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

Monday morning, 08:00, 101-102, Indiana Convention Center
Chair: Yacin 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. Sudemann, M. O. Robbins (John Hopkins University), G. S. Geist, M. Stevens, M. Tisge (Sandia National Laboratories)

08:12 A9.002 Quantitative Surface Interactions Using a Multiplexed 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 Root, Constantino 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 Entrainments at Partially Miscible Polymer Interfaces
Russell E. Gorges, Balaji Narasimhan (Iowa State University)

09:12 A9.007 Probing Polymer-Polymer Interfaces
Gary Harp, Kesbhu Gautam, Ali Bhimjiwalla (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 Photomask - Thin Films
Eric Lin, Christopher Soles, Ronald Jones, Joseph Lenhart, Wen-li Wu, Sushil Satija (NIST), Dave Goldfarb, Marie Angelopoulos (IBM T. J. Watson Research Center), Brian Tyson, Sean Barnes, C. Grant Willson (University of Texas - Austin)

09:48 A9.005 Diffusion in Monolayer - Thick Films
Jiang Zhao, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, IL 61801)

10:00 A9.001 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 A9.002 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 A9.003 Probing In - Plane Distribution of Au Nanoparticles in Polymer Thin Films Using Resonance Enhancements, Enhancement Effect
Suresh Narayanan, Rodney Guico, Dong Ryed Lee, Jin Wang (Advanced Photon Source, Argonne National Laboratory, Argonne, IL 60439), Alain Gibaud (Université du Maine, Faculté des Sciences, CNRS 72085, Le Mans Cedex 09, FRANCE.), Santhi Sinha (Department of Physics, University of Illinois, San Diego, CA 92093)

10:36 A9.004 Durability of Polymeric Coatings: Cyclic Loading and Free Volumes
Hongmin Chen, Qionghua Peng, Yichun Wu, Ying Li, Junjie Zhang, T. C. Sandlevis(k), 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: Yvone Akpalu, Rensselaer Polytechnic Institute

08:00 A10.001 Counterion Distribution and Denuclearization of Polyelectrolyte Solutions
Michael Rubinstein, Qi Liu (Department of Chemistry, University of North Carolina, Chapel Hill, NC 27599 -3290), Andreas Dobrynin (Institute of Materials Science and Department of Physics, University of Connecticut, Storrs, CT, 06269-3106)

08:12 A10.002 Phase behavior of strongly charged polyelectrolytes in the presence of multivalent ions
Alekander Ermeshkin, Monika Oliveira de la Cruz (Department of Materials Science and Engineering, Northwestern University, Evanston, IL 60208)

08:24 A10.003 Structure and Dynamics of Hydrophobic Polyelectrolytes
Thomas A. P. Scryer (Polymer Program and Dept. of Chemistry, University of Connecticut, Storrs, CT -06269), Damien Buijl, 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 calculations
Mohsen Sabouri (Materials Research Laboratory, University of California, Santa Barbara), Henri Orland (Service de Physique Théorique, 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
Chuen-Yang Shew (Chemistry Department, College of Staten Island/CUNY, Staten Island, NY 10314), Arun Tetheraj (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 Tizzell (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), Dimo B. Laktakzy (Weizmann Institute), Philip.A. Pincus (University of California, Santa Barbara), Samuel A. Safim (Weizmann Institute)

09:36 A10.009 Effect of Miscibility on the Adsorption Kinetics of Polymeric Surfactants to the Solid/Water Interface
Ryan Toomey, Matthew Tizzell (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 Tae, Aaron Matheson, Mark Stevens (Sandia National Labs), Robert Ikov, Sushil Satiaja (National Institute for Standards and Technology), Jarelaw Majewski, Greg Smith (Los Alamos National Lab.)

10:00 A10.011 Adsorption of hydrophobic polyelectrolytes at oppositely charged surfaces
Andy 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
Mario Santoro (Department of Polymer Science, University of Massachusetts), Nanthiya Hansapaluk (Department of Chemical Engineering Lehigh U)

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

10:36 A10.014 Multilayer Formation: Irreversible Model
Stella Park, Jonas Mendelson, Michael Rubiner, Anne Mayer (MIT, Department of Materials Science and Engineering)

10:48 A10.015 Quantitative Model of Interfacial Response in Looped Polyelectrolyte Self-Assemblies
Dan Piskunovski, 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), Kwun Woo Shin, Sushil Satija (National Institute of Standards and Technology, Gaithersburg, Maryland)

B33.003 Morphology of Rigid Rod Polymers (PRP, PRBT) Membranes
Rohit Ojisk, S. Purthanarath, Lei Zhe, R. K. Eby (Dept. and Inst. of Polymer Science, University of Akron, Akron, OH 44325-3909), Saco Y. Park, Hilmar Koerner, Shane Juhl, Teru A. Dang, Basvy L. Farmer (AFRL/MLBP, WPAFB, OH 45435-7734), Fengyi He (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, Rohit L. M. Kierman, Sam P. Giangiacomo Pentrella, Shawn L. Hess (Polymer Science and Engineering Department and Materials Research Science and Engineering Center, University of Massachusetts at Amherst)

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

B33.006 A vibrational spectroscopic study on amorphous phase associated with crystallization and deformation behavior of poly(lactic acid)
Shahab Kung (University of Massachusetts at Amherst, Dept. of physics and Dept. of polymer sci amp; eng.), Shaw Ling Hsu (University of Massachusetts at Amherst, Dept. of polymer sci amp; eng.)

B33.007 Copolymer/Crystalization: Approaching Equilibrium
Buckley Crist, Tersy Finerman (Northwestern University)

B33.008 Structural Studies on Naphthalene-Based Rigid-Rod Benzobisthiazole Polymers
Suo-Young Park (Air Force Research Lab), Ji-ho-wo Lee (Symcon Technology Inc.), N. Venkatadasabramian (Univ. of Dayton Research Inst.), Thuy D. Dang, Fred E. Arnold, B. L. Farmer (Air Force Research Lab)

B33.009 The Study of Ejection relax Process in a Polymeric molecule
Shujian 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. Dufff, Amy M. Heintz, Shaw Ling Hsu (Polymer Science and Engineering, University of Massachusetts, Amherst 01003), Dueno Ma (University of Science and Technology of China, Beijing, China)

B33.011 An Integrated Approach to the ATHAS Data Bank
E. V. Kobyava, A. L. Blein, M. Pyda, B. Wunderlich (The University of Tennessee, Knoxville, and ORNL, Oak Ridge, TN)

B33.012 Traction on Macroscopic vs. Nanoscopic Objects: Solvent Rotation in Small-Molecule and Polymer Solvents
Mark M. Somoya, Michael I. Stuck, 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 Cyanacrylate Polymerization in Latent Fingerprinting
Steve Warzucki, Mark Dudaun (Chemistry Dept, University of Tennessee, Knoxville, TN 37996), Linda Lewis, Gerald Desvaux (V-12 National Security Complex, Oak Ridge TN 37831)

B33.015 Molecular Modelling of Structural Evolution in PEO Fibres
Greg Hostetter, David Martin (The University of Michigan)

B33.016 Chirality Effects on the Morphology and Structure of Synthetic Chiral Main-chain Liquid Crystal Polymesters
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
Haitie Durun, Yamashita Atsumi, Thein Kyua (University of Akron)

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

B33.019 Structural and Morphological Characterization of PBO Membranes for High Temperature Fuel Cells

B33.020 Spatio Temporal simulation of Twisted Polymer Single Crystal
Rajal Mohla, Thein Kyua (Institute of Polymer Engineering, The University of Akron, Akron, Ohio 44325-3801)

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 4400, Gaithersburg, MD 20899), S. Z. D. Cheng (The University of Akron, Akron, OH 44325)

B33.022 Phase Structure and Properties of a Biodegradable Block Copolymer Coalesced from Its 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, Frances Prebenti, Todd A. Balloun (Fiber amp; Polymer Science Program, North Carolina State University, Raleigh, NC), J. Daniel Shin (Dept. of Pharmaceutical Sciences, School of Pharmacy, Campbell University, Buies Creek, NC), Alan E. Tenelli (Fiber amp; Polymer Science Program, North Carolina State University, Campus Box 8301, Raleigh, NC 27695-8301), N.C State 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(butylacylate) and Poly(nitromethylacrylate)
(1) A. J. Bucin, (1) M. Poda, (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 Polyurethane area Multiblock Copolymers
J. Y. Garrett, K. Xin, J. Cho, J. Runt (Penn State University)

B33.025 The Extended Viscosity and Orientation of Triblock Copolymer
Jun Young Kim, Chris Macorke (University of Minnesota, Department of Chemical Engineering and Material Science, and, Tu Lounge (University of Minnesota, Department of Chemical Engineering and Material Science, Department of Chemistry)

B33.026 Application of Density Functional Theory to Triblock Polymer Chains
John D. Cox, Yuan Ye (Mater. Dept., New Mexico Tech, Socorro, NM 87801), John G. Curro (Sanita Sugarland Laboratories, Albuquerque, NM 87123)

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

B33.028 Scanning Force Microscopy Study of Surface Effects in Ion Containing Polymers

B33.029 Dewetting Studies of Perfluorinated Ionomer Thin Films
Junfu Jiang, Teresa Hill, Jiao Xuexong, Dror 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
Marvin A. Grenchen (IFSCC, USP, Sao Carlos, SP, Brazil), MIT, Cambridge, MA, USA, Lotiz Henrique Capparelli Mattozo, Rogerio Moreno (Embrapa, Sao Carlos, SP, Brazil), Paula Goncalves (IAC, Campinas, SP, Brazil), Dorothy Hoster, Christine Ortiz (MIT, Cambridge, MA, USA)
B33.032 Shear-Induced Structure in Asymmetric Polymer Blends
E. K. Hobbs, 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 Allyl Sulfonic Acid-Doped PolyvinylideneFluoride Nanocomposites
Dongkoo Lee, Kookdon Choe (School of Chemical Engineering and Institute of Chemical Processors, Seoul National University, Seoul 151-744, Korea)

B33.035 Homopolymer/homopolymer blends with UCST and LCST
Da Yeol Ryu, Seung Hoon Choe, 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. Russel (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA01003), Thomas P. Russel Collaboration.

B33.036 Phase Behavior of block copolymer and homopolymer blends with constant temperature. B. 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. Russel (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA01003), Thomas P. Russel 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 Extension
Tanmoy 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 Lamellae Block Copolymer / Homopolymer Blends
Egin Burgar, Samuel Gido (Univ. of Massachusetts Amherst)

B33.040 Morphologies and tensile properties of Block-Diablock- Graft-Copolymers
Yuing Zhu, Samuel P. Glou (University of Massachusetts-Amherst), Gabriel Veliu, Nikos Hadjichristidis (University of Athens)

B33.041 Micellization of PE13 PPO-PEO triblock copolymers in aqueous electrolyte solutions. S.K. Sukumaran, G. Bourgoise (Dept. of Materials Science and Eng., University of Cincinnati), P. Thiyagarajan (Intensified Pulsed Neutron Source, Argonne National Laboratory)

B33.042 Exploring the Molecular Origins of Bioincompatibility: Adhesion Between Proteins and Individual Chains of Poly(ethylene oxide). Nicolaus A. Kocian, Claire Thorne, Ortlieb Wohlrab (University of Massachusetts, Amherst, MA01003)


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 Burkart (Goodyear Tire amp. Rubber Co.), Alex Jennison (Case Western Reserve U.), Prasad Soppolakkos (Case Western Reserve U.), Robert Davis (U. Colorade, Boulder)

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

B33.047 Diffusion Studies of PS and PMMA Thin Films in Nanoparticles Filled Systems
Saesong Ha (Dept. of Materials Sci. amp. Eng., SUNY at Stony Brook, NY 11794), M. Bronner (Rampan Melesta High School, Cedarhurst, NY 11516), A. Shah (Harvard University, Cambridge, MA 02138), W. Zhang, M. Rajafaliosch, J. Sokolov (Dept. of Materials Sci. amp. Eng., SUNY at Stony Brook, NY 11794), Y. Zaitsev, S. Schwartz (Dept. of Physics, Queens CUNY, Flushing, NY 11367), D. Peiffer (EissenMobile Research and Engineering Company, Annandale, NJ, 08001)

B33.048 Studies on the Phase Separation Dynamics of Polyetherimide Modified Thermosetting Polymides
Gregory Vandeke, Thein Kuo (The University of Akron), Jong-Beom Baek, Tan Loom-Sang (AFRL/MLBP, Air Force Research Laboratory, Wright-Patterson AFB)

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

B33.050 Effects Of Supercooled On Morphology Of Crystals Grown In Blends Of Syndiotactic Polypentapropylene And Polyolefin Elastomers
Wirunya Krawwattanana, Thein Kuo (Institute of Polymer Engineering, The University of Akron, Akron, Ohio 44304-0311)

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

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

B33.053 Dynamics of Dewetting Polymer Films Ruf Seemann, Stephan Hermitzehaus, Kari Jacobs (University of Ulm, Dept. of Applied Physics, D-89069 Ulm)

B33.054 Determination of Surface Energies with Polymer Thin Film Dewetting
Song-Hoon Cho, Be-Min Zhang Newby (The University of Akron)

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

B33.056 Dynamics of Dewetting Polymer Films
Ruf Seemann, Stephan Hermitzehaus, Kari Jacobs (University of Ulm, Dept. of Applied Physics, D-89069 Ulm)

B33.057 Characterization of peptide based hydrogels using cryo-transmission electron microscopy
Laurette McCormick, Gary Slater (University of Ottawa, Ottawa, Canada), Bernard Tinland (Institut Charles Sadron, CNRS, Strasbourg, France)

B33.058 Optical Generation in Thin Films of Chemically-Modified Photoresists
Adam Pawlicki, Paul Nealey (Center for Nanotechnology and Department of Engineering, University of Wisconsin, Madison)

B33.059 Gradient Heterogeneous Surface
Irene Tsoi, Masahiro Kimura, Zhiqun Lin, Rebecca Stockton, Alex Fadive, 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 Ostrov model for electrophoresis using colloidal matrices
Laurete 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 Ozyus, Lisa Pakdilt, Yihk Krikorian, Durvin Fochan (Dept of Materials Science and Engineering, University of Delaware), Andrew P. Nowak, Timothy J. Deming (Dept 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 cryogelizations
Pradip Kumar Thallapalle, Bi-Min Zhang Newby (The University of Akron)
B33.067 Critical Electric Field strength of alignment of symmetric diblock copolymers
Tong Xu, Yangzi 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 Im, Sung Chul Bae (Department of Materials Science and Engineering, University of Illinois), Steve Granick (Department of Chemistry, of Physics, and of Materials Science and Engineering, University of Illinois)

B33.069 Precipitation Analysis of Lamella Melting and Thin Film Glass Transition Temperatures
Richard West (Department of Chemical Engineering, University of Delaware, Newark DE 19716-1144)

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 Dewatering on Coated Substrates
Salvina Segone, Ana Pinto, Holly Hudson, Matthew Clarke, Joseph Polidan, Alan Eske (Department of Chemistry, Virginia Tech)

B33.072 Electrosprinning of Molten Polymers in Vacuum and Air
Rathnapal Rangakumara, Darrell Reneke (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 Bhattacharya, Atul Kumar, Bhuma Gao, Satish Kumar (School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA 30352), 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
Hyon-Jong 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 30352), Lars M. Ericson, Richard E. Smalley (Department of Chemistry, Rice University, Houston TX)

B33.077 Flattened Side-Chain Polyurethane-Based Polymers
A. Hexemer, E. J. Kramer (UCSB), X. Li, E. Andrus, C. K. Ober (Cornell), G. Galli, E. E. Cheliotti (Univ. Pisa)

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

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

B33.080 A lattice model of the Orgen 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 Percipitation and Thermal Properties of a Polymer Matrix: An Exact Model Calculation on Pervasive Lattices
Andrea Corini, P. D. Guyatt (Department of Physics and Department of Polymer Science, The University of Akron, Akron, Ohio 44325 USA)

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

B33.083 Enzymic effects of copolymer localization at semiflexible polymer interfaces
Wen-tao 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 The Hydration Dynamics of Polyelectrolyte Gels
Charles B. Prater (University of California, Berkeley), Alex Mogilner (University of California, Davis), George Oster (University of California, Berkeley)

B33.085 Single lamella studies of self-assembled block copolymers
Dennis Dicher, Helm Aranda Espinosa, Harry Bermudez, Aaron Brannan, Frank Bates (University of Pennsylvania and University of Minnesota)

B33.086 Computer Simulation of the Mechanical Properties of Nanotemplates of Polymer Glasses
Kevin Yan Workum, Paul F. Nealey, Juan J. de Pablo (Center for NanoTechnology, University of Wisconsin - Chemical Engineering)

B33.087 Information Properties in Combintorilal Noncopolymer 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)

B33.088 From micro to nano stamps
Dong Ha Kim, Zhiquan Lin (Polymer Science and Engineering Department, University of Massachusetts Amherst), Ho-Chael Kim (IBM Almaden Research Center), Kuo Soon Shin (Seoul National University), Thomas Russel (Polymer Science and Engineering Department, University of Massachusetts Amherst)

B33.089 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)

B33.090 Single lamella studies of self-assembled block copolymers
Dennis Dicher, Helm Aranda Espinosa, Harry Bermudez, Aaron Brannan, Frank Bates (University of Pennsylvania and University of Minnesota)

B33.091 NEXAFS of Polyamidoamine-organosilicon(PAMAMOS) Dendrimer Network Nanocomposites
Robert Bubek, Jennings Li, Petar Dvornic (Michigan Molecular Institute), Alexander Hexemer (University of California at Santa Barbara), Xiaof Li (Cornell University), Latia Andruschi (Cornell University), Daniel Fuchs (NIST)

B33.092 Dewatering on Coated Substrates
Salvina Segone, Ana Pinto, Holly Hudson, Matthew Clarke, Joseph Polidan, Alan Eske (Department of Chemistry, Virginia Tech)

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

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

B33.095 Rod shaped MEH-PPV Nanoparticles that are Spatially Oriented
KK Fradep Kumar, Mark Dudnam (Chemistry Dept., University of Tennessee, Knoxville, TN 37996), R.M. Dickson (School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30312), Michael D. Barnes (Chemical Sciences Division Oak Ridge National Laboratory, Oak Ridge TN 37830)

B33.096 Nanofluidic Devices for Electrophoresis of Polysaccharides
C. W. Chang, T. J. S Acid (German Research Center for Chemical Technology, Karlsruhe, Germany), R. M. Dickson (School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30312), V. Khanna, H. T. Wang, L. M. Ericson, R. F. W. Bader (University of New Mexico, Albuquerque, NM 87131)

B33.097 Nanoconvective Structures in Polyamidoamine and Polyethyleneimine Nanocomposite Gels
Kenji Yoshimoto (University of Wisconsin, Center for Nanotechnology), Mark Stoykovich, Heidi Cao, Paul Nealey (University of Wisconsin - Madison and Center for NanoTechnology, Leonidas E. Ocola (Agere Systems)

B33.098 Nanostructured Polymer Gels
Mark P. Stoykovich, Kenji Yoshimoto, Heidi B. Cao, Paul F. Nealey (University of Wisconsin - Madison and Center for NanoTechnology, Leonidas E. Ocola (Agere Systems)

B33.099 Single lamella studies of self-assembled block copolymers
Dennis Dicher, Helm Aranda Espinosa, Harry Bermudez, Aaron Brannan, Frank Bates (University of Pennsylvania and University of Minnesota)

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 afternoon, 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 Mathadumar (University of Massachusetts - Amherst)

15:42 D5.003 Visualization of DNA Motion within an Ordered Matrix
David Hoepland (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 Hagenmuller, John E. Fischer, Karen J. Wimy (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 Reyer (Army Research Laboratory, APO, 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), Vivek Vaudevan (Wheatley High School), Maya St, Michael Gelfer, Benjamin Huso, Jonathan Sokolov, Miriam Rafailovich (SUNY at Stony Brook), Dennis Pfeffer (EXXON/Mobil Research and Engineering)

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

15:30 D9.006 Crystalline forms in melt-crystallized syndiotactic polystyrene/clay nanocomposites
Tsong-Ming Wu, Sang-Pu Hsu (Department of Material Science and Engineering, National Chung Hsing University), Cheng-Yue Wu (Department of Chemical Engineering, National Chung Hsing University)

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

15:54 D9.008 Thermoset Based Nanocomposites
Fide Bhembe (Tuskegee University), Mohammed Abdulla, Salyasachi Gangali, Sandi Campbell, Derrick & Dean

16:06 D9.009 Molecular mechanism of failure in polymer nanocomposites
Dolf Gruber (Dept. of Materials Science and Engineering, SUNY at Stony Brook)

16:18 D9.010 Ordered Organosilicate Nanocomposites templated by Block Copolymers
Shu Yang, Yochi Horibe, Cheng-Hsiu Chen, Thomas Tajry, Paul Evans (Bell Laboratories, Lucent Technologies), Peter A. Murn (Agere Systems)

16:30 D9.011 Metal Nanoparticle Arrays from Diblock Copolymer Templates
Robert L. Sanderson, C.T. Black, K.W. G armored (IBM Research)

16:42 D9.012 Block Copolymer Templates for Optical Materials and Devices
Augustine Uruba, Muhannad 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/colloidal 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 System
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, Sowisk 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. Kometo, 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 Danoskerer (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 S3-Dimensional Structure of Polymers in Ultrathin Films
Ronald Jones, Christopher Soles, Francis Stary, Eric Lin, Joseph Lentart, Wei Li Wu (NIST), Dieter Goldbaur, Marie Angelopoulos (T.J. Watson Research Center, IBM)

15:06 D10.004 Switching Shape of Cylindrical Brush Molecules at Interfaces
Sergei Sheiko, Marie le de Sylva (Department of Chemistry, University of North Carolina at Chapel Hill), Svetlana Praskhurov (Macromolecular Chemistry, University of Ulimit, Germany), Kathryn Biers (National Institute of Standards and Technology, Gaithersburg), Hans Boerner, Krycysztof Matyjaszewski (Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA)

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 Gercz, Tao Wu, Kiriell Elmenko (NC State University)

15:42 D10.007 Molecular Modeling of Tethered Polymer Chains
Sergio Mendez, U. of New Mexico, John Curren, Michael Kent, Hyon Yun, Sananda National Labs, Michael F. McCoy (New Mexico Institute of Mining and Technology)

15:54 D10.008 Microstructure and Durability-related Physical Properties of Fluoropolymer Coatings
Li-Pin Sung (National Institute of Standards and Technology, Gaithersburg, MD 20899), Silvia Vincini (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
Mingjun Bai (Department of Physics and Astronomy, University of Nebraska-Lincoln), Xingzhong Li (Center for Materials Research and Analysis, University of Nebraska-Lincoln), Shireen Adbulmala, Matt Poulsen (Department of Physics and Astronomy, University of Nebraska-Lincoln), Steven 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) Copolymer
Hongwei Qu, Tomas Garcia, Wei Yao, Juandl Zhang (Florida International University), S Ducharme, P.A. Dowben, A.V. Sokolov (University of Nebraska-Lincoln), V.M. Fridkin (Inst. of Crystallography, The Russian Academy of Science)

Kookheon Chak, Jiahuan Cho (School of Chemical Engineering and Institute of Chemical Processing, Seoul National University, Seoul 151-744, Korea), Ki-Bong Lee (Department of Physics and Astronomy, Pohang University of Science and Technology, Pohang 790-784, Korea), Yoochun Otsuka, Hidehisa Tanaka, Toshihiko Kawai (The Institute of Scientific and Industrial Research, Osaka University, Osaka, Japan)

16:42 D10.012 Probing Local Energy Transfer in Self-Assembled Polyenelectrolyte Films using Near-Field Optics
Geoffrey Lawman, Natalie Daneal, Paul Carson, Steven Busatto (Dept. of Chemistry and Biochemistry, University of California, Santa Barbara, CA 93108)

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
Spirou H. Anastasiadis, Maria Pylawski, Andreas Stavrou, 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
Wenry Cui, Antonia Maddic, Peter Perloff, Madhur Nair, Bhuvan Taleri (Liquid Crystal Institute, Kent State University)

14:54 D11.003 Optical Spectroscopic Studies of Conjugated Molecules/Polymer(s)-A Comparative Study for a Planar, Semi-planar and a Neogaplanar Molecule
S. Gaha, J.D. Rice, T.Y. Yu (Dept. of Physics, Astronomy and Materials Science, Southwest Missouri State University, Springfield MO 65604), C.M. Martin, M. Chandralekha, H.R. Chandralekha (Dept. of Physics and Astronomy, University of Missouri, Columbia MO 65211), U. Scherf (Institut für Physikalische und Theoretische Chemie, Universität Potsdam, Germany)

15:06 D11.004 Piezoelectric Dependence of the Luminescence and Raman modes in polyethylene terephthalate
C.M. Martin (University of Missouri, Columbia), S. Gaha (Southwest Missouri State University), W. Graupner (Austriamicrosystems AG), M. Chandralekha, H.R. Chandralekha (University of Missouri, Columbia), U. Scherf (University Potsdam, Germany)

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

15:30 D11.006 Control of electrical conduction in DNA using hole doping
Hea-joon Lee, Masanori Taniguchi (The Institute of Scientific and Industrial Research, Osaka, Osaka, Japan), K.W. Yoo (Department of Physics, Yonsei University, Seoul, Korea), Yuichi Otsuka, Hidehisa Tanaka, Toshihiko Kawai (The Institute of Scientific and Industrial Research, Osaka University, Osaka, Japan)

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

15:54 D11.008 Microwave Response of Manganese Polymer Compounds
Ralph Slavinski, Mircea Chitrapu, David Selminsky (Department of Physics and Astronomy, University of Nebraska, Lincoln)

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

16:18 D11.010 Near-field Optical Microscopy of Photonic Self-Assembled Polymer Systems
M.J. Fushman, L. Huang, L.S. Goldrich (Optical Technology Division, NIST, Gaithersburg MD), A.M. Ursch, P. DeRege, M.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 Electronic-Mechanical Dynamics of Macro-Scale Polymer Thin Films
Gaurav Singh, Jayan Krishnaswamy, Ravip Saraf (Dept. of Chemical Engineering, Virginia State University and Polytechnic University)

16:42 D11.012 Crystal morphology and molecular modeling of planar defects in pentacene
Lawrence Drawin, Paul Misra, David Martin (Department of Materials Science and 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 & Johnson Company, Miami Lakes, Florida), J.I. Scheinbeim (Polymer Electroprocessing Laboratory, Department of Chemical & Biochemical Engineering, Rutgers - The State University of New Jersey)

17:06 D11.014 Acceptance behavior of functionalized fullerene for photovoltaic applications
S. Zwick, Massimiliano Di Ventura (Virginia Tech)

17:18 D11.015 Theoretical Modeling of Polymer Photovoltaic Devices
Jim Barker, Ramdane Ramdane, 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 Physique-Chimie Théorique, 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 Nanoized polyethylene-terephthalate acid ionomers
Andreas Taubert, Karen J. 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 J. Winey (University of Pennsylvania)

09:24 **F9.005** Investigation into the Local Environment of Acid Groups in Ionomers by FT-IR

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 Golestanian (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

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

10:12 **F9.009** Surface Segregation and Nanoscale Formation in Ionomer Films
Russel M. Walters, Joon Soep 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, Ghima B Memon, Wei-Yang Wen, Aj TJ, Steve Gong, Anhodorous 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 Fehribach (Department of Chemistry and Material Science and Engineering Clemson University, Clemson, SC 29683)

10:48 **F9.012** Ionic Conductivity of Water-soluble Fully Conjugated Heterocyclic Aromatic Polyelectrolytes
S. J. Hui, Y.-S. Chen, J. P. Sun (Institute of Materials Science and Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan 80424), Y. D. Dang, F. E. Arnold (Air Force Research Laboratory, Polymer Branch(AFRL/MJRP), 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 electrodrievn 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. Dirkel, Kenneth R. Shull (Northwestern University)

09:12 F10.004 Phase and Association Behavior of Polyethylene oxide (PEO) and its Blends with Polyvinylpyrrolidone (PVP) in Water
Elena A. Doremidontova (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 Pharmacaceutics, 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?
Tunbo Liu (Department of Physics, Brookhaven National Laboratory, Upton, NY 11973), Quan Wan, Burger Christian, Benjamin Chu (Department of Chemistry, SUNY at Stony Brook, NY 11794), Anaholy Frenkel Collaboration, Carol Crest; Collaboration, Yimei Zhu Collaboration

09:36 F10.006 Reversed Pressure Compaction: A Novel Method for Processing Composite Materials Directly from Polymer Fibers
Yi Chun Chen, Dmitry M. Rein, Lev Vayshansk (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 Agarbe, Gregory Beaucage, George Skillas (Dept. of Materials Science, University of Cincinnati, Cincinnati, OH, USA), Peter Jensen, Gabrielle Long, Jon 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 (PCC Incomany Assenual)

10:24 F10.010 Effect of Pigment Particle Dispersion on the Crystallization Behavior of Polypropylene
Ayush Bajna, Nikhil Agarbe, Gregory Beaucage (University of Cincinnati, Cincinnati, OH, USA), Francis Mirabello (Equistar Technology Center, Cincinnati, Ohio)

10:36 F10.011 Rheo-optical FTIR Investigation of Tacticity effects in Semiasiodotactic Polypropylene
Rampramanj Kumar, Gunam Parharsharthy, Michael Sweeney (Chemical Engineering and Materials Science, Wayne State University, Detroit, MI), Allen Siddle (1M Science Research Center, St. Paul, MN)

10:48 F10.012 Properties of Poly (ethylene terephthalate) / Polyethylene terephthalate -co-4,4'bisbenzoate) Blends
Sarat Kumar, Byung Gil Min (Georgia Institute of Technology), David Schiraldi (Koya Co.), David Cullard, Michael H. Bl, Chongho 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 Microscopy of a Polymeric Bicontinuous Micromulsion
Kaisraim Keshk, Timothy P. Lodge, Frank S. Bates (University of Minnesota), Wesley R. Burchardt (Northwestern University)

11:24 G9.003 Sinusome Formation by Electrohydrodynamic Instabilities
Zhigu Liu, Tobias Kerle, David A. Hollywood, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA, 01063), Erik Schaffer, Ulrich Steiner (Department of Polymer Chemistry, University of Groningen, The Netherlands)

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
Jorgen 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 Redrison, Yu-Yu Lin Lee, Li-Bong Lee, Nenna Turney, John Sebastian (Chemical Engineering and Princeton Materials Institute, Princeton University), Claire Grubb (Lawrenceville Intermediate School), Jill Postonski, Emily DeFilippo (Antheil Elementary School)

12:24 G9.008 NIST Combinatorial Methods Center: Model for Industrial Outreach
Eric J. Amis, Allmerg Karrin (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 Polyamide Hydrogels
Lisa Pakisi, Bulent Ozbay, Darvin Poehn (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 Novak, Timothy Doning (Dept. of Materials and Chemistry, University of California, Santa Barbara, CA)

11:12 G10.003 Tailoring the Temperature-Response of Polymers in Water by Monomer Design
Mendiappa Ruchatte, Kenneth Strombecker, Evangelos Manias (The Pennsylvania State University, Department of Materials Science and Engineering)

11:24 G10.005 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 G10.007 Solution scattering (SANS) study of rat muscle solution
Z. Hong, B. Banerji (Boston University), T. Wang (Univ. of Leeds), B. Turner, K.R. Bhaskar, N. Afshar (Beth Israel Deaconess Medical Center), J. Lal (Argonne National Lab.)

11:48 G10.009 Targeted Cellular Drug Delivery using Tailored Dendritic Nanostructures
Bargul Almamun Kham, Faeghe Khoob (Chemical Engineering and Materials Science, Wayne State University), Sajatha Kannan, Mary Liech-lai (Children's Hospital of Michigan, WSU, Detroit, Michigan)

12:00 G10.010 DNA transport dynamics threaded through a nanopore
Mark Bates, Amit Meller (The Rockefeller University School of Medicine)

12:12 G10.012 Dendrimers as Drug Delivery Agents Interacting with Membranes
Alfredo de la Calle (Department of Physics, University of Michigan), Mark Banczek Hall (Department of Chemistry, University of Michigan), Bradford Orr (Department of Physics, University of Michigan), An K. Patr, Ishan Lee, James Baker Jr. (Center for Biologic Nanotechnology, University of Michigan)

12:24 G10.014 Bioinformatic Materials for Selective Recognition of Biologically: Theoretical and Experimental Analysis
M.E. Briggs, K. Park, N.A. Peppas (NSF I/ERT 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 G10.016 Single Dimer E-Cadherin Interaction Forces Characterized Using Modified AFM Cantilevers
Robert Rudinski, Frank Drees, W. James Nelson, Thomas Kenny (Stanford University), Stanford Nano-Biology Research Collaboration

12:48 G10.018 Counterion Correlations on Condensed Biopolymers
Tommy Angelini (Department of Physics, University of Illinois), John Butler (Department of Materials Science, University of Illinois), J. James Ho (Department of Bioengineering, University of California, Berkeley), Hongjun Liang (Department of Materials Science, University of Illinois), Gerard Wong (Departments of Physics, Materials Science, and Bioengineering, University of Illinois)

13:00 G10.020 Protein-Polyelectrolyte Cosolvents: A Novel State of Biomacromolecular Fluids
P. Dubin (IUPUI), M. Behdad (Texas A&M Univ.), A. Hashifarnaz (Osaka Univ.), P. Ez (IUPUI), Y. Bloomfield (Univ. Minnesota), J. Lal (ANL), Y. Moshina (Osaka Univ.), C. Neumann (IUPUI), P. Russo (Louisiana State Univ.), Y. Skobeleva (Moscow State Univ.)

13:12 G10.022 An Automated Method to Monitor Cell Migration
Ivan Giacovino, Charles R. Keese (School of Science, Rensselaer Polytechnic Institute and Applied BioPhysics, Inc., Troy, NY 12180)

13:24 G10.024 Binding of bacterial flagella
Thomas R. Powers, Annmarie J. Van Purzy, Kenneth S. Breuer (Division of Engineering, Brown University)

13:36 G10.026 Dendrimeric Drug Delivery Agents Interacting with Membranes
Mendiappa Ruchatte, Kenneth Strombecker, Evangelos Manias (The Pennsylvania State University, Department of Materials Science and Engineering)

Bargul Almamun Kham, Faeghe Khoob (Chemical Engineering and Materials Science, Wayne State University), Sajatha Kannan, Mary Liech-lai (Children's Hospital of Michigan, WSU, Detroit, Michigan)

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 Block Copolymers
Li-Bing Lee, Scott Trzaska, Richard Register (Chemical Engineering, Princeton University)

11:12 G11.002 Reversible Melting of UHMWPE and PE Extended-chain Crystals Detected by Temperature-modulated Calorimetry
Jeonghun Pal, 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 G11.006 The Specific Reversibility of Crystalization and Melting of Polymers
Rene Andreasch, Igor Kolesov (Martin-Luther-Universität Halle-Wittenberg, Institute of Material Science, 06099 Halle (Saale), Germany)

12:00 G11.008 Compositionally Modulated Phase in n-Alkane Crystals
Eric B. Strout ( ExxonMobil Research and Engineering Company)

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

12:24 G11.011 Heat Capacity of Poly-L-lactide acid
Marel Peka (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)

12:36 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)

12:48 G11.014 Postage Annihilation Lifetime Study of Semicrystalline Syndiotactic Polyethylene
Brian G. Olson (Physics Department, Case Western Reserve University, Cleveland, OH 44106), Alexandre J. Manier (Macromolecular Science and Engineering Department, Case Western Reserve University, Cleveland, OH 44106), Thuanmanon Pradpan, Sergei Nazarenko (Macromolecular Science and Engineering Department, Case Western Reserve University, Cleveland, OH 44106)

13:00 G11.016 The Effect of physical and chemical crosslinks on the crystallization of PDMS
Thilo Dellnue (Studler Minerva Center for Mesoscale Macromolecular Eng., Ben-Giorson University, Beersheva 84105, Israel), Hans Wolfgang Spiess (Max-Planck-Institut zur Polymerforschung, Ackermeierweg 10, 55128 Mainz, Germany), Moritz Gottlieb, Rachel Yerushalmi-Rozen (Chemical Eng. Dept., Ben-Giorson University, Beersheva 84105, Israel)

13:12 G11.018 The Effect of Fluorescent U50I units on the Molecular Aggregation of Polymers
K. Kojio, A. Heintz, S.L. Hu, J. Schull, J. Penelle ( Polymer Science and Engineering, University of Massachusetts, Amherst), S. Suzuki, A. Takahara, T. Kaijuma (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, Anatoly Gliuschchenko, Guangxuan Liou (Liquid Crystal Institute, Kent State University, Kent, Ohio 44242), Yuriy Reznikov, Denis Andreienco, Michael Allen (IH H Willis 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 ship and index taper

Richard L. Sutherland, Laligudi V. Natarajan, Stephen Swirek, Suresh Chandra, Vince P. Tondiglia (Science Applications International Corporation), Timothy J. Bunning (Air Force Research Laboratory)

15:30 J2.004 Megascopic Morphology Development in PDLC Co. Real-Time Synchrotron Small Angle X ray Scattering Studies

R. Vua, 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 J2.008 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 (MIT)

16:18 J2.008 Photonic Crystals from Crosslinked Block copolymers

Nisakh R. Bala, Hao Ruan (Univ. of California, Berkeley)

16:30 J2.009 New Strategies for Patternning at nm Dimensions

Christopher Ober, Gina Weibel (Materials Science amp; Engineering, Cornell University), Victor Pham (Chemical Engineering, Cornell University), Tianyu Yu (Chemistry, Cornell University)

16:42 J2.010 Ballooning Induced Molecular Rearrangement 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), Seek-Chool 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. Vua (Air Force Research Lab), Anshat Shuaist (Univ. of Virginia)

17:06 J2.012 Plasma Polymerized Optical Interference Films

Hao Jiang (Anton Co.), Eric Johnson (TMCI), Kurt Eyink (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLPJ), John Grant (UDRI), Walter Johnson (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLPJ), Dave Tomlin (TMCI), Paul Fleitz, Tim Bunning (Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/MLPJ)

17:18 J2.013 Cure Evolution of Textural Dynamics in Liquid Crystalline Thermosets

Patrick Mathis (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 jumps effects on volume relaxation in Polyvextreme near Tg

Gregori 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), Kyungwhan Yoon (Dept. of Mech. Engr, Dankook University), Julia A. Korshfeld (Chem. Engr., California Institute of Technology), Tai Han Kwon (Dept. of Mech. Engr, Pohang Univ. of Science and Technology)

15:42 J9.005 Continuum model with super-Arrhenian behavior

Ritwik Bhatia, Gregori Medvedev, James Caruthers (Purdue University)

15:54 J9.006 Dependence of the Relaxation Time for Volume Recovery on Thermal History

Paul Bernardz, Solder L. Simon (Texas Tech University)

16:06 J9.007 Viscoelastic instabilities and FDR in polymer glasses

Philip Crider, Shoosek Mokhodvyah, Michael Rose, N. E. Israeloff (Northeastern University)

16:18 J9.008 Segmental Dynamics in poly(ethylene oxide)poly(methyl methacrylate) miscible blends

Chuncri Chen, Jaijna Maranas (Dept. of Chemical Engineering, Penn State University), Ralph Colby, Sudesh Kamath (Dept. of Materials Science &amp;amp; Engineering, Penn State University), Bela Farago (Institut Lavo-Langeron), Tim Long (Virginia Polytechnic Institute &amp;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 A. Huda (Dow Chemical Company)

16:42 J9.010 ECP with abstract title

Mircea Chipa (Indiana University, Cyclotron Facility, Bloomington, Indiana), Roberto Bensimon (University of Tennessee, Department of Materials Science Engineering, Knoxville, TN 37996-1922), 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)
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, Sárka Málková, Benjamin Stall, 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 & Dept., Penn State University), Ronald Jones (Polymer Division, NIST), Sanat Kumar (Mat Sci amp; Engg Dept., Penn State University), Robert Brüher (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 Morphologies
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 Flory Substrates for Self-organizing Polymer Thin Films Libraries
Alamgor 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 Jacob (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. Tinu, Bin Yang 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-Leop 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 Viess (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 biopolymers membrane complexes
F C MacKintosh (Division of Physics amp; Astronomy, Vrije Universiteit, Amsterdam)

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

15:42 J29.003 One- and Two-head Microrheology in Semiflexible Bipolymer 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 Tong (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 Modeling 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)

Monday, March 18

Title B3: DPOLY Poster I
Room Exhibit Hall
Chair Croll, S.

Title D5: Polyelectrolytes
Room Wabash 1
Chair Rubeschk, R.

Other items of interest:
Session 1A: APS Welcome Reception, 18:30, ICC
Thursday, March 21

**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 1.9.001 Artificial muscle using nonlinear elastomer

Banahalli Rama (Naval Research Laboratory, Washington DC)

08:16 1.9.002 Existence of disclinations in nematic elastomers

Eliot Fried, Russell E. Todres (University of Illinois at Urbana-Champaign)

08:48 1.9.003 Tomatoes, Nematode, Transition in Liquid-Crystalline Elastomers

Jonathan V. Selinger, Hong G. Jeon, B. R. Ratna (Naval Research Laboratory, Washington, DC)

09:00 1.9.004 Elasticity and Broken Symmetry in Nematic Elastomers

Ranjun Mukhopadhyay (NEC Research Institute), T. C. Lubensky (University of Pennsylvania), Xiangjun Xing, Leo Radzihovsky (University of Colorado at Boulder)

09:12 1.9.005 Collapse of nematic gels driven by isotropic–nematic transition

David Lacoste, Andy W. C. Lau, Tom C. Lubensky (University of Pennsylvania, Philadelphia)

09:24 1.9.006 Fracture, Fractography, and Thermoresponsive Gelation of Highly Filled Physical Gels

Peter L. Drezek, Kenneth R. Shull (Northwestern University)

09:36 1.9.007 Nanostructured silica fillers for elastomer reinforcement

Douglas Kohlh, Gregory Beaucage (University of Cincinnati), Sotiris Pratsinis, Hendrik Knauf (ETH, Zurich)

09:48 1.9.008 Bulk Vicinal Sliding Contribution to the Wet Sliding Friction of Rubber Compounds

Yuxin Dong Pan (Bridgestone/Firestone Research, Inc., 1200 Firestone Parkway, Akron, Ohio 44317-0001)

10:00 1.9.009 The Effect of Carbon Black Fillers on Interfacial Adhesion

Mordchea Joseph Bronner (Rambam Meir School High School), Anshul Shah (Harvard University), Hong Joon Kim (Seoul National University), Xuesong Hu (SUNY Stony Brook), Dennis Perieff (EXXON/Mobil Research and Engineering), Jonathan Sokolov, Miriam R Rajfalskiv (SUNY at Stony Brook)

10:12 1.9.010 The Effect of Filler Mixtures on Fracture Toughness at Polymer Interfaces

Maya Si (SUNY Stony Brook), Mordchea Joseph Bronner (Rambam Meir School High School), Dennis Perieff (EXXON/Mobil Research and Engineering), Jonathan Sokolov (SUNY Stony Brook), Miriam R Rajfalskiv (SUNY at Stony Brook)

10:24 1.9.011 The Effect of Clay on the Compatibilization of PS and PMMA Blend

Ying Sun (Ward Melville High School, Setauke t, New York), Wenhua Zhang, Xuesong Hu, Miriam Rajfalskiv, Jonathan Sokolov (Material Science Department, SUNY Stony Brook)

10:36 1.9.012 Nanoparticles in Model Polymers: Stabilizations and Morphologies Selection

Josep Kim, Ben O'Shaughnessy (Columbia University)

10:48 1.9.013 Physical Polyelectrolytes and PMMA Nanocomposites

Yu Zhong, Shuo 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 (46) Theoretical Polymer Simulations
Venkat Ganeshm (University of Texas at Austin), Glenn Fredrickson (University of California at Santa Barbara)

08:24 L10.003 Effect of filters on structure and dynamics of polymer nano-composites
Rajshri Bandupadhyaya, 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 Nishi-kicho, Saitama 331-0851, Japan)

08:48 L10.005 Computer simulation of structural behavior of block copolymers
Kim Raakeisen, Lookman Turab, Avadh Saxena (Theoretical Division, Los Alamos National Laboratory)

09:00 L10.006 Block Copolymers at Interfaces of Polymer Blends Under Shear: A Complementary ESFE-MS 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 Gencer (NC State University)

09:24 L10.008 Cell Dynamics Simulations of Pattern Coarsening in Thin Films of Spheres, Forming Block Copolymers
Daniel Vega, Richard Register, Christopher Harrison, Dan Angeleri, Matthew Travisick, David Huse, Paul Chukin, 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), Wen Tao Li, Dilip Gersappe (Dept. of Materials Science and Engineering, SUNY Stony Brook)

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

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

10:12 L10.012 Multiscale Modeling of Compatibilized Polymer Blends
Simon McGrother, Gerhard Goldbeck-Wood (Accelrys, 9053 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
Sunmeet Salaminval, Ruma 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 Lust (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. Zima (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 Schnab, Ali Dhmouq (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
Francisco Lequeira, Julian Bertrizet, Helene Montes (LPFM/PCSM, ESPCI, 10 rue Vauquelin 75005 PARIS Cedex France), Didier Long, Paul Sotta (LPS/Univ StEtienne, 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. Wucherhorns (Delft Univ. of Technology, The Netherlands), C.A. Murray, J.R. Datcher (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 Panaglum, Ranjert 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. Ruhm (Center for Materials Science and Engineering, MIT), L. B. Liu (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. Datcher (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?
Ranjert S. Tate, Juan J. de Pablo, Paul F. Nealey (University of Wisconsin, Madison)

10:00 L11.010 Conjectures on the Glass Transition of Polymers in Confined Geometries
John D. McCrory (New Mexico Tech), John G. Cuervo (Sandia NationalLaboratories)

10:12 L11.011 Glass Transition Temperature of Freely -Standing Poly (methyl methacrylate) Films
C.B. Roth, J.R. Datcher (Univ. of Guelph, Canada)

10:24 L11.012 Effect of Annealing of Polystyrene Films in the Freely-Standing State
C.A. Murray, J. Thomas, J.R. Datcher (Univ. of Guelph, Canada)

10:36 L11.013 Character of Hole Growth in Freely -Standing Polystyrene Films
B. Del, C.B. Roth, J.R. Datcher (Univ. of Guelph, Canada)

10:48 L11.014 Glass Transition Behavior of Cross-linked Thin films
Xiaorong Wang (Bridgestone/Firestone Research, Akron, Ohio 44317)

11:00 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 Ranu, Andrea Corsi, P. D. Gupta (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 Sf02 posts via block copolymer templates
Dong Ho Kim, Xinqiao-Jia, Ting Xu (Polymer Science and Engineering Department, University of Massachusetts Amherst), Ho-Chuel 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
Vahid Krizkorian, Darrin Pochan, Mary Kuriyan, Mary Galvin (Materials Science and Engineering Dept. of University of Delaware)

M33.007 Encapsulation in polymer nanopores by electrospinnning
Wassaphon Kanglamsin (Maurice Morton Institite of Polymer Science, The University of Akron, OH 44325, 3909, USA), Darrell Reneker (Maurice Morton Institite of Polymer Science, The University of Akron, OH 44325, 3909, USA), Sally Dubney, Daniel Smith (Department of Chemistry, The University of Akron, OH 44325, 3909, USA)

M33.008 Analysis of adhesive binding forces between laminin-1 and C6/12 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)ClO4
Pang Tung, N. A. W. Holzbaur, J. S. Sbild (Wake Forest U.)

M33.010 Simulation of a Liquid Crystal at a Polymer Surface
T. P. Duerer, 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. Heffer, Wayne L. Matiere, Christopher Y. Li, Stephen Z. D. Chong (University of Akron), Gregory C. Rutledge (M.I.T.)

M33.012 Simulation of a Free-Standing Thin Film of a Pentacene on 2nd-Lattice
Guowqiang Xu, Wayne L. Matiere (Department of Chemistry, The University of Akron, OH, 44325-3909)

M33.013 Visual perception and optical measurements of scratches

M33.014 Atomic force microscopy (AFM) aliasing techniques for studying microdomain grains in diblock copolymer thin films
Don Angelace (Princeton University), Christopher Harrison (National Institute for Standards and Technology), Matthew Travies, John Sebastian, Paul Chaihin, Richard Register, Douglas Adamson (Princeton University)

M33.015 Solution Versus Melt Neutralization in Ethylene - and Styrene -based Ionomers
Sang Hwan Kwon, Jeong Hyeok Lee, Jeong Ho Park (School of Chemical Engineering and Institute of Chemical Processes, Korea Advanced Institute of Science and Technology, Daejeon, 305-701, Korea)

M33.016 Qualitative and quantitative comparison of local chemical composition, aggregate shapes, sizes, and spatial distribution in Na- and Zn-neutralized poly(ethylene-co-methacrylic acid) ionomers
Andrew Tautbert (Dept. of Materials Science and Engineering, Univ. of Pennsylvania), Karen J. Winey (Dept. of Materials Science and Engineering, Univ. of Pennsylvania)

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

M33.018 Incorporation of capsaicin in silicone coatings for enhanced antifouling performance
Karanakar Reddy, Jaggari, Brijesh Nath Neohdy (Department of Chemical Engineering, The University of Akron)

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

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

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

M33.022 Block Copolymer Thickness-Guided Surface Patterns on Topographically Structured Substrates
M.J. Paolsta, A. Kuzin, J. E. Amis (Poymers 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. Wittke (James Frank Institute, University of Chicago)

M33.024 Crystallization and Melting Behavior of PEO Nano-Film Confined Between Glassy Walls
Yun Chen, Lei Zhu, Ping Huang, SeF Chang (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 Dineo (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 Photoelectron Spectroscopy of 2-methyl-4-nitroaniline Thin Films
Edward Gillman (Jefferson Lab), Kang Seo, Lipan Wang (Norfolk State University)

M33.028 Organization of Amphiphilic Molecular Disks with Branched Hydrophilic Tails and Hexa-para-hexabenzocoronene Core
Myoungsoo Lee, Jung-Woo Kim, Yong-Sik Yoo (Department of Chemistry, Yonsei University, Seoul 126749, Korea), Sergey Pochan, Kristen Larson (Department of Materials Science and Engineering, Iowa State University, Ames, IA 50011, USA), Ha Kim, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003, USA), Ha Kim, Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003, USA)

M33.029 Dewetting and Layer Inversion of PVP/PES Bilayer Thin Films
Huimin Kang, Sanghoon Kim, Koohoon Chae (School of Chemical Engineering and Institute of Chemical Processes, Seoul National University, Seoul 135-744, Korea)

M33.030 Novel 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, Edward Gillman (Jefferson Lab), Kang Seo, Lipan Wang (Norfolk State University)

M33.031 Modeling of Electrostatic Forces between Glycosaminoglycan Molecules
Sagar Rane, Andrea Corsi, P. D. Gupta (Department of Polymer Science, University of Akron, Akron, OH 44325)

M33.032 Measurement of GAG-GAG nanoelectrochemical interactions via high resolution force spectroscopy
Joonil Seog, Eliot Frick, Delphine Dean (MIT), Shirley Wong-Palms, Anna Plaus (Shriners’ Hospital for Children), Alan Goodship, 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 Kruase (Department of Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180)
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 (Università di Roma La Sapienza, Piazzale A. Moro 5 I-00185 ROMA)

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

15:42 Q2.003 NMR Measures of Heterogeneous Lengths
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)

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), Zhaoqian Zhu (Biomedical Engineering, NJIT), Ruhui Guo (Chemical Engineering, NJIT, Michael Jaffe (Biomedical Engineering, NJIT), Joshua Samon, Jack Zhou (ETH Zurich, Switzerland)

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

15:06 Q9.004 Phase Structures and Transition of Side-Chain Liquid Crystal Polyelectrolytes
Jie Gu, Qing Chen, Chun Ye (Dept. of Polymer Science and Engineering, Peking University), S.Z.D. Cheng (Dept. of Polymer Science, The University of Akron), Y.Q. Lam, B.-Z. Tang (Dept. of Chemistry, Hong Kong University of Science and Technology)

15:18 Q9.005 Effect of Mo-Iodide Extraction on the Electrochemical Behavior of Mo Nematic Solvents
Yiqiang Zhao, Yen-Ching Chiang, Alex M. Jameson (Department of Macromolecular Science, Case Western Reserve University), Andrea Kasko, Coleen Pugh (Department of Polymer Science, The University of Akron)

15:30 Q9.006 Hydrodynamnic coefficients for dynamical mean field models of nemetic 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)

14:42 Q9.007 Using Polymer Micelle Self-Organization To Modify SiO2 Surfaces
Stephen E. Weber (Department of Chemistry and Biochemistry, The University of Texas), Junseok Kuhn (Department of Chemistry and Biochemistry, The University of Texas at Austin)

15:44 Q9.008 Micellization in PEO-Block-PV2P Diblock Copolymers in Aqueous Media and the Formation of Metal Nanoparticles
Lamброс Papaioannou, Spiros H. Anastassiadis (Foundation for Research and Technology - Hellas, Heraklion Crete, Greece), Panagiotis Fragioli, Hermes Iatrou, Nikos Hadjichristidis (University of Athens, Athens, Greece), Stas Suchov, V. Zhebrov, Lyudmila Bronstein (Nesmeyanov Inst. of Organoelement Compounds, Moscow, Russia)

16:06 Q9.009 Structure and Dynamics of Solutions of Pentablock Copolymers in Selective Solvents
Ruma Banerji, Hafid Nac (Department of Physics, Boston University), Eustice Koblik (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 Benjedouc, Virginie Fournet, Mathieu Jouanet (CNRS-Rhônedales)

16:30 Q9.011 Formation of Woenncke 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 Directed Probing Block Copolymer Micelle Dynamics using X-ray Photon Correlation Spectroscopy
Peter Fabus, Matthew A. Botschick, 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 Fabbro, Kenneth Shell, Mark Herson (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. Potter, 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
Ying-Long Chen, Kenneth Schweizer (University of Illinois at Urbana-Champaign)
14:54 Q10.003 Effect of concentration fluctuation in multi-branched polymer blend
Rama Kant, Rafael Colby, Sanat Kumar (Materials Science and Engineering Department, The Pennsylvania State University, University Park, PA 16801)
15:06 Q10.005 The Prediction of Phospholipid Properties for Organic Materials: A Density Functional Theory Study
Kiet A. Nguyen, Ruth Facher (Air Force Research Laboratory, Materials and Manufacturing Directorate, Wright-Patterson Air Force Base, OH 45433)
15:18 Q10.007 A new model for predicting the steady-state morphology of interpenetrating networks
Gary W. Slater, Laurence C. McCormick, Steve Guitton (University of Ottawa)
15:30 Q10.009 Matrix models for stiff and helical polymer molecules
Kris Miller-Nedeck (Dept of Physicals for Theoretical Physics, University of Stellenbosch, Stellenbosch, South Africa), Huuys Frisch (Dept of Chemistry, University at Albany, Albany, NY)
16:06 Q10.010 Lattice based modeling of the amorphous phase of lamellar semicrystalline polymers.
Antony Beris, Jyotdeep 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), Jame’ Kondes (Physics Department, Brandeis University, Waltham, MA)
16:30 Q10.012 Theoretical investigation on the electron structures of poly(vinylidene fluoride) crystals
Shun-gang Duans, W. N. Mei (Department of Physics, University of Nebraska at Omaha, Omaha, Nebraska 68182-0266), Jianjun Lin, J. R. Hardy (Department of Physics and Center for Electro-Optics, University of Nebraska at Lincoln, Lincoln, Nebraska 68588), Stephen Ducharme, Jianhua Chen, 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, Laurence C. McCormick, Steve Guitton (University of Ottawa)

Session Q11. DPOLY: Controlled Structure and Morphology in Thin Films.
Wednesday afternoon, 14:30, 104, Indiana Convention Center
Chair: Sonja Krause, Rensselaer Polytechnic Institute
14:30 Q11.001 A Rapid Route to Oriented Arrays of Nanoscopic Cylindrical Domains
Thomas P. Russell, Zhiquan Liu, Dongha Kim, Laurie Bonvillu, Daria Stone, Luanne LaRose (Polymer Sci. and Engineering Dept., Univ. of Maas., Amherst, MA, 01003)
14:42 Q11.002 Dynamic Response to Abrupt Change in Interfacial Conditions in Block Copolymer Mesoscopic Thin Film
Sanjun Niu, Ravi Sarof (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. Hezenen, E. J. Kramer (UCSB)
15:06 Q11.004 Melting microdomain patterns in a diblock copolymer thin film
Dan Angerosa (Princeton University), Christopher Harrison (National Institute for Standards and Technology), Matthew Tranick, John Sebastian, Paul Chaklin, Richard Register, Douglas Adamson (Princeton University)
15:18 Q11.005 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 Vleck (Institute of Macromolecular Chemistry, Prague), Mark Geoghegan (Physics, University of Sheffield), Costantino Certon (PCSM, ESPCI, Paris)
15:30 Q11.006 Hierarchical Surface Topography in Block Copolymer Thin Films
Seung-Heon Lee, Heman Kang, Yong Sang Kim, Koeklimen Chair (School of Chemical Engineering, Seoul National University, Seoul 151-744, KOREA)
15:42 Q11.007 Monte Carlo Simulations of Trilblock Copolymer Thin Films
Gregoros; Samel, Marcus Mueller (Insttitut fuer Physik, Johannes Gutenberg Universitat Mainz)
15:54 Q11.008 Morphology of Block Copolymer Thin Films from Density Functional Theory
Amalie L. Frischknecht, Jeffrey D. Weinhold, Laura J. Perf, Andrew G. Salinger, John G. Carzo (Sandia National Laboratory, Albuquerque, NM), John D. McCoy (New Mexico Inst. of Mining and Tech., Socorro, NM)
16:06 Q11.009 Self-Assembled Microcuesopualtion and Rearrangement of Morphology in Freely - Standing Polymer Trilayer Films
J.R. Datcher, C.A. Murray, J. Thomas (Univ. of Guelph, Canada)
16:18 Q11.010 Controlling Morphology during Pattern Development in Polymeric Photoinitiators
Ronald Jones, Eric Lin, Joseph Leibhart, Christopher Sonle, Wun-H Wu (Polymers Division, NIST), Dario Goldfith, 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 Forum, Stephen Letts, Robert Cook (Lawrence Livermore National Laboratory)
16:42 Q11.012 Ordered Arrays of Holes in a Polymer Film Formed by Crystalization of Breath Figures
Mohon 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. Hinzberg, W. Volksen, T. Magbitang, Y. 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 polymorphism in the energy landscape of liquid silica
Peter R. Foote (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 Science)

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 and Department of Materials, University of California, Santa Barbara, CA 93106-5080)
09:12 S5.003 Polymer Based Microphotonic
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 Ananthamurthy, 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
Karin M. Joffre, Robert A. Wachsmuth, An-Chang Shi (McMaster University)

08:24 [S9.003] Close-loop type of order-disorder transition for a DIBlock copolymer melt
Du Yue Ryan Jin, Kon Kim (Department of Chemical Engineering and Polymer Research Institute, Electronic and Computer Engineering Divisions, Pohang University of Science and Technology, Kyangbuk 790-784, Korea), Thomas P. Russell (Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003), 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 Davidsen, Marc Hillmyer, Timothy Lodge (University of Minnesota)

09:00 [S9.006] RPA Us to Determine the Order-Disorder Transition in ABC Triblock Copolymers
Eric Cochrane, 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 Buegohardt, Franklin Caputo (Northwestern University)

09:24 [S9.008] Tracking Topological Defects in Arrays of Block Copolymer Spherical Micromodains
Matthew Truswick, Dan Angelescu, Paul Chakrin, John Sebastian, Richard Register, Douglas Adamson (Princeton University), Christopher Harrision (Polymers Division, National Institute of Standards and Technology, Gaithersburg, Maryland)

09:36 [S9.009] Hexagonally Perforated Layer Phase Formed under Plastic Deformation
Lifeng Wu, Ping Huang, Yan Chen, S.Z.D. Cheng, Qing Ge, Roderic P. Quirk (Dept. of Polymer Science, The University of Akron), Benjamin S. Heiss, Fengji Yeh, Li-Chih Liu (Dept. of Chemistry, The State University of New York at Stony Brok)

09:48 [S9.010] Architecture Effect on Shear Alignment of Block Copolymers
Joanne Budzien, Mark D. Ediger, Juan J. de Pablo (University of Wisconsin - Madison)

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

10:12 [S9.012] Dynamics in a Spherical 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 Wachtman, 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. Hermes, William W. Gerberich, Frank S. Bates (Chem Eng amp; Mater Sci Dept, University of Minnesota)

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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 Admissibility of Reptation Models.
Scott Miller (ExxonMobil Corporate Research)

08:12 [S10.002] What is the entanglement length in a polymer melt?
Gary S. Grest (Sandia National Laboratories), Rolf Anh, Rolf Everaarn, Mathias Pott, Carsten Svaneborg, Kurt Kremer (Max Planck Institute)

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

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

08:48 [S10.005] Effect of local environments on polymer chain mobility
Jutta Lurtermes/Stranhmann (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 polycarbonate 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

09:36 [S10.009] Molecular Dynamics of polyethylene: 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
Ying Chen, Choon-Yang Shew (Chemistry Department, College of Staten Island and CUNY Graduate Center, New York)

10:12 [S10.012] Yield of Poly(ethylene terephthalate) (PET) - a Simulation Study
Thomas Soddemann, Mark O. Robbins (Department of Physics amp; Astronomy, Johns Hopkins University)

10:24 [S10.013] Molecular Dynamics Simulations of penetrant diffusion into polymers
Mefrit Trige, Gary S. Grest (Sandia National Laboratories)

10:36 [S10.014] Brownian Dynamics Simulations of Polyelectrolyte Solutions
Rukshen Choo, Arun Yethiraj (Department of Chemistry, University of Wisconsin-Madison)

10:48 [S10.015] Molecular Dynamics simulations of polymer collisions
Martin Kowarz, Gary W. Maty (University of Delaware)
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, Sarath Murugesan (University of Cincinnati)

08:12 S11.002 Dynamic Light Scattering Studies of Surfactant - Acrylamide Systems
Mukandan Chakrapani, David H Yau (University of Connecticut)

08:24 S11.003 Confinement Effects on Self-Assembly/Physical Crosslinking 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 Copolyptide Self-Assembly And Oligopeptide Self-Assembly
Darin Paxson (Materials Science and Engineering and Delaware Biotechnology Institute, University of Delaware), Tim Deming (Delaware Biotechnology Institute), Joel Schneider (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 Molecular Dynamics Simulations of Adhesion in Dense Polymer Melts
Scott Sides (University of California at Santa Barbara)

09:24 S11.008 Effect of solvent on structure and rheology near the gel point
Michael Pollock (Physics Department, Simon Fraser University, Burnaby, BC, Canada V5A 1S6), Bela Joos (Otawa-Carleton Institute of Physics, University of Ottawa, Ottawa, Canada K1N 6N5)

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

10:00 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)

10:12 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 Program, University of Chicago, 5640 S. Ellis Avenue, Chicago, Illinois 60637)

10:24 S11.012 Formation of Layer Networks in Solutions
Xiaorong Wang (Bridgestone/Firestone Research, Akron, Ohio 44317)

10:36 S11.013 Universal Picture of the Concentration Dependence of Unentangled Polymer Self-diffusion in Solution
Brian Chuah, John Fertel (Northwestern Univ.)

10:48 S11.014 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)

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)

11:12 T5.002 Molecular dynamics simulations of adhesion in dense polymer melts
Scott Sides (University of California at Santa Barbara)

11:24 T5.003 Writing of polymer solutions. Monte Carlo Simulations and Self-Consistent Field Theory
Marcus Mueller (Institut fuer Physik, WAG11, Johannes Gutenberg Universitaet D55099 Mainz, Germany)

11:36 T5.004 Mysteries of PEO Solutions. Insight from Atomistic MD Simulations
Dmitry Bedrov (Department of Materials Science, University of Utah)

12:12 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 - 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 Research Center, University of Wisconsin-Madison), Darryl Y. Sasaki (SanDisk 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. Sandrock, 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 Radio frequency polymer gas during electrospraying of nanofibers
Darrell H. Remeker, Han Xu (The University of Akron)

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

12:00 T9.006 A New Internal Reflectance Analysis Method for the Measurement of the Optical Constants of Polymer Films
Robert Samuels (Georgia 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), Darrell Y. Sasaki (SanDisk 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
Suart Cooll, Allen Shaja (North Dakota State University, Department of Polymers and Coatings)

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

Aline Miller (Cavendish Laboratory, University of Cambridge)

13:00 T9.011 Intermolecular Interactions Between Proteins and Individual Polyethylene 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 Krapenixin, Shu Yang (Bell Labs, Lucent Technologies)

Athul Mahapatra, Jiun Zhao, Steve Granick (Department of Materials Science and Engineering, University of Illinois, Urbana, IL 61803)

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 61803)

13:48 T9.015 Development of a Dynamic AFM Technique for Biosensor Characterization and Design
Iroma Nehe (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
Rangarajaman Kannan, Semen Kharchenko (Chemical Engineering and Materials Science, Wayne State University)

11:12 T10.002 Structure of poly(dimethylsiloxane) liquids
John G. Carro, Scott W. Sides, Gary S. Greve, Mark J. Stevens (SanDisk National Laboratories), A. Hubenschoot (Oak Ridge National Laboratory), J.D. Londos (E. I. DuPont, Experimental Station), Thomas Sodeman on (Johns Hopkins University)

11:24 T10.003 Rheology of asymmetric star melts using the dual spin link model
Sacihun Shabnabi, Ronald Larson (Chemical Engineering, University of Michigan, Ann Arbor)

11:36 T10.004 Entangled Chain Dynamics in Binary Mixtures of Long and Short Chains
Shuangxing Wang, Shu-Qing Wang (Department of Polymer Science, University of Akron), Adel Hulaus amp; Wen - Liang Hua (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 Expander in the Dynamic Dilution Theory of Star and Linear Polymer Melts
Seung Joung 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. M. Eka, M. D. Dinh (University of Tennessee, Knoxville, TN 37996), Hank D. Cochran (Oak Ridge National Laboratory, Oak Ridge, TN 37831)

12:36 T10.009 In-situ Small-angle X-ray Scattering Study of Simple Shear Oriented Polyethylene terephthalate) During Heating
Zhiyang Xu (Polymer Science, Cornell University, Ithaca, NY 14853), Benjamin Hsu (Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY 11794), HS Su (Department of Mechanical Engineering, Texas A&M University, College Station, TX 77843), Charles Han (Polymer Division, National Institute of Standards and Technology, Gallia, MD 20899)

12:48 T10.010 Shape-Induced Structural and Morphological Changes in Polyethylene Blends
Howard Weng, Hsuan-Tzu Kim, Eric K. Hobbie, Zhong-Wang Wang, Shinji Katsuta, Charles C. Han (Polymers division, National Institute of Standards and Technology, Gallia, MD 20899), Samuel B. Hsiou (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
Jan Pothuk, Melissa Davis, Steven Hudson, Kalamig Shile (Polymers Division, NIST)

13:12 T10.012 Extensional deformation, cohesive failure, and boundary conditions during shear thickening melt fracture
K. B. Miller, 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), Motohiko Seki (Tokaiki Research Center, Mitsubishi Chemical Corporation), James P. Gehesauer (Dept. of Chemical Engineering, University of Virginia), Julia A. Korfield (Dept. of Chemistry and Chemical Engineering, California Institute of Technology), Mitsubishi Chemical Corporation Collaboration

13:36 T10.014 Profiling polymer melts in a single stage of crystallization by on-situ rheo, SAXS and WAXD techniques
K.R. Somani, L. Yang, S. Hsiou (Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY 11794, USA), P. Agarwal, H. Fruitwi, A. Tsou (ExxonMobil Chemical Company, Baytown Polymers Center, Baytown, Texas 77520, USA), ExxonMobil Chemical Company Collaboration

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
  Courtesy: T. Thurnu, M.D. Edger (University of Wisconsin, Madison)

14:42 U9.002 Probing cooperatively rearranging regions (CRR) near the glass transition
  Konnwaran Simshathumb, Nathan E. Issacoff (Department of Physics, Northeastern University, Boston), Vidul Razzell Esquivel (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 Polymer Division), Li-Rong Bao (University of Michigan), Alexey Yee (University of Michigan), Kiu Ngai (Naval Research Laboratory), NIST Polymers Division Collaboration, University of Michigan Collaboration, Naval Research Laboratory Collaboration

15:06 U9.004 Fluctuation Dissipation Relation in Structural and Polymeric Glasses
  Shomeek Mukhopadhyay, Nathan Issacoff (Northeastern 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 Stripes: Molecular Probe Diffusion in Polymers near Tg: Implications for Characterizing Nanoscopic Heterogeneity
  J.C. Quinzii (Nortwestern Univ.), A.P Barzko, R.M. Dickson (Georgia Tech), J.M. Torkelson (Northeastern Univ.)

15:42 U9.007 Self-diffusion of Triisaphénylene 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), Messin Tsige (CWRU and Sandia National Laboratories)

16:18 U9.010 Universality of the structural relaxation time at crossover temperature of the glass transition
  Vladimir Nosikov, 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. Kusmak, 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 Relation of Neur’s Postulate (Third Law) in Polymers
  P. D. Gargari (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
  Bernard Wunderlich, Marek Pyla (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 polyamides
  Yoshiaki Onigiizawa (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 Hyeung, Roderic Quick (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 Cheng, Ea-Mor Woo (Department of Chemical Engineering, National Cheng Kung University, Taiwan, 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. Rant (Penn State University)

15:06 U10.004 X-ray Spectromicroscopy of Branched Polyolefin Blends
  Guenter Appel (North Carolina State University), Ivo Kopitanov, Gary Mitchell (Dow Chemical), Archie Paul Smith (National Institute of Standards and Technology), Harold 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 In situ multistage structural characterization of semi-crystalline polymer blends: New insights from small-angle light scattering
  Youna Liu, Yoanne Akaula (Department of Chemistry, Renesselaer Polytechnic Institute, Troy NY 12180)

15:42 U10.007 Reactive Formation of a PDLC Material: Phase Separation and Structure Development
  Gregor Siglauer, 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/I Diblock Copolymer/Homopolymer Blends
  Elena E. Tordidesteva, Timothy P. Lodge (Department of Chemical Engineering and Materials Science, 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 Compatibilization 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 Condutive Polymer Blends by Multimode AFM
  Cristian Temesi-Zaneetti (University of California, Santa Barbara), James Lakatos (Department of Optics and Quantum Electronics, University of Seged, Hungary), Adam Meckler (University of California, Santa Barbara), Sue Carter (University of California, Santa Cruz)

17:06 U10.014 Pattern forming Blends
  Galen T. Fickes (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. Rasa (Dept. of Gen. Chemistry “Gh. Asachi” Technical University Iasi, Romania), Min Wei, Todd A. Ballou (Fiber amp; Polymer Science Program North Carolina State University Raleigh, NC), Jeffrey 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