat Kumar (Department of Materials Science and Engineering)

09:48 **S11.010** Universal length ratios for semidilute polymer solutions
Jung-Ren Huang, Thomas A. Witten (James Franck Institute and Department of Physics, University of Chicago, 5640 S. Ellis Avenue, Chicago, Illinois 60637)

10:00 **S11.011** The Effect of Concentration and Temperature on Block Copolymer Micelle Formation:Small Angle Neutron Scattering and NMR Study
Gang Cheng, Dvora Perahia (Materials Science and Engineering Progam and Chemistry Department, Clemson University,SC 29634)

10:12 **S11.012** Organogel Formation Due to the Self-Assembly of Dibenzylidene Sorbitol
Elizabeth Wilder, Carol Hall, Saad Khan (Department of Chemical Engineering, North Carolina State University), Richard Spontak (Dept. Chem. Eng/Dept. Mat. Sci. and Eng., North Carolina State Univ.)

10:24 **S11.013** Understanding Persistence Length Variations in Aqueous Polymer Solutions
S. K. Sukumaran, G. Beaucage (Dept. of Materials Science and Eng., University of Cincinnati), P. Thiyagarajan (Intensed Pulsed Neutron Source, Argonne National Laboratory)

10:36 **S11.014** Universal Picture of the Concentration Dependence of Unentangled Polymer Self-diffusion in Solution
Brian Chekal, John Torkelson (Northwestern Univ.)

10:48 **S11.015** Viscoelastic Properties of Aggrecan Aggregate Solutions
Nispa Meechai, Alex. M. Jamieson, John Blackwell (Department of Macromolecular Science amp; Engineering), David A. Carrino (Department of Biology, Case Western Reserve University), Rekha Bansal (Gliatech Corporation)

Session T5. DPOLY: Simulations in Polymer Physics.

Thursday morning, 11:00, Wabash 1, Indiana Convention Center

Chair: Scott T. Milner, Exxon Mobil Research Eng

11:00 **T5.001** Effect of topological complexity on the thermophysical properties of polymer solutions, melts, and elastomers
Fernando Escobedo (Cornell University)

11:36 **T5.002** Molecular dynamics simulations of adhesion in dense polymer melts
Scott Sides (University of California at Santa Barbara)

12:12 **T5.003** Wetting of polymer solutions: Monte Carlo Simulations and Self-Consistent Field Theory
Marcus Mueller (Institut fuer Physik, WA331, Johannes Gutenberg Universitaet, D55099 Mainz, Germany)

12:48 **T5.004** Mysteries of PEO Solutions. Insight from Atomistic MD Simulations.
Dmitry Bedrov (Department of Materials Science, University of Utah)

13:24 **T5.005** Defect motion, pinning and coarsening of block copolymer mesophases
Jorge Vinals (Laboratory of Computational Genomics, Donald Danforth Plant Science Center, St. Louis, MO)

Session T9. DPOLY: Experimental Techniques.

Thursday morning, 11:00, 101 - 102, Indiana Convention Center

Chair: Michael Fasolka, National Institute of Standards and Technology

11:00 **T9.001** Imaging Charge in Organic Thin Film Transistors by Variable-Temperature Electric Force Microscopy
Erik Muller, William Silveira, Lauren DeFlores, Neil Jenkins, Jack Allen, John Marohn (Cornell University - Department of Chemistry and Chemical Biology)

11:12 **T9.002** In-plane material anisotropy revealed by phase contrast in intermittent contact atomic force microscopy
Matthew S. Marcus (Physics Department, University of Wisconsin-Madison), Robert W. Carpick (Department of Engineering Physics, Materials Science Program, and Rheology Re search Center, University of Wisconsin-Madison), Darryl Y. Sasaki (Sandia National Laboratories, Biomolecular Materials and Interface Science), M.A. Eriksson (Physics Department, University of Wisconsin-Madison)

11:24 **T9.003** Slow Positron Beam for Coating Degradation
Renwu Zhang, Hongmin Chen, Yichu Wu, Ying Li, Junjie Zhang, T.C. Sandreczki, Y.C. Jean (University of Missouri-Kansas City), R. Suzuki, T. Ohdaira (AIST), J.R. Richardson (University of Missouri-Kansas City)

11:36 **T9.004** Fluid polymer jets during electrospinning of nanofibers
Darrell H. Reneker, Han Xu (The University of Akron)

11:48 **T9.005** Thermal gradients near the liquid solid interface of SCN
Cristina Burcica (University of Cincinnati), G. T. McConville, Henry Fenichel

12:00 **T9.006** A New Internal Reflectance Analysis Method for the Measurement of the Optical Constants of Polymer Films
Robert Samuels (Gerogia Institute of Technology), Tao Liu (Georgia Institute of Technology)

12:12 **T9.007** In-plane effects in intermittent contact atomic force microscopy
A.M. Petrowski, Matthew S. Marcus, M.A. Eriksson (Physics Department, University of Wisconsin -Madison), Darryl Y. Sasaki (Sandia National Laboratories, Biomolecular Materials and Interface Science), Robert W. Carpick (Department of Engineering Physics, Materials Science Program, and Rheology Research Center, University of Wisconsin-Madison)

12:24 **T9.008** Quantitative Ultraviolet Spectroscopy in Measuring Photodegradation of a Urethane Film
Stuart Croll, Allen Skaja (North Dakota State University, Department of Polymers and Coatings)

12:36 **T9.009** Scanning Force Microscopy Study of Nanostructures in Poly(ester urethanes)
Marilyn Hawley, E. Bruce Bruce, Debra Wrobleski, Rex Hjelm, Geoffrey Brown (Los Alamos National Laboratory)

12:48 **T9.010** In-Situ Imaging of Langmuir Films using Environmental Scanning Electron Microscopy
Aline Miller (Cavendish Laboratory, University of Cambridge)

13:00 **T9.011** Intermolecular Interactions Between Proteins and Individual Poly(ethylene oxide) Chains Measured via High-Resolution Force Spectroscopy
Christine Ortiz, Monica Rixman (DMSE, Massachusetts Institute of Technology)

13:12 **T9.012** Electrowetting Controlled Tunable Liquid Microlens
Tom Krupenkin, Shu Yang (Bell Labs, Lucent Technologies)

13:24 **T9.013** Contrasting the Diffusion of Individual Molecules with Viscosity of Confined Fluids
Ashis Mukhopadhyay, Jiang Zhao, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, IL 61801)

13:36 **T9.014** Imaging Soft Responsive Surfaces by Time-Resolved Fluorescence Techniques
Anne Feng Xie, John Jiang Zhao, Steve Granick (Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, IL 61801)

13:48 **T9.015** Development of a Dynamic AFM Technique for Biosensor Characterization and Design
Ijeoma Nnebe (Carnegie Mellon University), Simon Biggs (University of Newcastle, Australia), James Schneider (Carnegie Mellon University)

Session T10. DPOLY: Rheology of Melts and Blends.

Thursday morning, 11:00, 103, Indiana Convention Center

Chair: Ramanan Krishnamoorti, University of Houston

11:00 **T10.001** Role of Architecture on the rheology and orientation behavior of highly branched polymers
Rangaramanujam Kannan, Semen Kharchenko (Chemical Engineering and Materials Science, Wayne State University)

11:12 **T10.002** Structure of poly(dimethylsiloxane) liquids
John G. Curro, Scott W. Sides, Gary S. Grest, Mark J. Stevens (Sandia National Laboratories), A. Habenschuss (Oak Ridge National Laboratory), J.D. Londono (E. I. Dupont, Experimental Station), Thomas Soddema nn (Johns Hopkins University)

11:24 **T10.003** Rheology of asymmetric star melts using the dual slip link model
Sachin Shanbhag, Ronald Larson (Chemical Engineering, University of Michigan, Ann Arbor)

11:36 **T10.004** Entangled Chain Dynamics in Binary Mixtures of Long and Short Chains
Shanfeng Wang, Shi-Qing Wang (Department of Polymer Science, University of Akron), Adel Halasa amp; Wen-Liang Hsu Collaboration

11:48 **T10.005** Entangled Dynamics: Diffusion in Melts and Blends of Polybutadiene
E. von Meerwall, S. Wang, S.-Q. Wang (Univ. Akron.)

12:00 **T10.006** Dilution Exponent in the Dynamic Dilution Theory of Star and Linear Polymer Melts
Seung Joon Park, Ronald G. Larson (Chemical Engineering Department, University of Michigan, Ann Arbor, MI 48109)

12:12 **T10.007** Cooperative Dynamics in Polymer Fluids
Marina Guenza (Institute of Theoretical Science, University of Oregon)

12:24 **T10.008** Measurements of rheological and structural properties of lubricant films
Khaled S. Mriziq, Horn-ji Dai, Mark D. Dadmun (University of Tennessee, knoxville, TN37996), Hank D. Cochran (Oak Ridge National Laboratory, Oak Ridge, TN37831)

12:36 **T10.009** In-situ Small-angle X-ray Scattering Study of Simple Shear Oriented Poly(ethylene terephthalate) During Heating
Zhigang Wang (Polymers Division, National Institute of Standards and Technology Gaithersburg, MD, 20899), Zhiyong Xia (Polyolefin Center, Formosa Plastics Corporation, Point Comfort, TX 77978), Benjamin Hsiao (Department of Chemistry, State University of New York at Stony Brook Stony Brook, NY, 11794), HJ Sue (Department of Mechanical Engineering, Texas A&M University, College Station, TX 77843), Charles Han (Polymers Division, National Institute of Standards and Technology Gaithersburg, MD, 20899)

12:48 **T10.010** Shear-Induced Structural and Morphological Changes in Polyolefin Blends
Howard Wang, Hongdoo Kim, Erik K. Hobbie, Zhi-gang Wang, Shimizu Katsumi, Charles C. Han (Polymers division, National Institute of Standards and Technology, Gaithersburg, MD 20899), Benjamin S. Hsiao (Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY, 11794)

13:00 **T10.011** Layered Droplet Microstructures in Sheared Emulsions: Finite-Size Effects
Jai Pathak, Melissa Davis, Steven Hudson, Kalman Migler (Polymers Division, NIST)

13:12 **T10.012** Extensional deformation, cohesive failure, and boundary conditions during sharkskin melt fracture
K. B. Migler, Y. Son, F. Qiao, K. Flynn (Polymers Division, NIST)

13:24 **T10.013** Shear-mediated crystallization of isotactic polypropylene: The role of long chain-long chain overlap
Derek W Thurman (Dept. of Chemistry and Chemical Engineering, California Institute of Technology), Motohiro Seki (Yokkaichi Research Center, Mitsubishi Chemical Corporation), James P Oberhauser (Dept. of Chemical Engineering, University of Virginia), Julia A Kornfield (Dept. of Chemistry and Chemical Engineering, California Institute of Technology), Mitsubishi Chemical Corporation Collaboration

13:36 **T10.014** Probing polymer melt structure atthe early stages of crystallization by in-situ rheo-SAXS and -WAXD techniques
R.H. Somani, L. Yang, B.S. Hsiao (Department of Chemistry, State University of New York @Stony Brook, Stony Brook, NY 11794, USA), P. Agarwal, H. Fruitwala, A. Tsou (ExxonMobil Chemical Company, Baytown Polymers Center, Baytown, Texas 77520, USA), ExxonMobil Chemical Company Collaboration

13:48 **T10.015** Flow-Enhanced Crystallization and Morphology Development of Blends of Isotactic Polypropylene and Elastomeric Polyolefins
Lucia Fernandez-Ballester, Derek W. Thurman, Julia A. Korfield (Department of Chemical Engineering, California Institute of Technology, 210-41, Pasadena, CA 91125)

Session U9. DPOLY: Focus Session: Glass Transition in Bulk Polymers.

Thursday afternoon, 14:30, 101-102, Indiana Convention Center

Chair: Alexei P. Sokolov, University of Akron

14:30 **U9.001** Influence of Spatially Heterogeneous Dynamics on Physical Aging of Polystyrene
Courtney T. Thurau, M.D. Ediger (University of Wisconsin, Madison)

14:42 **U9.002** Probing cooperatively rearranging regions (CRR) near the glass transition
Koneswaran Sinnathamby, Nathan .E Israeloff (Department of Physics, Northeastern University,Boston), Vidal Russell Ezequiel (Instituto Balseiro, Bariloche, Argentina)

14:54 **U9.003** The Correlation of Positron Annihilation and Other Dynamical Properties in Small Molecule and Polymer Glasses
Christopher Soles, Jack Douglas (NIST Polymers Division), Li-Rong Bao (Unvirsity of Michigan), Albert Yee (Unviversity of Michigan), Kia Ngai (Naval Research Laboratory), NIST Polymers Division Collaboration, University of Michigan Collaboration, Naval Research Laboratory Collaboration

15:06 **U9.004** Fluctuation Dissipation Relation in stuctural and polymeric glasses
Shomeek Mukhopadhyay, Nathan Israeloff (Northeaste rn University)

15:18 **U9.005** Origin of Glass-like Dynamics in Dilute Polymer Systems
Sanat Kumar (Penn State University), Jack Douglas (NIST)

15:30 **U9.006** Tracking Single - Molecule Probe Diffusion in Polymers near Tg: Implications for Characterizing Nanoscopic Heterogeneity
J.C. Quirin (Northwestern Univ.), A.P Bartko, R.M. Dickson (Georgia Tech), J.M. Torkelson (Northwestern Univ.)

15:42 **U9.007** Self-diffusion of Trisnaphthylbenzene at the Glass Transition
Stephen Swallen, Mark Ediger (University of Wisconsin, Department of Chemistry)

15:54 **U9.008** Computer Simulations of Polymer Blend Dynamics
Sudesh Kamath, Ralph. H. Colby, Sanat. K. Kumar (Penn State University, University Park, PA 16802)

16:06 **U9.009** Simulation Study of the Glass Transition Temperature in PMMA
Philip L. Taylor (Case Western Reserve University), Mesfin Tsige (CWRU and Sandia National Laboratories)

16:18 **U9.010** Universality of the structural relaxation time at crossover temperature of the glass transition
Vladimir Novikov, Alexey Sokolov (Department of Polymer Science, The University of Akron, Akron, OH 44325-3909)

16:30 **U9.011** Influence of Molecular Architecture on Fast Dynamics and the Glass Transition in Polybutadiene
A. Kisliuk, J. Hwang, M.D. Foster, A.P. Sokolov (Department of Polymer Science, The University of Akron), B.K Annis (Chemical Sciences Division, Oak Ridge National Laboratory)

16:42 **U9.012** New Understanding of Metastability, Ideal Glass transition and the Relevance of Nernst's Postulate (Third Law) in Polymers
P. D. Gujrati (Departments of Physics and of Polymer Science, The University of Akron, OH 44325.)

16:54 **U9.013** Dynamics in Non-Equilibrium States of Glasses
Brian Erwin, Ralph Colby (Department of Materials Science and Engineering, The Pennsylvania State University, University Park, Pennsylvania 16802)

17:06 **U9.014** Analysis of the Residual Entropy of Amorphous Polyethylene
Bernhard Wunderlich, Marek Pyda (The University of Tennessee, Knoxville, and ORNL, Oak Ridge, TN)

17:18 **U9.015** Thermal expansion and free volume behavior in glassy state of crystalline polymers
Toshiaki Ougizawa (Department of Organic and Polymeric Materials, Tokyo Institute of Technology)

Session U10. DPOLY: Polymer Blends: Morphology and Phase Transitions.

Thursday afternoon, 14:30, 103, Indiana Convention Center

Chair: Ronald L. Jones, National Institute of Standards and Technology

14:30 **U10.001** Effect of Chain End Functionalization on Thermodynamics of Binary Polymer Blends
Mark Foster, Jong Hwi Hwang, Roderic Quirk (Maurice Morton Institute of Polymer Science, University of Akron)

14:42 **U10.002** Surface Structure, Phase Diagrams, and UCST Behavior of Immiscible Polystyrene and Poly(4-methylstyrene)
Li-Ling Chang, Ea-Mor Woo (Department of Chemical Engineering, National Cheng Kung University, Tainan, 701-01, Taiwan)

14:54 **U10.003** Broadband Dielectric Study on Poly(4-vinylphenol)/Poly(ethyl methacrylate) Blends
S. H. Zhang, X. Jin, P. C. Painter, J. Runt (Penn State University)

15:06 **U10.004** X-ray Spectromicroscopy of Branched Polyolefin Blends
Guenter Appel (North Carolina State University), Ivo Koprinarov, Gary Mitchell (Dow Chemical), Archie Paul Smith (National Institute of Standards and Technology), Harald Ade (North Carolina State University)

15:18 **U10.005** Studies on the Role of Pressure in Polymer Solution and Blend Miscibility
Jane E.G. Lipson (Dartmouth College)

15:30 **U10.006** Insitu multilevel structural characterization of semicrystalline polymer blends:New insights from small-angle light scattering
Youyu Lin, Yvonne Akpalu (Department of Chemistry, Rensselaer Polytechnic Institute, Troy NY 12180)

15:42 **U10.007** Reactive Formation of a PDLC Material: Phase Separation and Structure Development
Grigori Sigalov, Thein Kyu (University of Akron)

15:54 **U10.008** Nucleation, spinodal and the Ginzburg criterion in binary polymer blends
Zhen-Gang Wang (Division of Chemistry and Chemical Engineering, California Institute of Technology)

16:06 **U10.009** Phase Behavior Prediction of Ternary Polymer Mixtures
Juan Gonzalez, Anne M. Mayes (Department of Materials Science and Engineering, Massachusetts Institute of Technology)

16:18 **U10.010** Order-Disorder Transition (ODT) in Micelle-Forming A-B/A and A-B/B Diblock Copolymer/Homopolymer Blends
Elena E. Dormidontova, Timothy P. Lodge (Department of Chemical Engineering and Materials Science, Department of Chemistry, University of Minnesota, MN55455)

16:30 **U10.011** Molecular Dynamics Simulation of Reactive Compatibilization
Chuck Yeung, Kim Herrmann (Penn State Erie – The Behrend College)

16:42 **U10.012** The Compatiblization Effect of Alternating Copolymers on an Immiscible Polymer Blend
Michael J. Arlen, Mark D. Dadmun (Chemistry Dept., University of Tennessee, Knoxville, TN, 37996.)

16:54 **U10.013** The Nanoscale Structure of Conductive Polymer Blends by Multimode AFM
Cristian Ionescu-Zanetti (University of California, Santa Barbara), Janos Kokavecz (Department of Optics and Quantum Electronics, University of Szeged, Hungary), Adam Mechler (University of California, Santa Barbara), Sue Carter (University of California, Santa Cruz)

17:06 **U10.014** Pattern Forming Blends
Galen T. Pickett (Department of Physics and Astronomy, CSULB)

17:18 **U10.015** Molecular Mixing Achieved Through the Simultaneous Formation of and Coalescence from Crystalline Cyclodextrin Inclusion Compounds Containing Guest Polymers
Cristian C. Rusa (Dept. of Gen. Chemistry "Gh. Asachi" Technical University Iasi, Romania), Min Wei, Todd A. Bullions (Fiber amp; Polymer Science Program North Carolina State University Raleigh, NC), Jeffery L. White (Dept. of Chemistry North Carolina State University Raleigh, NC), Alan E. Tonelli (Fiber amp; Polymer Science Program North Carolina State University Campus Box 8301 Raleigh, NC 27695-8301)

Special DPOLY Events

Sunday, March 17:

DPOLY Reception

Rock Bottom Brewery

10 West Washington Street, Indianapolis, IN

6 – 8 PM (18:00 – 20:00) in the Under the Rock private basement facility

Tuesday, March 19:

DPOLY Business Meeting

Indiana Convention Center, Room 101-102

5:30 PM (17:30)

DPOLY Honorary Reception for Tom Witten and Tim Bunning

Indiana Convention Center, 500 Reception Room

6:30 – 8 PM (18:30 – 20:00)

Other Events

Sunday, March 17:

Career Workshop

Indiana Convention Center, Room 120

3 – 6 PM (15:00 – 18:00)

Monday, March 18 – Wednesday, March 20:

APS Employment Center

Indiana Convention Center

3/18: 8:00 – 17:00

3/19: 8:00 – 17:00

3/20: 8:00 – 13:00