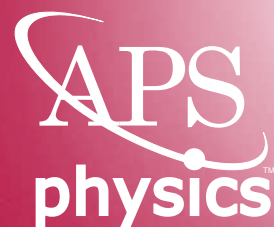




DPOLY

March 2010 Meeting Program
including Soft-Matter Physics sessions



2010 APS March Meeting • March 15–19 • Portland, Oregon

DPOLY Short Course

Polymers for Energy Generation and Storage

March 13, 1:00 - 5:30 and March 14, 8:30 – 5:30

Oregon Convention Center

Course Description

Polymers hold much promise as active layers in inexpensive, lightweight energy generating and storing devices. Although the solid state physics and electrochemistry of such devices have been the subject of intense research, it has more recently become clear that an understanding of the polymer physics will lead to both an ability to control nanoscale morphology and optimize transport across the material.

The purpose of this short course is to provide a background in the basic device physics of both organic photovoltaics and batteries to an audience primarily consisting of graduate students, postdoctoral researchers, and early career scientists already knowledgeable in polymer physics. It is hoped that this forum will both provide a basic foundation of knowledge as well as a deeper discussion of outstanding problems and avenues of research in energy relevant polymers.

Each half of the course will begin by covering the basic underlying physics of charge/ion transport as well as device operation. Then our current understanding of the thermodynamics, morphology, self-assembly, and mechanisms of charge transport within these systems will be outlined with significant time reserved for discussion of gaps in current understanding and promising areas of future research.

The course schedule allows for talks from each of the below speakers with ample time for discussion and interaction. This is roughly the schedule that has been followed by recent DPOLY short courses.

Program Topics

Energy Generation - PV's

Basic PV Operation & Basic Intro to Optical Excitations
Basic Electrical Transport
Basic PV structures
Polymer Physics

Jenny Nelson, Imperial College
Gary Rumbles, NREL
Mike Chabinyc, UCSB
Rachel Segalman, UC Berkeley

Energy Storage - Batteries

Basic Battery Operation
Basic Electrochemistry
Polymer Electrodes
Polymer Electrolytes

Paul Albertus, Bosch
Jeremy Myers, University of Texas
Hiroyuki Nishide, Waseda University
Nitash Balsara, UC Berkeley

Course Organizers:

Rachel A. Segalman, UC Berkeley
Michael Chabinyc, UC Santa Barbara

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Session A6: Recent (algorithmic) Developments in Complex and Glass Systems

Sponsoring Units: DCOMP

Chair: Gergely T. Zimanyi, University of California, Davis

Room: *Portland Ballroom 253*

Monday, March 15, 2010 8:00AM - 8:36AM A6.00001: Dynamics of glassy systems using new algorithms for exact sampling on multiple scales
Invited Speaker: A. Alan Middleton

Monday, March 15, 2010 8:36AM - 9:12AM A6.00002: Strengths and Weaknesses of Parallel Tempering
Invited Speaker: Jon Machta

Monday, March 15, 2010 9:12AM - 9:48AM A6.00003: New insights from one-dimensional spin glasses
Invited Speaker: Helmut G. Katzgraber

Monday, March 15, 2010 9:48AM - 10:24AM A6.00004: Glassy phases: a possible origin of computational hardness
Invited Speaker: Marc Mezard

Monday, March 15, 2010 10:24AM - 11:00AM A6.00005: Negative-weight percolation
Invited Speaker: Alexander Hartmann

Session A7: Single Chain Experiments: from Polymers to Biophysics

Sponsoring Units: DBP DPOLY

Chair: Alexander Grosberg, New York University

Room: *Portland Ballroom 254*

Monday, March 15, 2010 8:00AM - 8:36AM A7.00001: Molecular architecture governs the kinetics of single molecule unfolding under force
Invited Speaker: Jasna Brujic

Monday, March 15, 2010 8:36AM - 9:12AM A7.00002: DNA Sequencing Using an Engineered Protein Nanopore
Invited Speaker: Jens H. Gundlach

Monday, March 15, 2010 9:12AM - 9:48AM A7.00003: Electrostatic Focusing of DNA into Nanoscale
Invited Speaker: Yitzhak Rabin

Monday, March 15, 2010 9:48AM - 10:24AM A7.00004: Single molecule DNA interaction kinetics of retroviral nucleic acid chaperone proteins
Invited Speaker: Mark Williams

Monday, March 15, 2010 10:24AM - 11:00AM A7.00005: How Bacteriophage Genomes Get Inside Cells
Invited Speaker: David Wu

Session A10: Focus Session: Single Molecule Biophysics and Chemical Physics I

Sponsoring Units: DCP DBP DPOLY
Chair: David Rueda, Wayne State University
Room: A106

- Monday, March 15, 2010 8:00AM - 8:36AM A10.00001: Single-molecule studies of multi-protein machines
Invited Speaker: Antoine van Oijen
- Monday, March 15, 2010 8:36AM - 8:48AM A10.00002: Single-Molecule Measurements of Synthesis by DNA Polymerase with Base-Pair Resolution
Thomas Christian , Louis Romano , David Rueda
- Monday, March 15, 2010 8:48AM - 9:00AM A10.00003: Dissecting the dissociation process of RecA monomer from a nucleoprotein filament
Doseok Kim , Sung Hyun Kim , Chirlmin Joo , Jeehae Park , Kaushik Raganathan , Taekjip Ha
- Monday, March 15, 2010 9:00AM - 9:12AM A10.00004: Dynamics of DNA strand exchange by Bxb1 integrase, a model serine site-specific recombinase
Hua Bai , Pallavi Ghosh , Mingxuan Sun , Nigel Grindley , Graham Hatfull , John F. Marko
- Monday, March 15, 2010 9:12AM - 9:24AM A10.00005: Noise Induced Regulation of DNA Loops
Joshua Milstein , Yih-Fan Chen , Jens-Christian Meiners
- Monday, March 15, 2010 9:24AM - 9:36AM A10.00006: DNA Micromanipulation Using Novel High-Force, In-Plane Magnetic Tweezer
Christopher McAndrew , Patrick Mehl , Abhijit Sarkar
- Monday, March 15, 2010 9:36AM - 9:48AM A10.00007: Complex kinetics of the λ Bacteriophage genetic switch
Laura Finzi , Carlo Manzo , Chiara Zurla , David Dunlap
- Monday, March 15, 2010 9:48AM - 10:00AM A10.00008: Solid-state nanopore analysis of the PDZ2 protein domain
Kevin Freedman , Raza Haq , Maik Jurgens , Rafael Mulero , Anmiv Prabhu , Per Jemth , Joshua Edel , Minjun Kim
- Monday, March 15, 2010 10:00AM - 10:12AM A10.00009: Detailed Computational Study of Translocation Dynamics: Revealing the Physical Mechanisms of Viscosity Dependent Scaling Laws
Hendrick W. de Haan , Gary W. Slater
- Monday, March 15, 2010 10:12AM - 10:24AM A10.00010: Shape transition in channel- and cavity-confined semiflexible bio-macromolecules
Peter Cifra , Tomas Bleha
- Monday, March 15, 2010 10:24AM - 10:36AM A10.00011: Out of Equilibrium Characteristics of a Forced Translocating Chain through a Nanopore
Kurt Binder , Aniket Bhattacharya
- Monday, March 15, 2010 10:36AM - 10:48AM A10.00012: Single Molecule Kv2.1 Channel Dynamics in Live Mammalian Cells
Aubrey Weigel , Michael Tamkun , Diego Krapf

Session A12: Microfluidics I: Electrokinesis and Transport

Sponsoring Units: DFD

Chair: Eberhard Bodenschatz, Cornell University

Room: B110-B111

Monday, March 15, 2010 8:00AM - 8:12AM	A12.00001: Flow Regimes and Parametric Competitions in Nanochannel Flows Chong Liu , Zhigang Li
Monday, March 15, 2010 8:12AM - 8:24AM	A12.00002: Microfluidic Chemical Concentration Switching at Taylor's Limit Eberhard Bodenschatz , Albert Bae , Carsten Beta
Monday, March 15, 2010 8:24AM - 8:36AM	A12.00003: Film Relaxation and Pressure-Saturation Hysteresis in a Wedge-shaped Microfluidic Channel Yihong Liu , Laura Pyrak-Nolte , David Nolte
Monday, March 15, 2010 8:36AM - 8:48AM	A12.00004: Fluidic rectification due to asymmetric concentration polarization at nano-microfluidic interface Jarrod Schiffbauer , Kathleen Reschke , Boris Zaltzman , Boyd Edwards , Isaak Rubinstein , Will Booth , Aaron Timperman
Monday, March 15, 2010 8:48AM - 9:00AM	A12.00005: Photo-manipulation of a liquid droplet by chromocapillary effect Arnaud Saint-Jalmes , Antoine Diguët , Reine-Marie Guillermic , Nobuyuki Magome , Kenishi Yoshikawa , Yong Chen , Damien Baigl
Monday, March 15, 2010 9:00AM - 9:12AM	A12.00006: Suppression of Brownian motion by electrodynamic confinement in aqueous solution Weihua Guan , Mark Reed , Sony Joseph , Predrag Krstic
Monday, March 15, 2010 9:12AM - 9:24AM	A12.00007: Two-dimensional mapping of dielectrophoresis force and AC electro-osmosis flow Jingyu Wang , H.D. Ou-Yang
Monday, March 15, 2010 9:24AM - 9:36AM	A12.00008: Destruction of Emulsions by an AC Electric Field: Importance of Partial Merging Abdou Rachid Thiam , Nicolas Bremond , Jérôme Bibette
Monday, March 15, 2010 9:36AM - 9:48AM	A12.00009: Broadband Dielectric Response of Insulin and Bovine Serum Albumin in Solution J. Booth , N. Orloff , Y. Wang , J. Dennis , I. Takeuchi
Monday, March 15, 2010 9:48AM - 10:00AM	A12.00010: Single-Molecule Denaturation Mapping of DNA in Nanofluidic Channels Walter Reisner , Niels Larsen , Asli Silahdaroglu , Anders Kristensen , Niels Tommerup , Jonas O. Tegenfeldt , Henrik Flyvbjerg
Monday, March 15, 2010 10:00AM - 10:12AM	A12.00011: Channeling of DNA during Electrophoresis in a Sparse Ordered Post Array Jia Ou , Jaseol Cho , Sam Carpenter , Dan Olson , Kevin Dorfman
Monday, March 15, 2010 10:12AM - 10:24AM	A12.00012: DNA mobility in nanofluidic systems Alena Karpusenko , Shuang Fang Lim , Robert Riehn
Monday, March 15, 2010 10:24AM - 10:36AM	A12.00013: Tube-like motion of ds-DNA in a nanoslit post array Po-Keng Lin , Chen-Hsiang Hung , Chia-Fu Chou , Yeng-Long Chen

Monday, March 15, 2010 10:36AM - 10:48AM A12.00014: Bubble length affects bubble speed in a rough microfluidic channel
Quan Zhang , Konstantin Turitsyn , Tom Witten

Monday, March 15, 2010 10:48AM - 11:00AM A12.00015: Vesicle extrusion in nanopores
B\`ela Jo\`os , Martin Bertrand , S\`ebastien Ouellet

Session A17: Focus Session: Relaxation Dynamics of Polymeric Glasses I

Sponsoring Units: DPOLY

Chair: Jack Douglas, NIST

Room: B116

- Monday, March 15, 2010 8:00AM - 8:36AM A17.00001: Molecular simulations of polymer glasses under active deformation
Invited Speaker: Robert Riggleman
- Monday, March 15, 2010 8:36AM - 8:48AM A17.00002: Four-Point Analysis of Molecular Fluctuations in Sucrose Benzoate Near the Glass Transition by Fourier Imaging Correlation Spectroscopy
James Utterback , Jasper Cook , Andrew Marcus
- Monday, March 15, 2010 8:48AM - 9:00AM A17.00003: Distribution of relaxation times in miscible polymer blends close to the glass transition
Paul Sotta , Gareth Royston , Didier R. Long
- Monday, March 15, 2010 9:00AM - 9:12AM A17.00004: Glass Transition Temperature of Isolated Polymer-A Chains Dispersed within a Bulk Polymer-B Phase: Novel Characterization by Fluorescence
Robert Sandoval , John Torkelson
- Monday, March 15, 2010 9:12AM - 9:24AM A17.00005: Antiplasticization of polymer melts diluted by low molar mass species
Evgeny Stukalin , Jack Douglas , Karl Freed
- Monday, March 15, 2010 9:24AM - 9:36AM A17.00006: Reaction rates in hydrophilic glass
Marcus Cicerone , Qin Zhong
- Monday, March 15, 2010 9:36AM - 9:48AM A17.00007: A simple bead necklace model to study secondary relaxations in glassy polymer melts and blends
Dmitry Bedrov , Grant Smith
- Monday, March 15, 2010 9:48AM - 10:00AM A17.00008: Dynamic Heterogeneity in Highly Cross-linked Epoxy in the Vicinity of Glass Transition
Po-Han Lin , Rajesh Khare
- Monday, March 15, 2010 10:00AM - 10:12AM A17.00009: Application of the entropy theory of glass formation to poly(alpha-olefins
Karl Freed , Evgeny Stukalin , Jack Douglas
- Monday, March 15, 2010 10:12AM - 10:24AM A17.00010: Relaxation Dynamics of the Glass Transition in PMMA+SWCNT Composites by Temperature-Modulated DSC
Nihar Pradhan , Germano Iannacchione
- Monday, March 15, 2010 10:24AM - 10:36AM A17.00011: Specifics of nanostructure stability patterned polystyrene under high electric fields
Sergei Lyuksyutov , Victoria Nedashkivska , Mindaugas Rackaitis
- Monday, March 15, 2010 10:36AM - 10:48AM A17.00012: Structural Characterization of Polymers of Intrinsic Microporosity Using X-ray Scattering Methods
Amanda McDermott , Nhamo Chaukura , Christopher Mason , Peter Budd , Kadum Msayib , Mariolino Carta , Bader Ghanem , Neil McKeown , James Runt

Session A18: Focus Session: Multiscale Modeling in Polymer and Soft Matter Physics

Sponsoring Units: DPOLY DCOMP

Chair: Mesfin Tsige, University of Illinois at Carbondale

Room: B117

Monday, March 15, 2010 8:00AM - 8:12AM	A18.00001: Structural Properties of Polystyrene Adsorbed onto a Solid Surface Yergou Tatek , Mesfin Tsige
Monday, March 15, 2010 8:12AM - 8:24AM	A18.00002: Analytical rescaling of dynamics from mesoscale simulations of coarse-grained polymer melts to their atomic description Ivan Lyubimov , Marina Guenza
Monday, March 15, 2010 8:24AM - 8:36AM	A18.00003: Classical density functional theory of fluids as a multi-scale modeling tool for charged fluids: Electrical double layers, biological ion channels, dielectric interfaces Dirk Gillespie
Monday, March 15, 2010 8:36AM - 9:12AM	A18.00004: Structure, Self-assembly, Solvation, and Phase Equilibria in Hydrogen-bonding Fluids Invited Speaker: J. Ilja Siepmann
Monday, March 15, 2010 9:12AM - 9:24AM	A18.00005: Geometric cluster algorithm for anisotropic particles Daniel W. Sinkovits , Erik Luijten
Monday, March 15, 2010 9:24AM - 9:36AM	A18.00006: Nucleation and surface induced crystallization in supercooled liquid water Giovanna Russo , Tianshu Li , Davide Donadio , Giulia Galli
Monday, March 15, 2010 9:36AM - 9:48AM	A18.00007: Numerical Coarse-Graining of Polymer Field Theories Michael Villet , Glenn Fredrickson
Monday, March 15, 2010 9:48AM - 10:24AM	A18.00008: Structure and Transport in Soft Materials Studied by Multiscale Simulation Invited Speaker: Florian Muller-Plathe
Monday, March 15, 2010 10:24AM - 10:36AM	A18.00009: Concurrent coupling between a particle simulation and a continuum description: case study of a polymer blend Marcus Mueller
Monday, March 15, 2010 10:36AM - 10:48AM	A18.00010: Effective Pair Potentials and Mesoscale Simulations of Binary Polymer Blends James McCarty , Marina Guenza
Monday, March 15, 2010 10:48AM - 11:00AM	A18.00011: Multiscale simulations of chain dynamics in polymeric liquids undergoing shear Bamin Khomami , Jun Kim , Brian Edwards

Session A19: Polymer Blends

Sponsoring Units: DPOLY
Chair: Chinedum Osuji, Yale
Room: B118-B119

Monday, March 15, 2010 8:00AM - 8:12AM	A19.00001: Dynamics of Strongly Associating Polymer Blends Using Broadband Dielectric Spectroscopy Kevin Masser , James Runt
Monday, March 15, 2010 8:12AM - 8:24AM	A19.00002: Solution self-assembly behavior of block copolymer blends with the same hydrophilic block but different hydrophobic blocks Jiahua Zhu , Ke Zhang , Karen Wooley , Darrin Pochan
Monday, March 15, 2010 8:24AM - 8:36AM	A19.00003: Controlling co-monomer distributions in bulk and surface tethered random copolymers Lawrence Strickland , Jan Genzer , Carol Hall
Monday, March 15, 2010 8:36AM - 8:48AM	A19.00004: Analytical Rheology using a Bayesian Framework Sachin Shanbhag
Monday, March 15, 2010 8:48AM - 9:00AM	A19.00005: Compatibilization of polystyrene and poly(dimethyl siloxane) with a star polymer having a γ cyclodextrin core and polystyrene arms C.M. Balik , A.E. Tonelli , Brad Busche
Monday, March 15, 2010 9:00AM - 9:12AM	A19.00006: The Time Evolution of the Surface Segregation of Hyperbranched Molecules from a Linear Matrix Onome Swader , Mark Dadmun , Lian Hutchings , Richard Thompson
Monday, March 15, 2010 9:12AM - 9:24AM	A19.00007: Effect of Trans-Cis Photoisomerization on Phase Equilibria and Phase Transition of Azobenzene Chromophore and Reactive Mesogenic Diacrylate Mixtures Namil Kim , Quan Li , Thein Kyu
Monday, March 15, 2010 9:24AM - 9:36AM	A19.00008: Concentration and Temperature Effects on the Micellization of Block Copolymers in a Homopolymer Matrix E. Pavlopoulou , K. Chrissopoulou , S.H. Anastasiadis , H. Iatrou , N. Hadjichristidis , G. Portale , W. Bras
Monday, March 15, 2010 9:36AM - 9:48AM	A19.00009: Micelle Formation of Diblock Copolymers in Thin Film Homopolymers and Homopolymer Blends Chelsea Chen , Peter Green
Monday, March 15, 2010 9:48AM - 10:00AM	A19.00010: Micelle Formation in Diblock Copolymer/Homopolymer Films Jiajia Zhou , An-Chang Shi
Monday, March 15, 2010 10:00AM - 10:12AM	A19.00011: Analytical coarse-grained description of a homopolymer melt as a liquid of soft colloidal chains Anthony J. Clark , M.G. Guenza
Monday, March 15, 2010 10:12AM - 10:24AM	A19.00012: Nucleation in polydisperse polymer mixtures Dadong Yan , Shuanhu Qi

Monday, March 15, 2010
10:24AM - 10:36AM A19.00013: The Entropic Rigidity of Circular Polymers
Martin Bertrand , Martin Forget , B\ela Jo\os

Monday, March 15, 2010 A19.00014: Microstructural Characterization of Plastic
10:36AM - 10:48AM Bonded Explosives
John Yeager , Daniel Hooks , David Bahr

Monday, March 15, 2010 A19.00015: Simulating the Effect of Flame Retardant
10:48AM - 11:00AM Materials on Heat Diffusion in Polymers
Joseph Ortiz , Arpon Raksit , Dilip Gersappe , Miriam Rafailovich

Session B4: Dynamics of Polymers on Multi-Length Scales: Solutions

Sponsoring Units: DPOLY DCOMP

Chair: Madhusudan Tyagi, National Institute of Standards and Technology

Room: *Oregon Ballroom 204*

Monday, March 15, 2010 11:15AM - 11:51AM	B4.00001: Dynamics in Multicomponent Polyelectrolyte Solutions Invited Speaker: Michihiro Nagao
Monday, March 15, 2010 11:51AM - 12:27PM	B4.00002: Simulating the dynamics of a single polymer chain in solution: Lattice Boltzmann vs Brownian dynamics Invited Speaker: Burkhard Nagao
Monday, March 15, 2010 12:27PM - 1:03PM	B4.00003: Dynamics on Multiple Time and Length Scales in Complex Fluids Formed by Conjugated Polymers Invited Speaker: Dvora Perahia
Monday, March 15, 2010 1:03PM - 1:39PM	B4.00004: Dynamics of Semiflexible Polymers in Solution Invited Speaker: Erwin Frey
Monday, March 15, 2010 1:39PM - 2:15PM	B4.00005: Shear Banding and Flow Instabilities in Entangled Polymer Solutions Invited Speaker: Peter Olmsted

Session B10: Focus Session: Single Molecule Biophysics and Chemical Physics II

Sponsoring Units: DCP DBP DPOLY

Chair: Antoine Van Oijen, Harvard Medical School

Room: A106

Monday, March 15, 2010	B10.00001: Using Transcription to Measure DNA
11:15AM - 11:51AM	Mechanics One Molecule at a Time Invited Speaker: Rob Phillips
Monday, March 15, 2010	B10.00002: Molecular origins of DNA flexibility: Sequence
11:51AM - 12:03PM	effects on conformational and mechanical properties Vanessa Ortiz , Juan J. de Pablo
Monday, March 15, 2010	B10.00003: Intrinsic and force-generated cooperativity in a
12:03PM - 12:15PM	theory of DNA bending proteins Houyin Zhang , John F. Marko
Monday, March 15, 2010	B10.00004: Interplay between elasticity and binding in
12:15PM - 12:27PM	DNA-protein complexes Yitzhak Rabin , Shay Rappaport
Monday, March 15, 2010	B10.00005: Development of dumbbell model for the
12:27PM - 12:39PM	electrophoresis of end-labeled DNA Henry Lau , Lynden Archer
Monday, March 15, 2010	B10.00006: Molecular Dynamics Simulations of the
12:39PM - 12:51PM	Transport of Single DNA Nucleotides Through Nanochannels Brian Novak , Dorel Moldovan , Dimitris Nikitopoulos , Steven Soper
Monday, March 15, 2010	B10.00007: The scaling laws for polymer translocation
12:51PM - 1:03PM	through a nanopore depend on pore width Gary W. Slater , Hendrick W. de Haan
Monday, March 15, 2010	B10.00008: Dynamics of polymer translocation rectified by
1:03PM - 1:15PM	attractive binding particles Aniket Bhattacharya , Christopher Lorsch , Tapio Ala-Nissila , Wokyung Sung
Monday, March 15, 2010	B10.00009: Rectified polymer translocation induced by
1:15PM - 1:27PM	solvent asymmetry between \$cis\$ and \$trans\$ compartments Christopher Lorsch , Aniket Bhattacharya , Tapio Ala-Nissila
Monday, March 15, 2010	B10.00010: Stretching weakly bending filaments with
1:27PM - 1:39PM	spontaneous curvature in two dimensions Panayotis Benetatos , Eugene Terentjev
Monday, March 15, 2010	B10.00011: Solvable model of mechanical unfolding of
1:39PM - 1:51PM	biopolymers Donald Jacobs , Dennis Livesay , Oleg Vorov
Monday, March 15, 2010	B10.00012: Inherent Tension in Chemical Bonds
1:51PM - 2:03PM	James Brock , Qi Liao , Michael Rubinstein
Monday, March 15, 2010	B10.00013: Information theory resolution limits and hidden
2:03PM - 2:15PM	Markov model analysis of single molecule fluorescence David Talaga

Session B12: GSNP Graduate Student Prize and Liquid Crystals: Smectics

Sponsoring Units: GSNP DFD

Chair: Susan Coppersmith, University of Wisconsin

Room: B110-B111

- Monday, March 15, 2010
11:15AM - 11:27AM B12.00001: Random Packing Density of Platonic Solids
Jessica Baker , Arshad Kudrolli
- Monday, March 15, 2010
11:27AM - 11:39AM B12.00002: A Bayesian Approach to Detecting Amino Acid
Covariance in Multiple Sequence Alignments
Lucy Colwell , Michael Brenner , Andrew Murray
- Monday, March 15, 2010
11:39AM - 11:51AM B12.00003: Coarse-grained computational studies of the
assembly of viral capsids around a flexible polymer
Oren Elrad , Michael Hagan
- Monday, March 15, 2010
11:51AM - 12:03PM B12.00004: Controlling Elastic Instabilities: From Complex
Pattern Formation to Functionality
Elisabetta Matsumoto , Randall Kamien
- Monday, March 15, 2010
12:03PM - 12:15PM B12.00005: Extending the Scaling Laws of Plasticity
Georgios Tsekenis , Karin Dahmen
- Monday, March 15, 2010
12:15PM - 12:39PM B12.00006: BREAK
- Monday, March 15, 2010
12:39PM - 12:51PM B12.00007: Investigation of B7 Liquid Crystal Undulation
Texture
D. Chen , M.A. Glaser , J.E. Maclennan , N.A. Clark , E. Korblova ,
D.M. Walba
- Monday, March 15, 2010
12:51PM - 1:03PM B12.00008: Discovery of a novel smectic-C* liquid crystal
phase with six-layer periodicity
Shun Wang , LiDong Pan , Ronald Pindak , Zengqiang Liu , Tinh
Nguyen , Cheng-Cher Huang
- Monday, March 15, 2010
1:03PM - 1:15PM B12.00009: On the nature of the de Vries smectic-A liquid
crystal phase
Joseph Maclennan , Chenhui Zhu , Yongqiang Shen , Renfan Shao ,
Matthew Glaser , Noel Clark , David Walba , Eva Korblova , Mark
Moran , Hong Yang , Lixing Wang , Ron Pindak , Robert Lemieux
- Monday, March 15, 2010
1:15PM - 1:27PM B12.00010: Polarization modulated orthogonal smectic
phases
Chenhui Zhu , Renfan Shao , Joseph Maclennan , Dong Chen ,
Yongqiang Shen , Matthew Glaser , Noel Clark* , R. Amaranatha
Reddy , David Walba , Per Rudquist
- Monday, March 15, 2010
1:27PM - 1:39PM B12.00011: Helical nanofilaments and the high chirality
limit of smectics-A
Gareth Alexander , Elisabetta Matsumoto , Randall Kamien
- Monday, March 15, 2010
1:39PM - 1:51PM B12.00012: Orientational order and topological defects in
smectics
Bryan Chen , Gareth Alexander , Randall Kamien

Monday, March 15, 2010 B12.00013: Chromonic liquid crystals and their dispersion in
1:51PM - 2:03PM polymers
Jung Park , Xuxia Yao , Mohan Srinivasarao

Monday, March 15, 2010 B12.00014: Topological defects of lyotropic chromonic
2:03PM - 2:15PM liquid crystals
Xuxia Yao , Alejandro Rey , Jung Park , Mohan Srinivasarao

Session B16: Focus Session: Organic Electronics and Photonics: Solar Cell Materials and Devices

Sponsoring Units: DMP DPOLY

Chair: Max Shtein

Room: B115

Monday, March 15, 2010 11:15AM - 11:27AM	B16.00001: Photoconductivity in the Poly(2,7-Carbazole) Copolymer PCDTBT, and in Bulk Heterojunction Composites with PC ₇₀ BM Nelson Coates , Minghong Tong , Daniel Moses , Alan Heeger , Serge Beaupr\`e , Mario Leclerc
Monday, March 15, 2010 11:27AM - 11:39AM	B16.00002: Phthalimide Copolymer Solar Cells Hao Xin , Xugang Guo , Guoqiang Ren , Felix Kim , Mark Watson , Samson Jenekhe
Monday, March 15, 2010 11:39AM - 11:51AM	B16.00003: A Multiscale Approach to Realistic Simulation of Organic Photovoltaic Devices Daniel Olds , Phillip Duxbury , Jon Kiel , Michael Mackay
Monday, March 15, 2010 11:51AM - 12:27PM	B16.00004: Architectures for enhanced exciton collection in organic photovoltaic cells Invited Speaker: Russell Holmes
Monday, March 15, 2010 12:27PM - 12:39PM	B16.00005: Elucidating Vertical Phase Separation of Active Layers in Polymer Solar Cells via NEXAFS He Wang , Enrique Gomez , Zelei Guan , Antoine Kahn , Chernoy Jaye , Daniel Fischer , Jeffrey Schwartz , Yueh-Lin Loo
Monday, March 15, 2010 12:39PM - 12:51PM	B16.00006: Block Copolymers for Polymer Photovoltaic Applications Guoqiang Ren , Pei-Tzu Wu , Samson Jenekhe
Monday, March 15, 2010 12:51PM - 1:03PM	B16.00007: Molecular Engineering of Polymer Semiconductors for Solar Cells Samson Jenekhe , Selvam Subramaniyan , Eilaf Ahmed , Hao Xin , Felix Kim
Monday, March 15, 2010 1:03PM - 1:39PM	B16.00008: Increased exciton harvesting in organic thin film solar cells Invited Speaker: Barry P. Rand
Monday, March 15, 2010 1:39PM - 1:51PM	B16.00009: Exploring mechanisms in excitonic photovoltaics from first principles Peter Doak , Pierre Darancet , Jeff Neaton
Monday, March 15, 2010 1:51PM - 2:03PM	B16.00010: Electric and Optical Performances of Perylene Diimides (PDI) and Their Applications in Electronic Devices Yong Min , J.H. Park , A.R. Carter , A.J. Epstein
Monday, March 15, 2010 2:03PM - 2:15PM	B16.00011: ZnO Nanoparticles and Nanowire Arrays with Liquid Crystals for Photovoltaic Applications Lourdes Salamanca-Riba , Luz Martinez-Miranda

Session B17: Surfaces, Interfaces and Thin Films

Sponsoring Units: DPOLY

Chair: Jutta Luettmer-Strathmann, University of Akron

Room: B116

Monday, March 15, 2010 11:15AM - 11:27AM	B17.00001: Monte Carlo Simulation of the Irreversible Adsorption of Polymers to Surfaces: Influence of Molecular Weight Vikram Kuppa
Monday, March 15, 2010 11:27AM - 11:39AM	B17.00002: Probing Aggrecan Interactions with Ions by AFM Preethi Chandran , Emiliios Dimitriadis , Peter Basser , Ferenc Horkay
Monday, March 15, 2010 11:39AM - 11:51AM	B17.00003: Polyelectrolyte adsorption at a conducting surface Maria Sammalkorpi , Paul R. Van Tassel
Monday, March 15, 2010 11:51AM - 12:03PM	B17.00004: Temperature Dependent Micellization of Polystyrene- $\text{poly}(2\text{-vinylpyridine})$ at Si--Ionic Liquid Interface Haiyun Lu , Thomas Russell
Monday, March 15, 2010 12:03PM - 12:15PM	B17.00005: Modeling Micellization and Interfacial Tension of Nonionic Surfactants using Dissipative Particle Dynamics Leela Rakesh , Valeriy Ginzburg , Prasanna Jog
Monday, March 15, 2010 12:15PM - 12:27PM	B17.00006: Self-assembly of ultrahigh molecular weight comb block copolymer at the air/water interface Lei Zhao , Matthew Goodman , Ned Bowden , Zhiqun Lin
Monday, March 15, 2010 12:27PM - 12:39PM	B17.00007: Formation and Collapse of Single-Monomer-Thick Monolayers of Poly(n-Butyl Acrylate) at the Air-Water Interface You-Yeon Won , Kevin Witte , Wei Sun , Sumit Kewalramani , Masafumi Fukuto , Ivan Kuzmenko
Monday, March 15, 2010 12:39PM - 12:51PM	B17.00008: The Interactions of Surface Hydroxyl Groups on Sapphire with Hydrophobic and Hydrophilic Polymers Anish Kurian , Shishir Prasad , Ali Dhinojwala
Monday, March 15, 2010 12:51PM - 1:03PM	B17.00009: Surfaces and polymers: The dynamics of intimacy Subhalakshmi Kumar , Changqian Yu , Janet Wong , Liang Hong , Sung Chul Bae , Steve Granick
Monday, March 15, 2010 1:03PM - 1:15PM	B17.00010: Thickness-Dependent Surfactant Behavior in Trilayer Polymer Films Yan Sun , Kenneth Shull , Jin Wang
Monday, March 15, 2010 1:15PM - 1:27PM	B17.00011: Plateau-Rayleigh instability in nanoscale polymer rings Kari Dalnoki-Veress , Joshua McGraw , Jianfeng Li , David Tran , An-Chang Shi
Monday, March 15, 2010 1:27PM - 1:39PM	B17.00012: Morphology of Block Copolymer Droplets on a Flat Substrate Jaeup Kim , Mark Matsen

Monday, March 15, 2010 1:39PM - 1:51PM	B17.00013: Response of Semifluorinated-Si Containing Diblock Co-polymers to Solvent Stimuli Umesh Shrestha , Dvora Perahia , Stephen Clarson
Monday, March 15, 2010 1:51PM - 2:03PM	B17.00014: Temperature-Induced, Reversible Swelling Transitions in Multilayers of a Cationic Triblock Copolymer and a Polyacid Svetlana Sukhishvili , Wui Siew Tan , Robert Cohen , Michael Rubner
Monday, March 15, 2010 2:03PM - 2:15PM	B17.00015: Van der Waals model for phase transitions in thermoresponsive surface films John McCoy , John Curro

Session B18: Focus Session: Crystallization in Confined Geometry I

Sponsoring Units: DPOLY

Chair: Christopher Li, Drexel University

Room: B117

Monday, March 15, 2010 11:15AM - 11:27AM	B18.00001: Polymer Single Crystal Templated by Quasi-One Dimensional Materials Bing Li , Eric Laird , Xi Chen , Wenda Wang , Christopher Li
Monday, March 15, 2010 11:27AM - 11:39AM	B18.00002: Size-dependent segregation, separation, and ordering in an alkane mixture undergoing slow compression in a confining narrow gap Lina Merchan , Jianping Gao , Uzi Landman
Monday, March 15, 2010 11:39AM - 11:51AM	B18.00003: Polymer crystallization in thin films at high cooling rates Christoph Schick , Evgeny Zhuravlev
Monday, March 15, 2010 11:51AM - 12:03PM	B18.00004: Melting and Freezing of Decanol inside Nanoporous Silica Samuel Amanuel
Monday, March 15, 2010 12:03PM - 12:15PM	B18.00005: Morphology and Crystal Orientation of Ferroelectric P(VDF-ran-TrFE) in Cylindrical Nanopores Nitin Shingne , Markus Geuss , Martin Steinhart , Thomas Thurn-Albrecht
Monday, March 15, 2010 12:15PM - 12:27PM	B18.00006: Crystallization of Tethered Chain Layers in Crystalline-Crystalline Diblock Copolymers Ryan M. Van Horn , Joseph X. Zheng , Ming-Siao Hsiao , Siwei Leng , Hao-Jan Sun , Stephen Z.D. Cheng
Monday, March 15, 2010 12:27PM - 12:39PM	B18.00007: The Interplay between Chain Diffusion and Crystallization of Polyethylene Oxide in its Monolayers Rui Chen , Jiang Zhao
Monday, March 15, 2010 12:39PM - 12:51PM	B18.00008: Molecular Simulations of Polymer Crystallization under Nano-Confinement Wenbing Hu
Monday, March 15, 2010 12:51PM - 1:03PM	B18.00009: Morphological changes in polyoxymethylene on heating and cooling K. Guruswamy , N. Surve , R. Mathew , N. Bulakh , T. Ajithkumar , P. Rajamohanam , R. Ratnagiri
Monday, March 15, 2010 1:03PM - 1:39PM	B18.00010: Crystallization of Unbranched Polyethylene Confined within Block Copolymer Mesophases Invited Speaker: Richard Register
Monday, March 15, 2010 1:39PM - 1:51PM	B18.00011: Early Stages in Polymer Crystal Growth for Isotactic Poly-1-Butene: From Nucleation to Network Percolation Deepak Arora , Horst Winter
Monday, March 15, 2010 1:51PM - 2:03PM	B18.00012: Effect of Matrix Molecular Mass on the Crystallization of β -Form Isotactic Polypropylene Around an Oriented Polypropylene Fiber Jerold Schultz , Xiaoli Sun , Huihui Li , Xinqin Zhang , Dujin Wang , Shouke Yan

Monday, March 15, 2010 2:03PM - 2:15PM B18.00013: Nucleation from Supercooled Liquid Crystal and Crystallization Reveled by the Fast Scanning Calorimeter
Dongshan Zhou , Wei Jiang , Cao Teng , Xiaoliang Wang , Gi Xue ,
Christoph Schick

Session B19: Focus Session: Thin Films Copolymers I

Sponsoring Units: DPOLY

Chair: Paul Nealy, University of Wisconsin

Room: B118-B119

Monday, March 15, 2010 11:15AM - 11:51AM	B19.00001: Multifunctional Block Polymer Thin Films for Templating and Separations Invited Speaker: Marc Hillmyer
Monday, March 15, 2010 11:51AM - 12:03PM	B19.00002: Discrete Nanopatterns from Block Copolymer Self-Assembly Ho-Cheol Kim , Sang-Min Park , Charles Rettner , Jed Pitera
Monday, March 15, 2010 12:03PM - 12:15PM	B19.00003: Simulation of Line Edge Roughness in Weakly Segregated and Strongly Segregated Diblock Copolymer Resists August Bosse
Monday, March 15, 2010 12:15PM - 12:27PM	B19.00004: Enhanced Alignment of Block Copolymer Domains by Controlled Film Thickness and Interfacial Interactions on Chemically Patterned Surfaces Hyo Seon Suh , Kookheon Char
Monday, March 15, 2010 12:27PM - 12:39PM	B19.00005: Phase behaviour of ABC Triblock Copolymer Thin Film Confined Between Brush-coated Substrates Rong Wang , Gi Xue
Monday, March 15, 2010 12:39PM - 12:51PM	B19.00006: Transformation of the Boundary Conditions for Density Multiplication by Directed Assembly of Block Copolymer-Homopolymer Blends and Molecular Transfer Printing Guoliang Liu , Shengxiang Ji , Paul Nealey
Monday, March 15, 2010 12:51PM - 1:03PM	B19.00007: Preparation of Surface Patterned Silica from Poly(dimethylsiloxane)-Containing Block Copolymer Thin Films Maurice Wadley , Kevin Cavicchi
Monday, March 15, 2010 1:03PM - 1:15PM	B19.00008: Fabrication of Complex Three-Dimensional Nanostructures from Self-Assembling Block Copolymer Materials on Patterned Surfaces: A computational Study Xianggui Ye , Brian J. Edwards , Bamin Khomami
Monday, March 15, 2010 1:15PM - 1:27PM	B19.00009: Buckling of block copolymer lamellae in supercritical carbon dioxide Hideaki Yokoyama , Masateru Ito , Yasuhiro Sakai , Kozo Ito , Kenji Sugiyama
Monday, March 15, 2010 1:27PM - 1:39PM	B19.00010: Nanostructured Polymer Membranes for Selective Alcohol Transport Ashish Jha , Liang Chen , Nitash Balsara
Monday, March 15, 2010 1:39PM - 1:51PM	B19.00011: Nanoporous membrane based on block copolymer thin film for protein drug delivery Seung Yun Yang , Jeong-A Yang , Eung-Sam Kim , Gumhye Jeon , Eun Ju Oh , Kwan Yong Choi , Sei Kwang Hahn , Jin Kon Kim

Monday, March 15, 2010 1:51PM - 2:03PM B19.00012: An in-situ study of structure evolution in block copolymer thin films of PS-PEO during solvent vapor annealing

Parvaneh Mokarian-Tabari , Timothy W. Collins , Michael A. Morris

Monday, March 15, 2010 2:03PM - 2:15PM B19.00013: Structure of Epitaxially Assembled Block Copolymer Domains

Gila Stein , J. Alexander Liddle , Andrew Aquila , Eric Gullikson

Session C1: Poster Session I (2:00 pm - 5:00 pm)

Room: *Exhibit CD*

C1.00001: POLYMER AND SOFTER MATTER PHYSICS I

C1.00002: A New Supramolecular Route for Using Rod-Coil Block Copolymers in Photovoltaic Applications

Raffaele Mezzenga , Nicolas Sary , Fanny Richard , Cyril Brochon , Nicolas Leclerc , Patrick Leveque , Jean Nicolas Audinot , Thomas Heiser , Georges Hadziioannou , Solemn Berson

C1.00003: Control of Rod-Rod Interactions in Poly(3-alkylthiophenes)

Victor Ho , Bryan W. Boudouris , Rachel A. Segalman

C1.00004: Mobility of self-localized defects in conjugated dendrimers

Yongwoo Shin , Xi Lin

C1.00005: Electrical and structural changes during phase transitions in conducting polymer cubic phases

Jinghang Wu , Wen-Shiue (Owen) Young , Thomas Epps , David Martin

C1.00006: Tuning intermolecular interactions in di-octyl substituted polyfluorene via hydrostatic pressure

Keshab Paudel , Harrison Knoll , Meera Chandrasekhar , Suchi Guha

C1.00007: Enhanced Photoemission in Alq₃ Films due to Intermolecular Transitions

Milhan Ajward , Xiaosheng Wang , Venkat Gangilenka , Hans Peter Wagner

C1.00008: Towards cost-effective, solution processed, encapsulant films for organic electronic devices -- controlling flow instabilities during film formation

Jimmy Granstrom , Anshuman Roy , Griffin Rowell , Ji Sun Moon , Evan Jerkunica , Alan Heeger

C1.00009: The Microphase Separation of Conjugated Diblock Copolymers and their Application to Organic Photovoltaics

Dian Chen , Serkan Yurt , Dhandapani Venkataraman , Thomas Russell

C1.00010: Thermoelectric Behavior of Carbon Nanotube-Filled Latex Composites

Jaime Grunlan , Choongho Yu , Yeon Seok Kim , Dasarayong Kim

C1.00011: Charge Transport in Organic Conjugated Polymers Used in Solar Cells - A Computational Study

Yaping Li , Jolanta Lagowski

C1.00012: First-principles studies of Mg-doped LiFePO₄ for lithium ion batteries

Siqi Shi , Hua Zhang , Wai-Ning Mei , Aifang Liu , Khoon-Cheng Lim

C1.00013: Morphological Effects on Proton Transport in Self-Assembled Anhydrous Polymers

Scott Christensen , Yangbin Chen , Michael Thorn , Craig Versek , Ambata Poe , Mark Tuominen , S Thayumanavan , Ryan Hayward

C1.00014: Off-normal deposition of PTFE thin films during 157-nm irradiation

Sharon R. George , Stephen C. Langford , J. Thomas Dickinson

C1.00015: Electronic and Transport Properties of Quasi-1D Wires of Biological Molecules

Björn Oetzel , Lars Matthes , Falk Tandetzky , Frank Ortmann , Friedhelm Bechstedt , Karsten Hannewald

C1.00016: Slow and correlated fractal growth of organic material due to energetic cluster deposition

Deeder Aurongzeb

C1.00017: Intermolecular band dispersion of quasi-single crystalline organic semiconductor monolayer measured by angle-resolved photoemission spectroscopy

Manabu Ohtomo , Toshihiro Shimada , Tetsuya Hasegawa

C1.00018: Morphological Studies of Bulk Heterojunction Organic Solar Cells

Kristin Schmidt , James Rogers , Jeff Peet , Robert Coffin , Michael Dimitriou , Edward Kramer , Guillermo Bazan

C1.00019: Anisotropic Refractive Index Dispersion in Polycrystalline PTCDA Waveguides

Milhan Ajward , Xiaosheng Wang , Venkat Gangilenka , John Markus , Hans Peter Wagner , Heidrun Schmitzer

C1.00020: Controlled Growth of Organic Semiconductor Films Using Electrospray Vapor-Liquid-Solid Deposition

Daniel Shaw , Kevin Bufkin , Brad Johnson , David Patrick

C1.00021: Novel spectroscopic technique for exciton diffusion studies in organic semiconductors

Vitaly Podzorov , Hikmet Najafov

C1.00022: Influence of metal-organic interfaces on charge carrier dynamics

Andrew Platt , Whitney Shepherd , Thomas Hathaway , Garrett Banton , John Anthony , Oksana Ostroverkhova

C1.00023: Oxygen-related defect in PPV

Marilia Caldas , Alice Ruini , Arrigo Calzolari

C1.00024: Constitutive modelling of binary blends of monodisperse polymers

Daniel Read , Sathish Sukumaran , Kamakshi Jagannathan

C1.00025: The Size of the Dynamic Bead in Polymers

Alexander Agapov , Alexei Sokolov

C1.00026: Polymer dynamics at the solid-liquid interface

Changqian Yu , Subhalakshmi Kumar , Janet S. Wong , Sung Chul Bae , Steve Granick

C1.00027: Scaling dependence of topological hindrance on concentration: Entanglements and knots in model polymer systems

Nikos Karayiannis , Katerina Foteinopoulou , Manuel Laso , Martin

Kroger , Marc Mansfield

C1.00028: Dynamic characterization of jets of polymer solutions

Darrell Reneker

C1.00029: New conduction mechanism in doped trans-polyacetylene through soliton-bipolaron transition

Andre Botelho , Minghai Li , Xi Lin

C1.00030: Blends of Diblock Copolymers with Attempt to Achieve Triblock Morphologies

Eric Anderson , Vikram Daga , James Watkins , Sam Gido

C1.00031: Hierarchically Ordered Structures Enabled by Evaporative Self-Assembly of Confined Comb Block Copolymer

Myunghwan Byun , Ned B. Bowden , Zhiqun Lin

C1.00032: Guided Organization of λ -DNAs into Microring-Arrays from Liquid Capillary Microbridges

Myunghwan Byun , Suck Won Hong , Jin-Woo Cho , Zhiqun Lin

C1.00033: Controlled evaporative self-assembly of hierarchically structured regioregular conjugated polymers

Myunghwan Byun , Robyn L. Laskowski , Ming He , Feng Qiu , Malika Jeffries-El , Zhiqun Lin

C1.00034: Effect of Electric Field Strength on Diffusion of Ionic Drugs from Polyacrylamide Hydrogels

Anuvat Sirivat , Sumonman Niamlang

C1.00035: Electrical Conductivity Response of Poly (phenylene vinylene) / Zeolite Composites Exposed to Ethanol vapour

Intira Yimlamai , Anuvat Sirivat

C1.00036: Dielectrophoresis Force and Deflection of Dielectric Elastomers and Blends under AC field

Ruksapong Kunanuraksapong , Anuvat Sirivat

C1.00037: Novel Electroactive-paper Gel Preparations via 1-butyl-3-methylimidazolium chloride (BMIMCl) Solvent

Wissawin Kunchornsup , Anuvat Sirivat

C1.00038: ABC Triblock Copolymer Vesicles with Mesh-like Morphology

Wei Zhao , Thomas Russell , Gregory Grason

C1.00039: Confinement Effects of Polyvinylidene Fluoride-Co- Trifluoroethylene Nanorods

Kathleen McEnnis , Jodie Lutkenhaus , Thomas Russell

C1.00040: Self diffusion studies of P3HT:PCBM blends using Dynamic Secondary Ion Mass Spectrometry (DSIMS)

Louis Perez , Michael Brady , Neil Treat , Craig Hawker , Michael Chabinyc , Guillermo Bazan , Edward Kramer

C1.00041: Order and phase behavior of diblock copolymers and nano-particles mixture in confinement : A Molecular Dynamics study

Lenin S. Shagolsem , Jens-Uwe Sommer

C1.00042: Temperature Tailored Dispersion of Carbon Nanotubes in Water

Krishna Etika , Florian Jochum , Patrick Theato , Jaime Grunlan

C1.00043: Vertical alignment of nanorods in thin film polymer nanocomposites

Miguel A. Modestino , Jeffrey J. Urban , Rachel A. Segalman

C1.00044: Directed assembly of nanoparticles for hybrid photovoltaic

Vivian Chuang , Alexander Mastroianni , Kari Thokelsson , Wanli Ma , Paul Alivisatos , Ting Xu

C1.00045: Wide Angle X-ray Scattering Studies of C₆₀ Miscibility with Polymers

Katie Campbell , David Bucknall , Yonathan Thio , Bilge Gurun

C1.00046: Investigation of polymer single crystals templated by surface-modified carbon nanotubes

Eric D. Laird , Bing Li , Wenda Wang , Christopher Y. Li

C1.00047: Optical properties of composite functionalized carbon nanotubes and Au nanorods thin films

Deokjin Yu , James Wicksted

C1.00048: Effects of gold nanoparticles on the electro-optical properties of a polymer dispersed liquid crystal

A. Hinojosa , C. Shive , Suresh Sharma

C1.00049: Structural Properties of Hybrid

Nanoparticle/Polymer Composites for Solar Energy Devices

Elaine Chan , Bryan McCulloch , Rachel Segalman , Alexander Hexemer

C1.00050: Carbon Black Haloing of Clay and Its Influence on Electrical and Mechanical Properties of Epoxy Composites

Krishna Etika , Michael Cox , Jaime Grunlan

C1.00051: Tailored Nanoparticles for Enhancing Polymer Adhesion

Gregory Su , Katherine Best , Thangamani Ranganathan , Todd Emrick , Alfred Crosby

C1.00052: The Assembly of Nanorods in Comb Polymer Supramolecules

Alexander Mastroianni , Kari Thorkelsson , Joseph Luther , Paul Alivisatos , Ting Xu

C1.00053: Shape-induced phase transformation in nanoparticle assemblies

Yugang Zhang , Fang Lu , Daniel van der Lelie , Oleg Gang

C1.00054: Multi-stimuli responsive block copolymers and gels in ionic liquids

Takeshi Ueki , Masayoshi Watanabe

C1.00055: Kinetics and physical properties of photolatent base catalyzed thiol-epoxy resins

Christopher Comer , Olivia McNair , Charles Hoyle , Daniel Savin

C1.00056: Surface-Initiated ARGET ATRP and

Characterization of Thermoplastic Elastomer
Montomorillonite Composites

Jeffrey Easley , Amanda Beck , Christopher Ellison

C1.00057: Impact of Non-Covalent Interactions on the
Miscibility of Fullerenes in Polymers

Say Lee Teh , Dias Linton , Mark Dadmun

C1.00058: Dynamic Mechanical Analysis of Hydroxyapatite
Nanoparticle /Gelatin Porous Scaffolds

H. Ghossein , I. Dranca , S. Vyazovkin , A. V. Stanishevsky

C1.00059: Thiol-ene/methacrylate systems for mechanical
damping

Olivia McNair , Askim Senyurt , Huanyu Wei , Trent Gould , Scott Piland
, Charles Hoyle , Daniel Savin

C1.00060: Finite size effects in nanocomposite thin films,
fibers, and mats

L.I. Clarke , D.R. Stevens , E.W. Skau , L.N. Downen , T.J. Hoffman

C1.00061: Interfacial Slip in Polymer Blends with
Nanoparticles

Joseph Ortiz , Eihab Jaber , Dilip Gersappe

C1.00062: Guided Assemblies of Ferritin Nanocages: Highly
Ordered Arrays of Monodisperse Nanoscopic Elements

Yunxia Hu , Dian Chen , Soojin Park , Todd Emrick , Thomas Russell

C1.00063: Flame Retardant Polyelectrolyte-Nanoclay Layer-
by-Layer Assemblies on Cotton

Galina Sukhonosova , Yu-Chin Li , Jaime Grunlan

C1.00064: Highly Transparent and Conductive Carbon
Nanotube Thin Film Assemblies

Daniel Gamboa , Yong Tae Park , Aaron Ham , Jaime Grunlan

C1.00065: Influence of Clay Platelet Spacing on Oxygen
Permeability of Thin Film Assemblies

Morgan Priolo , Daniel Gamboa , Jaime Grunlan

C1.00066: Electrical Treeing Induced Vascular Networks for
Fluid Transport

Kristopher Behler , Eric Wetzel

C1.00067: Magnetic Field Alignment of Block-Copolymer /
Nanoparticle Composites

Matthew R. Hammond , Herve Dietsch , Olivier Pravaz , Peter
Schurtenberger

C1.00068: Small-molecule-directed nanoparticle assembly
towards stimuli-responsive nanocomposites

Kari Thorkelsson , Yue Zhao , Alexander Mastroianni , Thomas Schilling
, Joseph Luther , Benjamin Rancatore , Kazuyuki Matsunaga , Hiroshi
Jinnai , Yue Wu , Daniel Poulsen , Jean Fr'echet , Paul Alivisatos , Ting
Xu

C1.00069: Phase Behavior and Magnetic Alignment of
Hydrogen Bonded Side Chain Liquid Crystalline Block
Copolymers

Manesh Gopinadhan , Pawel Majewski , Evan Beach , Paul Anastas ,

Chinedum Osuji

C1.00070: Holey polymer films templated by growth and self-assembly of water drops over evaporating polymer solutions

Vivek Sharma , Mohan Srinivasarao

C1.00071: Collapse of an HIV-1 protease (1DIFA-dimer) in an effective solvent medium by a Monte Carlo simulation

Ras Pandey , Barry Farmer

C1.00072: Anti-Brownian ELeCTrokinetic (ABEL) Trapping of Single High Density Lipoprotein (HDL) Particles

Samuel Bockenbauer , Alexandre Furstenberg , Quan Wang , Brian DeVree , Xiao Jie Yao , Michael Bokoch , Brian Kobilka , Roger Sunahara , W. E. Moerner

C1.00073: Non-affine deformation in semi-flexible polymer gels

Anindita Basu , Wen Qi , Xiaoming Mao , Tom Lubensky , Paul Janmey , Arjun Yodh

C1.00074: Low-Frequency Changes in Rigor Crossbridge State -- A Reflection of Correlated Motion?

Caroline Ritz-Gold

C1.00075: Rheological Properties of N-(isopropylacrylamide)-Clay based Nanocomposite gels

Divya Bhatnagar , Jack Lombardi , Miriam Rafailovich

C1.00076: Hybrid Gels from Self-Assembling Peptide Networks

Sameer Sathaye , Nikhil Sharma , Radhika Nagarkar , Joel Schneider , Darrin Pochan

C1.00077: New Insights on the Structure of a Periciliary Layer of Lungs

Liheng Cai , Brian Button , Richard Boucher , Michael Rubinstein

C1.00078: Phosphate mediated self-organizing scaffolds in bio-organic antimicrobial peptide (KSL) -- a coarse-grained MC simulation

Barry Farmer , Glenn Johnson , Donald Eby , Ras Pandey

C1.00079: Binding of peptides (CR3-1, S2) to clay substrate and their intercalation in clay galleries by a coarse-grained Monte Carlo simulation

Lawrence Drummy , Sharon Jones , Barry Farmer , Richard Vaia , Rajesh Naik , Hendrik Heinz , Ras Pandey

C1.00080: Polymer-Peptide Nanoparticles: Synthesis and Characterization

He Dong , Jessica Y. Shu , Ting Xu

C1.00081: Tuning Lattice Spacing in DNA-Mediated Assembly of Nanoparticle Superlattices

Dmytro Nykypanchuk , Oleg Gang , Mathew Maye , Alexei Tkachenko

Session D6: Dynamics of Polymers on Multi-Length Scales: Interfaces

Sponsoring Units: DPOLY

Chair: Sushil Satija, National Institutes of Standards and Technology

Room: *Portland Ballroom 253*

Monday, March 15, 2010 2:30PM - 3:06PM D6.00001: Polymer Loop Formation on a Functionalized Hard Surface: Quantitative Insight by Comparison of Experimental and Monte Carlo Simulation Results
Invited Speaker: Mark Dadmun

Monday, March 15, 2010 3:06PM - 3:42PM D6.00002: Surface Dynamics of "Dry" Homopolymer Brushes
Invited Speaker: Mark Foster

Monday, March 15, 2010 3:42PM - 4:18PM D6.00003: Development of Biomimetic and Functionally Responsive Surfaces
Invited Speaker: Spiros H. Anastasiadis

Monday, March 15, 2010 4:18PM - 4:54PM D6.00004: Molecular Dynamics Simulations of Responsive Semi-Fluorinated Interfaces
Invited Speaker: Flint Pierce

Monday, March 15, 2010 4:54PM - 5:30PM D6.00005: Physical Properties and Responsive Behavior of Semi-fluorinated Polymer Interfaces
Invited Speaker: Kenneth Wynne

Session D10: Focus Session: Single Molecule Biophysics and Chemical Physics III

Sponsoring Units: DCP DBP DPOLY

Chair: Rob Phillips, California Institute of Technology

Room: A106

Monday, March 15, 2010 2:30PM - 3:06PM	D10.00001: Photon-by-photon trajectories of single protein molecules folding and unfolding Invited Speaker: William Eaton
Monday, March 15, 2010 3:06PM - 3:18PM	D10.00002: Single-molecule kinetics under force: probing protein folding and enzymatic activity with optical tweezers Wesley Wong
Monday, March 15, 2010 3:18PM - 3:30PM	D10.00003: Single Molecule Manipulation and Self-Assembly of Amyloid β Precursor Protein on Ag(111) Sajida Khan , K. Clark , A. Deshpande , S.-W. Hla
Monday, March 15, 2010 3:30PM - 3:42PM	D10.00004: Single-Molecule Investigations of Organic, Inorganic, and Organometallic Chemical Mechanisms Suzanne Blum
Monday, March 15, 2010 3:42PM - 4:18PM	D10.00005: Probing Protein Fluctuations, Folding and Misfolding at Single-molecule Resolution Invited Speaker: Ashok Deniz
Monday, March 15, 2010 4:18PM - 4:30PM	D10.00006: Single Molecule Studies of Anthradithiophene Derivatives W.E.B. Shepherd , A.D. Platt , G. Banton , M.A. Loth , J. Anthony , O. Ostroverkhova
Monday, March 15, 2010 4:30PM - 4:42PM	D10.00007: Non-blinking and photostable upconverted luminescence from single lanthanide-doped nanocrystals Shiwei Wu , Gang Han , Delia Milliron , Shaul Aloni , Virginia Altoe , Dmitri Talapin , Bruce Cohen , Jim Schuck
Monday, March 15, 2010 4:42PM - 4:54PM	D10.00008: Visualization of the mechanochemical coupling in myosin V using deac-aminoATP Takeshi Sakaoto , Martin Webb , Eva Forgacs , Howard White , Jim Sellers
Monday, March 15, 2010 4:54PM - 5:06PM	D10.00009: Myosin VI as a transporter and an anchor: A model for kinetics of the motor under load Peiying Chuan , James Spudich , Alexander Dunn
Monday, March 15, 2010 5:06PM - 5:18PM	D10.00010: Torque generation mechanism of ATP synthase John Miller , Sladjana Maric , M. Scoppa , M. Cheung
Monday, March 15, 2010 5:18PM - 5:30PM	D10.00011: Tracking a Molecular Motor with a Nanoscale Optical Encoder Everett A. Lipman , Charles E. Wickersham , Daniel H. Kerr

Session D12: Colloidal Crystals, Suspensions and Films

Sponsoring Units: DFD DCMP

Chair: Sharon Gerbode, Cornell University

Room: B110-B111

- Monday, March 15, 2010 2:30PM - 2:42PM D12.00001: Glassy Dislocation Relaxation in Colloidal Peanut Crystals
Sharon Gerbode , Desmond Ong , Umang Agarwal , Chekesha Liddell , Fernando Escobedo , Itai Cohen
- Monday, March 15, 2010 2:42PM - 2:54PM D12.00002: Elastically Disordered Perfect Colloidal Crystals
Deniz Kaya , N.L. Green , C.E. Maloney , M.F. Islam
- Monday, March 15, 2010 2:54PM - 3:06PM D12.00003: Formation and Phase Transformations of Helical Structures of Colloidal Spheres
Matthew Lohr , Ahmed Alsayed , Bryan Chen , Zexin Zhang , Randall Kamien , Arjun Yodh
- Monday, March 15, 2010 3:06PM - 3:18PM D12.00004: Melting of Colloidal-Crystal Films
Yi Peng , Ziren Wang , Ahmed Alsayed , Arjun Yodh , Yilong Han
- Monday, March 15, 2010 3:18PM - 3:30PM D12.00005: Exploring the role of strain in colloidal thin film crystallization
John Savage , Rajesh Ganapathy , Itai Cohen
- Monday, March 15, 2010 3:30PM - 3:42PM D12.00006: Melting scenario for two-dimensional plasma crystals
V. Nosenko , S.K. Zhdanov , A.V. Ivlev , C.A. Knapek , G.E. Morfill
- Monday, March 15, 2010 3:42PM - 3:54PM D12.00007: Phase separation in binary complex plasmas
Alexei Ivlev , Adam Wysocki , Christoph Raeth , Robert Suetterlin , Hubertus Thomas , Glenn Joyce , Hartmut Loewen , Gregor Morfill
- Monday, March 15, 2010 3:54PM - 4:06PM D12.00008: Fabrication of polymer-bridged monolayer of colloidal crystal at water surface
Chi-Chih Ho , Keng-Hui Lin , Wen-Tau Juan , Wei-Li Lee
- Monday, March 15, 2010 4:06PM - 4:18PM D12.00009: Two-dimensional perturbations in a scalar model for shear-banding
Johan Dubbeldam , Peter Olmsted
- Monday, March 15, 2010 4:18PM - 4:30PM D12.00010: Nanoparticles in Aqueous Media: Crystallization and Solvation Charge Asymmetry
William Kung , Pedro Gonzales , Monica Olvera de la Cruz
- Monday, March 15, 2010 4:30PM - 4:42PM D12.00011: Glassy dynamics of geometrically frustrated colloidal system
Jennifer M. Lynch , Peter Yunker , Zexin Zhang , Yair Shokef , Yilong Han , Tom Lubensky , Arjun Yodh
- Monday, March 15, 2010 4:42PM - 4:54PM D12.00012: Capillary interactions between silica-particles in organic solvents
Garfield Warren , Dobrin Bossev
- Monday, March 15, 2010 4:54PM - 5:06PM D12.00013: Capillary interactions in nano-particles suspensions
Dobrin Bossev , Garfield Warren

Monday, March 15, 2010
5:06PM - 5:18PM

D12.00014: Structure of Viral Aggregates
Stephen Barr , Erik Lijten

Session D16: Focus Session: Organic Electronics and Photonics: Solar Cells and Photophysics

Sponsoring Units: DMP DPOLY

Chair: Jenny Nelson, Imperial College London

Room: B115

- Monday, March 15, 2010 2:30PM - 2:42PM D16.00001: Charge transfer excitons in codeposited organic films
Xiaosheng Wang , Ajward Milhan , Hans Peter Wagner
- Monday, March 15, 2010 2:42PM - 2:54PM D16.00002: Energy and charge transfer in select organic semiconductor composites
Andrew Platt , Mark Kendrick , John Anthony , Oksana Ostroverkhova
- Monday, March 15, 2010 2:54PM - 3:06PM D16.00003: Resolving the charge transfer complex (CTC) state in organic heterojunction solar cell using capacitive photocurrent technique
Hemant Shah , Aditya Mohite , Tanesh Bansal , Bruce Alphenaar
- Monday, March 15, 2010 3:06PM - 3:18PM D16.00004: Molecular Control of Charge Transfer from Organic Semiconductors to ZnO
Josef Spalenka , Peerasak Paoprasert , Ryan Franking , Dominic Bindl , Michael Arnold , Robert Hamers , Padma Gopalan , Paul Evans
- Monday, March 15, 2010 3:18PM - 3:30PM D16.00005: Ultrafast Charge Separation at Organic Photovoltaic Interfaces: Time-Resolved Photoemission Studies of CuPc/C₆₀
G.J. Dutton , W. Jin , J.E. Reutt-Robey , S.W. Robey
- Monday, March 15, 2010 3:30PM - 3:42PM D16.00006: Theory of interfacial charge-transfer complex photophysics in π -conjugated polymer-fullerene blends
K. Aryanpour , D. Psiachos , S. Mazumdar
- Monday, March 15, 2010 3:42PM - 3:54PM D16.00007: Origin and impact of recombination via charge transfer excitons in polymer/fullerene solar cells
Markus Hallermann , Enrico Da Como , Jochen Feldmann
- Monday, March 15, 2010 3:54PM - 4:06PM D16.00008: Experimental Visualization of Singlet and Triplet Photovoltaic Processes in Organic Solar Cells
Huidong Zang
- Monday, March 15, 2010 4:06PM - 4:18PM D16.00009: Ultrafast energy transfer in organic-inorganic hybrid nanostructures
Evgeny Danilov , Hue Nguyen , Amandeep Sra , Anton Malko
- Monday, March 15, 2010 4:18PM - 4:54PM D16.00010: Transient Microwave Studies of Organic Photovoltaics
Invited Speaker: Garry Rumbles
- Monday, March 15, 2010 4:54PM - 5:06PM D16.00011: Direct observation of Frenkel and charge transfer excitons in single crystal organic semiconductor of pentacene
D.-C. Qi , A.T.S. Wee , A. Rusydi , H.B. Su , M. Bastjan , M. Ruebhausen , O.D. Jurchescu , T.T.M. Palstra
- Monday, March 15, 2010 5:06PM - 5:18PM D16.00012: Magnetic field effects in π -conjugated polymer/fullerene blends; evidence for multiple components
Fujian Wang , Heinz Bässler , Z. Vally Vardeny

Monday, March 15, 2010 D16.00013: Trap States in Copper Phthalocyanine Thin Films
5:18PM - 5:30PM using Photogenerated Currents
Thomas Gredig , Jorge Guerra , Matthew Byrne , Evan Silverstein

Session D17: Liquid Crystalline Order in Polymer and Complex Fluids

Sponsoring Units: DPOLY

Chair: Aniket Bhattacharya, University of Central Florida

Room: B116

Monday, March 15, 2010 2:30PM - 2:42PM	D17.00001: Highly Viscous Cholesteric Mixtures: New Domain of Responsive Materials Petr Shibaev , Robert Uhrlas , Sean Woodward , Cristina Schlesier
Monday, March 15, 2010 2:42PM - 2:54PM	D17.00002: Structural origin of circularly polarized iridescence in jeweled beetles Matija Crne , Vivek Sharma , Jung O. Park , Mohan Srinivasarao
Monday, March 15, 2010 2:54PM - 3:06PM	D17.00003: Rotation in magnetic fields yielding near-single crystal quality lamellar mesophases Pawel Majewski , Chinedum Osuji
Monday, March 15, 2010 3:06PM - 3:18PM	D17.00004: Bent Core Liquid Crystal Polymers and Elastomers Rafael Verduzco , Seung Ho Hong , John Harden , Antal Jakli , Sam Sprunt , Jim Gleeson
Monday, March 15, 2010 3:18PM - 3:30PM	D17.00005: Anisotropic conformation of a side group liquid crystalline polymer in an isotropic small molecule LC solvent Paul Pirogovsky , Zuleikha Kurji , Rohan Hule , Julia Kornfield
Monday, March 15, 2010 3:30PM - 3:42PM	D17.00006: Self-Assembly of Side Group Liquid Crystalline Block Copolymers in a Nematic Solvent Rohan Hule , Zuleikha Kurji , Paul Pirogovsky , Julia Kornfield
Monday, March 15, 2010 3:42PM - 3:54PM	D17.00007: Mechanisms of Photo-Induced Deformations of Liquid Crystal Elastomers Nathan Dawson , Mark Kuzyk , Jeremy Neal , Paul Luchette , Peter Palfy-Muhoray
Monday, March 15, 2010 3:54PM - 4:06PM	D17.00008: Generalized Hydrodynamic Boundary Conditions Applied to Dynamic Switching of Nematic Liquid Crystal Cells Angbo Fang
Monday, March 15, 2010 4:06PM - 4:18PM	D17.00009: Spatiotemporal chaos with shear banding in a driven nematogenic fluid Debarshini Chakraborty , Chandan Dasgupta , Sriram Ramaswamy , Ajay Sood
Monday, March 15, 2010 4:18PM - 4:30PM	D17.00010: Transient Molecular Orientation Distribution during Injection Molding of Liquid Crystalline Polymers: Experiment and Simulation Jun Fang , Wesley Burghardt , Robert Bubeck
Monday, March 15, 2010 4:30PM - 4:42PM	D17.00011: Hairy-rod Complexes of Conjugated Polymers for Solar Cells S. Zhang , E. Beach , P. Anastas , L. Pfefferle , C. Osuji
Monday, March 15, 2010 4:42PM - 4:54PM	D17.00012: Liquid Crystalline Properties of Amyloid Protein Fibers in Water Raffaele Mezzenga , Jin-Mi Jung

Monday, March 15, 2010 4:54PM - 5:06PM	D17.00013: Coacervation in Symmetric Mixtures of Oppositely Charged Rodlike Polyelectrolytes Rajeev Kumar , Glenn Fredrickson
Monday, March 15, 2010 5:06PM - 5:18PM	D17.00014: Nematic Ordering in Confined Geometry Applied to DNA Packaging in Viral Capsids Nikolay Oskolkov , Per Linse , Alexei Khokhlov
Monday, March 15, 2010 5:18PM - 5:30PM	D17.00015: Dissolution of carbon nanotubes in superacids: Modeling and Applications M. Green , A. Parra-Vasquez , N. Behabtu , C. Pint , R. Hauge , M. Pasquali , E. Kesselman , J. Schmidt , Y. Cohen , Y. Talmon

Session D18: Focus Session: Crystallization in Confined Geometry II

Sponsoring Units: DPOLY

Chair: Christopher Li, Drexel University

Room: B117

Monday, March 15, 2010 2:30PM - 2:42PM	D18.00001: Crystallization of Hybrid Polymer Systems Stephen Z. D. Cheng , Ryan M. Van Horn , Wenbin Zhang , Xinfei Yu , Chien-Lung Wang , Hao-Jan Sun
Monday, March 15, 2010 2:42PM - 2:54PM	D18.00002: Shear Crystallization Studies in Polymer/Carbon Nanotube Dispersions Marilyn Minus , Satish Kumar
Monday, March 15, 2010 2:54PM - 3:06PM	D18.00003: Retarded Crystallization in Polyamide/Layered Silicates Nanocomposites caused by an Immobilized Interphase Andreas Wurm , Mohamed Ismail , Christoph Schick , Bernd Kretzschmar , Doris Pospiech
Monday, March 15, 2010 3:06PM - 3:18PM	D18.00004: Nascent Crystallization and Nascent Morphology Xiaozhen Yang
Monday, March 15, 2010 3:18PM - 3:30PM	D18.00005: Reconsideration of Over-All Crystallization Behavior based on Avrami Equation. Norimasa Okui , Kenichiro Usuda , Susumu Umemoto
Monday, March 15, 2010 3:30PM - 3:42PM	D18.00006: Molecular dynamics simulations of polymer crystallization via self-seeding Chuanfu Luo , Jens-Uwe Sommer
Monday, March 15, 2010 3:42PM - 3:54PM	D18.00007: Rotator phases and nucleation in polyethylene Scott Milner
Monday, March 15, 2010 3:54PM - 4:06PM	D18.00008: Simulation of Twist Solitons in Semicrystalline Polyethylene Nathaniel Wentzel , Scott Milner
Monday, March 15, 2010 4:06PM - 4:18PM	D18.00009: A critical orientation order of aligned 1D-arrays for templating the growth of oriented lamellae Howard Wang , Kaikun Yang , Huaiping Rong , Muhuo Yu
Monday, March 15, 2010 4:18PM - 4:30PM	D18.00010: Molecular simulation of crystal nucleation of n- alkane melts Peng Yi , Gregory Rutledge
Monday, March 15, 2010 4:30PM - 4:42PM	D18.00011: Monte Carlo study of confinement effects on controlled radical polymerization reactions Salomon Turgman-Cohen , Jan Genzer
Monday, March 15, 2010 4:42PM - 4:54PM	D18.00012: Fractality of perimeter of dense polymer chains in 2D Hendrik Meyer , T. Kreer , A. Johner , J. Baschnagel , J.P. Wittmer
Monday, March 15, 2010 4:54PM - 5:30PM	D18.00013: Forty years of confinement! When will RAF be released? Invited Speaker: Peggy Cebe

Session D19: Focus Session: Thin Films Copolymers II

Sponsoring Units: DPOLY

Chair: Juan de Pablo, University of Wisconsin-Madison

Room: B118-B119

Monday, March 15, 2010 2:30PM - 3:06PM	D19.00001: Packing Frustration and its Effects on Phase Transitions in Block Copolymer Films Invited Speaker: Edward J. Kramer
Monday, March 15, 2010 3:06PM - 3:18PM	D19.00002: Direct Observation of the BCC (100) Plane in Thin Films of Sphere-forming Diblock Copolymers Shengxiang Ji , Umang Nagpal , Wen Liao , Juan de Pablo , Paul Nealey
Monday, March 15, 2010 3:18PM - 3:30PM	D19.00003: Development of X-ray and neutron scattering approaches for the characterization of block copolymer thin films Nathaniel Fredin , Kevin Yager , Xiaohua Zhang , Ronald Jones
Monday, March 15, 2010 3:30PM - 3:42PM	D19.00004: Neutron Reflectivity Studies of Thin Films of Symmetric Block Copolymer and PS-Modified C ₆₀ Katie Campbell , Ryan Kincer , David Bucknall , Yonathan Thio , Haskell Beckham
Monday, March 15, 2010 3:42PM - 3:54PM	D19.00005: Investigation of Stimuli Responsive Block Copolymer Thin Film Morphology Using Gradient Libraries Jennifer Kelly , Christopher Stafford , Thomas Epps , Michael Fasolka
Monday, March 15, 2010 3:54PM - 4:06PM	D19.00006: Photo-induced Ordering of Block Copolymers Systems Vikram Daga , Ying Lin , Curran Chandler , James Watkins
Monday, March 15, 2010 4:06PM - 4:18PM	D19.00007: Photocontrol over the Disorder-to-Order Transition (DOT) in Thin Film of Polystyrene- <i>block</i> -Poly(methyl methacrylate) Block Copolymers Containing Photodimerizable anthracene functionality Wei Chen , Le Li , Xinyu Wei , Anna Balazs , Krzysztof Matyjaszewski , Thomas Russell
Monday, March 15, 2010 4:18PM - 4:30PM	D19.00008: Microphase Separation in Thin Films of Block Copolymer Supramolecular Assemblies: Composition Dependent Morphological Transitions and Molecular Architecture Effect Bhanu Nandan , Manfred Stamm
Monday, March 15, 2010 4:30PM - 4:42PM	D19.00009: Surface Interaction Influence on Transition Behavior of Block Copolymer Films Du Yeol Ryu , Eunhye Kim , Hyungju Ahn , Junhan Cho , Thomas Russell
Monday, March 15, 2010 4:42PM - 4:54PM	D19.00010: Ultrathin-films of diblock copolymers under shear Alexandros Chremos , Athanassios Panagiotopoulos
Monday, March 15, 2010 4:54PM - 5:06PM	D19.00011: Chi effect on Transition Behaviors of BCP Films on PS-brushe Substrate Eunhye Kim , Hyungju Ahn , Du Yeol Ryu , Jehan Kim , Junhan Cho

Monday, March 15, 2010 5:06PM - 5:18PM D19.00012: Complex Transitions of Block Copolymer in Melt and Film Geometry
Byeongdu Lee , Hyungju Ahn , Hoyeon Lee , Du Yeol Ryu

Monday, March 15, 2010 5:18PM - 5:30PM D19.00013: Effect of chain architecture on the surface energy of block copolymer melts
Mark Matsen

Session H2: Recent Advances in Cell and Single Molecule Manipulation

Sponsoring Units: DCMP

Chair: Omar Saleh, University of California, Santa Barbara

Room: *Oregon Ballroom 202*

Tuesday, March 16, 2010

8:00AM - 8:36AM

H2.00001: Mobile magnetic traps for cell manipulation

Invited Speaker: R. Sooryakumar

Tuesday, March 16, 2010

8:36AM - 9:12AM

H2.00002: Unraveling chromatin structure using magnetic tweezers

Invited Speaker: John van Noort

Tuesday, March 16, 2010

9:12AM - 9:48AM

H2.00003: Single molecule experiments using magnetic tweezers

Invited Speaker: Vincent Croquette

Session H4: Polymer Physics Prize

Sponsoring Units: DPOLY

Chair: Russ Composto (UPenn) and Hyuk Yu (University of Wisconsin-Madison)

Room: *Oregon Ballroom 204*

Tuesday, March 16, 2010 8:00AM - 8:36AM	H4.00001: Polymer Physics Prize Talk: Our Love Story with Polymers or ``Is This Really Physics?'' Invited Speaker: Michael Rubinstein
Tuesday, March 16, 2010 8:36AM - 9:12AM	H4.00002: Designing Ion-Containing Polymers for Facile Ion Transport Invited Speaker: Ralph H. Colby
Tuesday, March 16, 2010 9:12AM - 9:48AM	H4.00003: Why Brownian yet Anomalous? The Importance of Pausing Invited Speaker: Sergey Panyukov
Tuesday, March 16, 2010 9:48AM - 10:24AM	H4.00004: A block copolymer approach to the pre-programmed organization of inorganic nanostructures Invited Speaker: Eugenia Kumacheva
Tuesday, March 16, 2010 10:24AM - 11:00AM	H4.00005: Carbon nanotubes soldering for high performance composites Invited Speaker: Ludwik Leibler

Session H13: Liquid Crystals: Nanoparticles and Surfaces

Sponsoring Units: DFD

Chair: Robin Selinger, Kent State University

Room: B112

Tuesday, March 16, 2010 8:00AM - 8:12AM	H13.00001: Maier-Saupe-type theory of ferroelectric nanoparticles in nematic liquid crystals Jonathan Selinger , Lena Lopatina
Tuesday, March 16, 2010 8:12AM - 8:24AM	H13.00002: Study of Phase Transitions in Barium Titanate - Liquid Crystal Nano-colloidal Suspensions Krishna Sigdel , Germano Iannacchione
Tuesday, March 16, 2010 8:24AM - 8:36AM	H13.00003: Optical control of nano-particles and colloidal architectures Hector Mireles , Angel Martinez , Ivan Smalyukh
Tuesday, March 16, 2010 8:36AM - 8:48AM	H13.00004: Interaction of a bi-molecular liquid crystal film with functionalized nanoparticles Jefferson W. Taylor , L.J. Martinez-Miranda
Tuesday, March 16, 2010 8:48AM - 9:00AM	H13.00005: The Role of Liquid Crystal Order in Liquid Crystal-Zno Nanoparticle Photovoltaics Luz J. Martinez-Miranda , Kaitlin M. Traister , Lourdes Salamanca-Riba , Iriselies Melendez-Rodriguez
Tuesday, March 16, 2010 9:00AM - 9:12AM	H13.00006: Electro-optical properties of CdSe quantum dots dispersed in a chiral nematic liquid crystal J. Kirchoff , R.H. Inman , S. Ghosh , L.S. Hirst
Tuesday, March 16, 2010 9:12AM - 9:24AM	H13.00007: The Study Of Charge Carrier Transport On The Calamitic Liquid Crystals `` 5, 5'-Di-(Alkyl-Pyridin-Yl) - 2' Bithiophenes" Naresh Shakya , Chandra Pokhrel , Brett Ellman , Yulia Getmanenko , Robert Twieg
Tuesday, March 16, 2010 9:24AM - 9:36AM	H13.00008: Bent-core alignment monolayers Wilder Iglesias , Antal Jakli , Elizabeth K. Mann
Tuesday, March 16, 2010 9:36AM - 9:48AM	H13.00009: Island Diffusion in Freely Suspended Smectic A Films: Crossover From 2D to 3D Behavior Zoom Nguyen , Markus Atkinson , Cheol Park , Joseph MacLennan , Matthew Glaser , Noel Clark
Tuesday, March 16, 2010 9:48AM - 10:00AM	H13.00010: Title: Liquid crystal cells with ``dirty" substrates Quan Zhang , Leo Radzihovsky
Tuesday, March 16, 2010 10:00AM - 10:12AM	H13.00011: Thickness dependent phase behavior of AFLC liquid crystal films Cheng-Cher Huang , LiDong Pan , Shun Wang , Chain-Shu Hsu
Tuesday, March 16, 2010 10:12AM - 10:24AM	H13.00012: Colloidal crystal-liquid Interface: Anisotropy, Free energy, and Structure Duc Nguyen , Triet Dang , Bart Weber , Peter Schall
Tuesday, March 16, 2010	H13.00013: Cooperative Ordering at Liquid Crystal Interfaces

10:24AM - 10:36AM	and its Role in Orientational Memory David Patrick
Tuesday, March 16, 2010 10:36AM - 10:48AM	H13.00014: Effect of Alignment on the Nematic to Isotropic Phase Transitions of 8CB Dipti Sharma
Tuesday, March 16, 2010 10:48AM - 11:00AM	H13.00015: Study on the surface enhanced ordering effect of liquid crystal films LiDong Pan , Shun Wang , Chain-Shu Hsu , Cheng-Cher Huang

Session H17: Focus Session: Relaxation Dynamics of Polymeric Glasses II

Sponsoring Units: DPOLY

Chair: Greg McKenna, Texas Tech University

Room: B116

Tuesday, March 16, 2010 8:00AM - 8:36AM	H17.00001: Polymer Physics Prize Break Invited Speaker:
Tuesday, March 16, 2010 8:36AM - 9:12AM	H17.00002: Nanoscale fluctuations and responses in equilibrium and nonequilibrium glassy polymers Invited Speaker: Nathan Israeloff
Tuesday, March 16, 2010 9:12AM - 9:24AM	H17.00003: Molecular cooperativity in the dynamics of glass-forming systems Liang Hong , Purushottam Gujrati , Vladimier Novikov , Alexei Sokolov
Tuesday, March 16, 2010 9:24AM - 9:36AM	H17.00004: Ellipsometric Studies of the Structure and Transformation Kinetics of Ultra Stable Glasses into the Supercooled Liquid Zahra Fakhraei , Gregory K. Pribil , Mark D. Ediger
Tuesday, March 16, 2010 9:36AM - 9:48AM	H17.00005: Molecular motion confinement after physical aging Xiaoliang Wang , Qiang Gu , Pingchuan Sun , Chao Teng , Dongshan Zhou , Gi Xue
Tuesday, March 16, 2010 9:48AM - 10:00AM	H17.00006: On the Triviality of Aging Stefan Boettcher , Paolo Sibani

Session H18: Polymer Composites

Sponsoring Units: DPOLY

Chair: Bryan Vogt, Arizona State University

Room: B117

Tuesday, March 16, 2010 8:00AM - 8:36AM	H18.00001: Polymer Physics Prize Break Invited Speaker:
Tuesday, March 16, 2010 8:36AM - 8:48AM	H18.00002: Resistive Switching Behavior in Silver Nanowire-Polystyrene Composites Sadie White , Patrick Vora , James Kikkawa , John Fischer , Karen Winey
Tuesday, March 16, 2010 8:48AM - 9:00AM	H18.00003: Dependence of Electrical Percolation Behavior on Filler Aspect Ratio in Isotropic Silver Nanowire-Polystyrene Composites Rose M. Mutiso , Sadie I. White , David Jahnke , Sam Hsu , Patrick M. Vora , James M. Kikkawa , Ju Li , Karen I. Winey
Tuesday, March 16, 2010 9:00AM - 9:12AM	H18.00004: Ionic and Electronic Conductivity of Poly(Ionic Liquid) - Gold-Nanoparticle Composites Millicent Firestone , Sungwon Lee , Soenke Seifert
Tuesday, March 16, 2010 9:12AM - 9:24AM	H18.00005: Thermal Features and Glass Transition in Polystyrene-Nanodiamond Composites Alin Cristian Chipara , Thomas Mion , Rafael Villegas , Karen Lozano , Dorina Magdalena Chipara , Steven Tidrow , Mircea Chipara
Tuesday, March 16, 2010 9:24AM - 9:36AM	H18.00006: Glass Transition in Polystyrene -- TiO ₂ Nanocomposites Andreea Arguelles , Thomas Mion , Alin Cristian Chipara , John Hamilton , Lozano Karen , Dorina Magdalena Chipara , Steven Tidrow , Mircea Chipara , David Hui
Tuesday, March 16, 2010 9:36AM - 9:48AM	H18.00007: Enhancement of nanoparticle dispersion in crosslinked network composites through surface modification Adam Richardson , Gregory Strange , Philip Costanzo , Daniel Savin
Tuesday, March 16, 2010 9:48AM - 10:00AM	H18.00008: Negative Permittivity and Permeability Metamaterials of Polymer-based Nanocomposite H. Han , B. Li , Q. Yao , W.H. Zhong , Y. Qiang
Tuesday, March 16, 2010 10:00AM - 10:12AM	H18.00009: Bimodal-Sized Magnetic Nanoparticles in Polymers Adam Holferty , Pinar Akcora
Tuesday, March 16, 2010 10:12AM - 10:24AM	H18.00010: Isotactic polypropylene carbon nanotube composites -- crystallization and ordering behavior Georgi Georgiev , Robert Judith , Erin Gombos , Michael McIntyre , Scott Schoen , Peggy Cebe , Michael Mattera
Tuesday, March 16, 2010 10:24AM - 10:36AM	H18.00011: Radiation Effects on Polypropylene Carbon Nanofibers Composites: Spectroscopic Investigations John Hamilton , Thomas Mion , Alin Cristian Chipara , Elamin I. Ibrahim , Karen Lozano , Steven Tidrow , Dorina Magdalena Chipara , Mircea Chipara

Tuesday, March 16, 2010 10:36AM - 10:48AM H18.00012: Radiation-Induced Changes of Thermal Properties of Polypropylene Carbon Nanofibers Composites
Rafael Villegas , Alin Cristian Chipara , Thomas Mion , John Hamilton , Ananta Adhikari , Elamin I. Ibrahim , Karen Lozano , Dorina Magdalena Chipara , Steven Tidrow , Mircea Chipara

Tuesday, March 16, 2010 10:48AM - 11:00AM H18.00013: Computational Modeling of Polystyrene-b-(ethylene-co-butylene)-b-styrene and Mineral Oil Gels and Nanocomposites
T.L. Chantawansri , M. Berg , R. Mrozek , K. Stokes , B. Henz , P. Chung , F. Beyer , J. Lenhart , J.W. Andzelm

Session H19: Focus Session: Long Range Order in Polymeric Structure and Morphology I

Sponsoring Units: DPOLY

Chair: Kevin Cavicchi, The University of Akron

Room: B118-B119

Tuesday, March 16, 2010 8:00AM - 8:36AM	H19.00001: Polymer Physics Prize Break Invited Speaker:
Tuesday, March 16, 2010 8:36AM - 8:48AM	H19.00002: Phononic band gap and mechanical anisotropy in spider silk Periklis Papadopoulos , Nikos Gomopoulos , Friedrich Kremer , George Fytas
Tuesday, March 16, 2010 8:48AM - 9:00AM	H19.00003: Enhancing commensurability using cylinder-forming block copolymer-homopolymer ternary blends on spotted chemical patterns Huiman Kang , Paul F. Nealey
Tuesday, March 16, 2010 9:00AM - 9:12AM	H19.00004: Supramolecular Structure of inclusion complexes of β -cyclodextrin with PEO-b-PPO-b-PEO Triblock Copolymer Chi-Chun Tsai , Bernard Lotz , Mingming Guo , S.Z.D. Cheng
Tuesday, March 16, 2010 9:12AM - 9:48AM	H19.00005: Periodic Polymers for Control of PhoXons, where $X = t + n$ Invited Speaker: Edwin L. Thomas
Tuesday, March 16, 2010 9:48AM - 10:00AM	H19.00006: Green Manipulation of Microdomain Structures in Block Copolymer Thin Films using Density Fluctuating Supercritical Carbon Dioxide Peter Gin , Mitsunori Asada , Maya Endoh , Tadanori Koga
Tuesday, March 16, 2010 10:00AM - 10:12AM	H19.00007: Solvent Annealing Strategies for the Self-Assembly of Low Molecular Weight Block Copolymers Kevin Gotrik , Yeon Sik Jung , Jeong Gon Son , Caroline Ross
Tuesday, March 16, 2010 10:12AM - 10:24AM	H19.00008: The Gelation Transition in Confinement: A Field-Theoretic Model and Mean-Field Solution Aruna Mohan , Richard Elliot , Glenn Fredrickson
Tuesday, March 16, 2010 10:24AM - 10:36AM	H19.00009: Phase equilibria in polymer-blend thin films Nigel Clarke , Mireille Souche
Tuesday, March 16, 2010 10:36AM - 10:48AM	H19.00010: Facile Alignment of Amorphous Poly(ethylene oxide) Microdomains in a Liquid Crystalline Block Copolymer Using Magnetic Fields Chinedum Osuji , Manesh Gopinadhan , Pawel Majewski
Tuesday, March 16, 2010 10:48AM - 11:00AM	H19.00011: Ordering of Triblock Copolymer Surfactants by Blending with a Room Temperature Ionic Liquid Daniel Miranda , James Watkins , Thomas Russell

Session H32: Focus Session: Tribophysics -- Fracture and Plasticity

Sponsoring Units: GSNP DMP

Chair: Bernd Gotsmann, IBM Zurich

Room: E142

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| Tuesday, March 16, 2010
8:00AM - 8:12AM | <u>H32.00001: Fractal geometry of fracture patterns in rocks simulated with a stochastic Laplacian growth model</u>
Alejandra Aguilar-Hernandez , Guillermo Ramirez-Santiago |
| Tuesday, March 16, 2010
8:12AM - 8:24AM | <u>H32.00002: Event Scaling in Granular Stick-Slip Failures</u>
Karen Daniels , Kate Foco , Karin Dahmen |
| Tuesday, March 16, 2010
8:24AM - 8:36AM | <u>H32.00003: Scaling of Stick-Slip Instabilities in Granular Materials</u>
Eric Daub , Paul Johnson |
| Tuesday, March 16, 2010
8:36AM - 8:48AM | <u>H32.00004: The precursory fault width formation of large earthquakes</u>
Fumihide Takeda , Makoto Takeo |
| Tuesday, March 16, 2010
8:48AM - 9:00AM | <u>H32.00005: Pinch-off and Fracture of Bubble Rafts</u>
Chin-Chang Kuo , Michael Arciniaga , Michael Dennin |
| Tuesday, March 16, 2010
9:00AM - 9:12AM | <u>H32.00006: Propagation of a crack front in presence of a controlled disorder</u>
Julien Chopin , Alexis Pr'evost , Arezki Boudaoud , Mokhtar Adda-Bedia |
| Tuesday, March 16, 2010
9:12AM - 9:48AM | <u>H32.00007: Failure of disordered materials as a depinning transition</u>
Invited Speaker: Laurent Ponson |
| Tuesday, March 16, 2010
9:48AM - 10:00AM | <u>H32.00008: Extending the Scaling Laws of Plasticity</u>
Georgios Tsekenis , Karin Dahmen |
| Tuesday, March 16, 2010
10:00AM - 10:12AM | <u>H32.00009: Meso-scale harmonic analysis of homogeneous dislocation nucleation.</u>
Asad Hasan , Craig Maloney |
| Tuesday, March 16, 2010
10:12AM - 10:24AM | <u>H32.00010: Bauschinger effect in oriented polymer glasses</u>
Ting Ge , Mark O. Robbins |
| Tuesday, March 16, 2010
10:24AM - 10:36AM | <u>H32.00011: Strain Localization in Metallic Glasses: Role of Mechanical Heterogeneity</u>
Pavan Valavala , Michael Falk |
| Tuesday, March 16, 2010
10:36AM - 10:48AM | <u>H32.00012: Effects of Molecular Architecture on Shear Band Formation and Mode II Fracture of Polymeric Glasses</u>
Jared Archer , Alan Lesser |
| Tuesday, March 16, 2010
10:48AM - 11:00AM | <u>H32.00013: Stress enhanced shear yielding in aging polymer glasses</u>
Joerg Rottler , Amy Y.-H. Liu |

Session J4: Dynamics of Polymers on Multi-Length Scales: Melts

Sponsoring Units: DPOLY

Chair: Anna Balazs, University of Pittsburgh

Room: *Oregon Ballroom 204*

Tuesday, March 16, 2010 11:15AM - 11:51AM	J4.00001: Making coarse grained polymer simulations quantitatively predictive for statics and dynamics Invited Speaker: Kurt Kremer
Tuesday, March 16, 2010 11:51AM - 12:27PM	J4.00002: Interdiffusion and Self-Healing of Entangled Polymer Melts Invited Speaker: Gary S. Grest
Tuesday, March 16, 2010 12:27PM - 1:03PM	J4.00003: On the dynamics of polymers in nanocomposites and under confinement Invited Speaker: Dieter Richter
Tuesday, March 16, 2010 1:03PM - 1:39PM	J4.00004: From Structure to Dynamics of Polymer Melts Invited Speaker: Ralf Everaers
Tuesday, March 16, 2010 1:39PM - 2:15PM	J4.00005: Rheology of Entangled Polymer Melts: Recent Results from Molecular Dynamics Simulations Invited Speaker: Ronald G. Larson

Session J10: Protein-Protein Interaction and Protein Aggregation

Sponsoring Units: DBP

Chair: Ka Yee Lee, University of Chicago

Room: A106

Tuesday, March 16, 2010 11:15AM - 11:27AM	J10.00001: Protein-Protein Interactions from Linear-Scaling First Principles Quantum Mechanical Calculations Daniel Cole , Chris-Kriton Skylaris , Eeson Rajendra , Ashok Venkitaraman , Mike Payne
Tuesday, March 16, 2010 11:27AM - 11:39AM	J10.00002: Direct Force Measurements on Neurofilaments: Gel Expanded to Gel Condensed Transition R. Beck , J. Deek , J.B. Jones , C.R. Safinya
Tuesday, March 16, 2010 11:39AM - 11:51AM	J10.00003: Kinetics of Lipofuscin Formation in Aging Retinal Pigment Epithelium Cells Fereydoon Family , K.I. Mazzitello , C.M. Arizmendi , Hans E. Grossniklaus
Tuesday, March 16, 2010 11:51AM - 12:03PM	J10.00004: Thymic Selection of T-Cell Receptors as an Extreme Value Problem Andrej Kosmrlj , Arup K. Chakraborty , Mehran Kardar , Eugene I. Shakhnovich
Tuesday, March 16, 2010 12:03PM - 12:15PM	J10.00005: The effect of human microtubule-associated- protein tau on the assembly structure of microtubules and its ionic strength dependence M.C. Choi , U. Raviv , H.P. Miller , M.R. Gaylord , E. Kiris , D. Ventimiglia , D.J. Needleman , P.J. Chung , J. Deek , N. LaPointe , M.W. Kim , L. Wilson , S.C. Feinstein , C.R. Safinya
Tuesday, March 16, 2010 12:15PM - 12:27PM	J10.00006: Brownian dynamics simulation of sickle hemoglobin bundle formation Ya Liu , James Gunton , Amit Chakrabarti
Tuesday, March 16, 2010 12:27PM - 12:39PM	J10.00007: Dynamics in Alzheimer's disease: the role of peptide flexibility on amyloid beta aggregation Maria Antonieta Sanchez Farran , Janna Maranas
Tuesday, March 16, 2010 12:39PM - 12:51PM	J10.00008: Structure and stability of proteins upon adsorption to hydrophobic surfaces Sumit Sharma , Gaurav Anand , Georges Belfort , Sanat Kumar
Tuesday, March 16, 2010 12:51PM - 1:03PM	J10.00009: Dynamic Similarities in Pathological Forms of α -Synuclein Ryan Bradley , Janna Maranas
Tuesday, March 16, 2010 1:03PM - 1:15PM	J10.00010: On the electrostatic properties of the phase- separating protein, Gamma-B crystallin K. Michael Martini , Dawn Hollenbeck , Andreas Langner , David Ross , Anthony Harkin , Edward Nelson , George Thurston
Tuesday, March 16, 2010 1:15PM - 1:27PM	J10.00011: Model for evaluating patterned charge regulation contribution to electrostatic interactions between proteins Dawn Hollenbeck , K. Michael Martini , Andreas Langner , David Ross , Anthony Harkin , Edward Nelson , George Thurston

- Tuesday, March 16, 2010 1:27PM - 1:39PM J10.00012: In situ measurements of protein structural changes during adsorption
James Forrest , Kanwarjeet Kaur , Katarina Ilic , Brad Hall , Lyndon Jones
- Tuesday, March 16, 2010 1:39PM - 1:51PM J10.00013: Neutron scattering and phase separation of Gamma-B crystallin vs. pH, ionic strength and protein concentration
George Thurston , K. Michael Martini , Kenneth Desmond , Elias Putzig , Zachary Dell , Dawn Carter , Dawn Hollenbeck , Nicholas Dexter , Andreas Langner , David Ross , Anthony Harkin , Edward Nelson , Malin Zackrisson-Oskolkova , Anna Stradner , Nicolas Dorsaz , Giuseppe Foffi , Peter Schurtenberger
- Tuesday, March 16, 2010 1:51PM - 2:03PM J10.00014: Exploring the Effect of Preferential Hydration on the Dynamics of Lysozyme in Glycerol-Water Solutions
Krista G. Freeman , Alexander Agapov , Kiril A. Streltzyk , Alexei P. Sokolov
- Tuesday, March 16, 2010 2:03PM - 2:15PM J10.00015: Influence of gold nanoparticle size on the orientation and activity of adsorbed proteins
Kanwarjeet Kaur , James Forrest

Session J16: Focus Session: Polymers and Energy: Photovoltaics I

Sponsoring Units: DPOLY GERA DMP

Chair: Karim Alamgir, The University of Akron

Room: B115

- Tuesday, March 16, 2010 11:15AM - 11:51AM J16.00001: Directing the Assembly of Semiconductors for PV Applications
Invited Speaker: Dhandapani Venkataraman
- Tuesday, March 16, 2010 11:51AM - 12:03PM J16.00002: Synthesis and Microstructure of a Fullerene-Terminated Poly(3-hexylthiophene)
Bryan W. Boudouris , Francesc Molins , David A. Blank , Marc A. Hillmyer , C. Daniel Frisbie
- Tuesday, March 16, 2010 12:03PM - 12:15PM J16.00003: Synthesis and Characterization of C60-Porphyrin Derivatives for Enhanced Photovoltaic Performance through Efficient Charge Generation and Transport.
Chien-Lung Wang , Ryan M. Van Horn , Wenbin Zhang , David A. Modarelli , Stephen Z. D. Cheng
- Tuesday, March 16, 2010 12:15PM - 12:27PM J16.00004: Electronic structure study of Diketo-Pyrrolo-Pyrrole Polymers for Photovoltaic Applications
Simon Levesque , Paolo E. Trevisanutto , Jean Frederic Laprade , Michel Cote
- Tuesday, March 16, 2010 12:27PM - 12:39PM J16.00005: Design of low band gap polymers for photovoltaic applications: a theoretical study
Nicolas Berube , Michel Cote
- Tuesday, March 16, 2010 12:39PM - 12:51PM J16.00006: Photovoltaic Response of an Adaptive Mixing $p-n$ Junction
Fuding Lin , Ethan Walker , Mark Lonergan
- Tuesday, March 16, 2010 12:51PM - 1:03PM J16.00007: Nanoparticle distribution in polymer solar cells
B.J. Kirby , J.W. Kiel , B.B. Maranville , C.F. Majkrzak , M.E. Mackay
- Tuesday, March 16, 2010 1:03PM - 1:15PM J16.00008: The effect of chain architecture and additive processing on the performance of BHJ solar cells
James T. Rogers , Kristin Schmidt , Jeff Peet , Robert Coffin , Guillermo C. Bazan , Edward J. Kramer
- Tuesday, March 16, 2010 1:15PM - 1:27PM J16.00009: High efficiency morphologies for bulk heterojunction solar cells
Kitran Colwell , Lucas Wagner , Jeffrey Grossman
- Tuesday, March 16, 2010 1:27PM - 1:39PM J16.00010: Hierarchical Mixing of PCBM:P3HT Bulk Heterojunctions as Determined by Neutron Scattering: Implications for Organic Photovoltaics
Mark Dadmun , Nathan Henry , Wen Yin , Kai Xiao
- Tuesday, March 16, 2010 1:39PM - 1:51PM J16.00011: Oligothiophene/fullerene interfaces: Molecular Simulations of Organic Photovoltaic Materials
Sridhar Yerusu , Vikram Kuppala
- Tuesday, March 16, 2010 1:51PM - 2:03PM J16.00012: XPS investigations of P3HT/Al interface for the organic bulk-heterojunction solar cells
Bakhtyar Ali , Brian Reindl , Conan Weiland , Robert Opila , Syed Shah

Tuesday, March 16, 2010 J16.00013: Ultrafast Spectroscopy of Charge Generation in
2:03PM - 2:15PM Polythiophene/Fullerene Blends for Organic Photovoltaic
Applications
Sanjeev Singh , Josh Holt , Bill Pandit , Zeev Vardeny

Session J17: Frank J. Padden Jr. Award Symposium

Sponsoring Units: DPOLY

Chair: Ron Larson, University of Michigan

Room: B116

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| Tuesday, March 16, 2010
11:15AM - 11:27AM | J17.00001: Is chain end retardation responsible for anomalous dependence of crystal growth rate on molecular weight?
Jessica L. Carvalho , Sara L. Cormier , Nan Lin , Kari Dalnoki-Veress |
| Tuesday, March 16, 2010
11:27AM - 11:39AM | J17.00002: Reptation dynamics of single-walled carbon nanotubes in a permanent network
Nikta Fakhri , Fred MacKintosh , Laurent Cognet , Brahim Lounis , Matteo Pasquali |
| Tuesday, March 16, 2010
11:39AM - 11:51AM | J17.00003: Effects of Gradient Sequencing in Copolymers for Unusual, Tunable Properties and Phase Behavior
Michelle Mok , John Torkelson |
| Tuesday, March 16, 2010
11:51AM - 12:03PM | J17.00004: Development of universal coatings based on functional silicones
Ali Ozcam , Richard Spontak , Jan Genzer |
| Tuesday, March 16, 2010
12:03PM - 12:15PM | J17.00005: Probing the orientation dynamics of multi-walled carbon nanotube composites via x-ray scattering methods
Saswati Pujari , Wesley Burghardt |
| Tuesday, March 16, 2010
12:15PM - 12:27PM | J17.00006: Visible and NIR Polyelectrochromism in Polymer Acid Doped Polyaniline
Jacob Tarver , Yueh-Lin Loo |
| Tuesday, March 16, 2010
12:27PM - 12:39PM | J17.00007: The confining potential when a biopolymer filament reptates
Bo Wang , Steve Granick |
| Tuesday, March 16, 2010
12:39PM - 12:51PM | J17.00008: Multi-Scale Morphologies of Poly(ethylene glycol) - Based Sulfonated Ionomers
Wenqin Wang , Gregory Tudryn , Shichen Dou , Ralph Colby , Karen Winey |

Session J18: Physics of Copolymers

Sponsoring Units: DPOLY

Chair: Svetlana Sukhishvili, Stevens Institute of Technology

Room: B117

Tuesday, March 16, 2010 11:15AM - 11:27AM	J18.00001: On the Phase behavior of polystyrene- b -poly(methyl methacrylate) diblock copolymer Junhan Cho , Hyungju Ahn , Du Yeol Ryu , Youngmin Kim
Tuesday, March 16, 2010 11:27AM - 11:39AM	J18.00002: Disorder-to-order transition of diblock copolymers induced by alkyne/azide click chemistry Xinyu Wei , Wei Chen , Xiangji Chen , Todd Emrick , Thomas Russell
Tuesday, March 16, 2010 11:39AM - 11:51AM	J18.00003: Thermodynamic Characteristics of Poly(cyclohexylethylene- b -ethylene- co -ethylethylene) Block Copolymers Ameera Mansour , Leah Johnson , Timothy Lodge , Frank Bates
Tuesday, March 16, 2010 11:51AM - 12:03PM	J18.00004: Decay of a Metastable Cylinder Phase via Nucleation of the Stable Lamellar Phase in a Diblock Copolymer Melt Russell Spencer , Robert Wickham
Tuesday, March 16, 2010 12:03PM - 12:15PM	J18.00005: Kinetics of Transition between HEX and Gyroid Phases in a Diblock Copolymer Solution in a Selective Solvent Julian Spring , Yongsheng Liu , Rama Bansil , Milos Steinhart
Tuesday, March 16, 2010 12:15PM - 12:27PM	J18.00006: Shear induced order in SEP diblock copolymer micelles: multiple BCC slip systems Maria A. Torija , SooHyung Choi , Frank S. Bates , Timothy P. Lodge
Tuesday, March 16, 2010 12:27PM - 12:39PM	J18.00007: Secondary Structure-Induced Micro- and Macro-Phase Separation in Polypeptide Diblock, Triblock and Star-Block Copolymers Antoni Sanchez-Ferrer , Raffaele Mezzenga
Tuesday, March 16, 2010 12:39PM - 12:51PM	J18.00008: Self-assembly of crystalline bioinspired block copolymers Adrienne M. Rosales , Hannah K. Murnen , Ronald N. Zuckermann , Rachel A. Segalman
Tuesday, March 16, 2010 12:51PM - 1:03PM	J18.00009: Thermoreversible Transition between Nanophase- and Macrophase-Separation from Block Supramacromolecules via Hydrogen Bonding in an Ionic Liquid Atsushi Noro , Hajime Yamagishi , Yushu Matsushita
Tuesday, March 16, 2010 1:03PM - 1:15PM	J18.00010: Ionic Conductivity of Nanostructured Block Copolymer and Ionic Liquid Membranes Megan L. Hoarfrost , Justin M. Virgili , Rachel A. Segalman
Tuesday, March 16, 2010 1:15PM - 1:27PM	J18.00011: How Universal Are Correlations in Disordered Diblock Copolymers: A Comparison of Three Simulation Models Jian Qin , David Morse , Marcus Mueller

Tuesday, March 16, 2010 1:27PM - 1:39PM J18.00012: Network Structures in Poly(isoprene-b-styrene-b-methyl methacrylate) [ISM] Triblock Copolymer-Homopolymer Blends
Maeva S. Tureau , Thomas H. Epps, III

Tuesday, March 16, 2010 1:39PM - 1:51PM J18.00013: structure of SI diblock copolymer melts in PS-rich region
Mikihito Takenaka , Myung Im Kim , Kuniaki Matsuda , Hirokazu Hasegawa

Tuesday, March 16, 2010 1:51PM - 2:03PM J18.00014: Mechanism of Molecular Exchange in Copolymer Micelles
Soo-Hyung Choi , Timothy Lodge , Frank Bates

Tuesday, March 16, 2010 2:03PM - 2:15PM J18.00015: Multicompartment micelles with block copolymer blending through kinetic control of solution assembly
Darrin Pochan , Jiahua Zhu , Ke Zhang , Karen Wooley

Session J19: Focus Session: Hierarchically and Templated Ordered Systems I

Sponsoring Units: DPOLY

Chair: Azar Alizadeh, GE Global Research Center

Room: B118-B119

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| Tuesday, March 16, 2010
11:15AM - 11:27AM | J19.00001: Holographic Data Storage with Semi-crystalline Block Copolymers
Azar Alizadeh , Gene Boden , Daniel Brunelle , Brian Lawrence , Xiaolei Shi , Charles Kerbage , Victor Ostroverkhov , Vicki Watkins |
| Tuesday, March 16, 2010
11:27AM - 11:39AM | J19.00002: Alignment of Hydrogen Bonded Liquid Crystalline Block Copolymers by Magnetic Fields
Manesh Gopinadhan , Pawel Majewski , Evan Beach , Paul Anastas , Chinedum Osuji |
| Tuesday, March 16, 2010
11:39AM - 11:51AM | J19.00003: Using non-thermodynamic mechanisms to create tailored morphologies in polymer nanocomposites
Rick Beyer , Kristoffer Stokes , Mike Berg , Randy Mrozek , Joseph Lenhart , Tanya Chantawansri , Jan Andzelm |
| Tuesday, March 16, 2010
11:51AM - 12:27PM | J19.00004: Hierarchically Ordered Polymer/Block Copolymer/Nanoparticle Systems Enabled via Holographic Photopolymerization
Invited Speaker: Timothy Bunning |
| Tuesday, March 16, 2010
12:27PM - 12:39PM | J19.00005: Super Helix Formation From a Partially Charged Diblock Copolymer
Hannah K. Murnen , Adrienne M. Rosales , Ron N. Zuckermann , Rachel A. Segalman |
| Tuesday, March 16, 2010
12:39PM - 12:51PM | J19.00006: Spontaneous Evolution of Nanostructure in Composite Films Consisting of Mixtures of Two Different Block Copolymer Micelles
Sehee Kim , Kookheon Char , Byeong-Hyeok Sohn |
| Tuesday, March 16, 2010
12:51PM - 1:03PM | J19.00007: Tunable Nanoparticulate Scaffolds from Self assembly in Surfactant Mesophase
K.P. Sharma , K. Guruswamy , O. Mondain-Monval , V.K. Aswal |
| Tuesday, March 16, 2010
1:03PM - 1:15PM | J19.00008: Mechanical properties of holographically-defined porous polymers and carbonized polymers
Jae-Hwang Lee , Lifeng Wang , Steven Kooi , Mary Boyce , Edwin Thomas |
| Tuesday, March 16, 2010
1:15PM - 1:27PM | J19.00009: Controlling Hierarchically Self-Assembly in Supramolecular Tailed-Dendron Systems
Nathalie Merlet-Lacroix , Jingui Rao , Afang Zhang , Dieter Schlüter , Janne Ruokolainen , Raffaele Mezzenga |
| Tuesday, March 16, 2010
1:27PM - 1:39PM | J19.00010: Evolution of Ordered Block Copolymer Serpentine into a Macroscopic, Hierarchically Ordered Web
Zhiqun Lin , Suck Won Hong , Jun Wang |

Session L10: Focus Session: Single Molecule Biophysics and Chemical Physics IV

Sponsoring Units: DCP DBP DPOLY
Chair: Ashok Deniz, Scripps Research Institute
Room: A106

Tuesday, March 16, 2010 2:30PM - 3:06PM	L10.00001: Single Molecule Dynamics of the ribosome during translation Invited Speaker: Jody Puglisi
Tuesday, March 16, 2010 3:06PM - 3:18PM	L10.00002: A Kinetic and Thermodynamic Perspective of RNA Folding Transition States Julie Fiore , David Nesbitt
Tuesday, March 16, 2010 3:18PM - 3:30PM	L10.00003: Kinetic Studies of Lysine Riboswitch Folding Using Single-Molecule FRET Larry Fiegland , Andrew Garst , J. Fiore , Robert Batey , David Nesbitt
Tuesday, March 16, 2010 3:30PM - 3:42PM	L10.00004: Kinetics of single DNA hairpin dissociation William Rogers , John Crocker
Tuesday, March 16, 2010 3:42PM - 4:18PM	L10.00005: Single-molecule FRET studies of RNA folding and catalysis Invited Speaker: David Lilley
Tuesday, March 16, 2010 4:18PM - 4:30PM	L10.00006: Laser-Assisted Single Molecule Refolding Rui Zhao , Myles Marshall , Elvin Aleman , Rajan Lamichhane , David Rueda
Tuesday, March 16, 2010 4:30PM - 4:42PM	L10.00007: Localized Heating of Single Nucleic Acids using Infrared Light David Nesbitt , Erik Holmstrom
Tuesday, March 16, 2010 4:42PM - 4:54PM	L10.00008: Confining individual DNA molecules in an axisymmetric entropy gradient Robert D. Peters , Kari Dalnoki-Veress
Tuesday, March 16, 2010 4:54PM - 5:06PM	L10.00009: The Effect of the Refractive Index of the Medium in Fluorescence Correlation Spectroscopy Seoncheol Cha , Sung Hyun Kim , Doseok Kim
Tuesday, March 16, 2010 5:06PM - 5:18PM	L10.00010: Theory for Frequency-Resolved Photon Emission Statistics in Single-Molecule Fluorescence Spectroscopy Golan Bel , Frank Brown

Session L12: Granular Materials I

Sponsoring Units: DFD

Chair: Katharina Vollmayer-Lee, Bucknell University

Room: B110-B111

Tuesday, March 16, 2010 2:30PM - 2:42PM	L12.00001: Experimental determination of frictional families in small 2D granular Mark D. Shattuck , Jerzy Blawdziewicz , Corey O'Hern
Tuesday, March 16, 2010 2:42PM - 2:54PM	L12.00002: Bi-modal behavior and compression-induced crystallization of weakly bi-disperse granular packings Kamran Karimi , Criag Maloney
Tuesday, March 16, 2010 2:54PM - 3:06PM	L12.00003: Spatiotemporally Resolved Acoustics in a Photoelastic Granular Material Eli Owens , Karen Daniels
Tuesday, March 16, 2010 3:06PM - 3:18PM	L12.00004: New Kinematic Model in comparing with Langevin equation and Fokker Planck Equation Kyoung Lee , Zhijian Wang , Robin Gardner
Tuesday, March 16, 2010 3:18PM - 3:30PM	L12.00005: Structure of granular clusters formed by capillary aggregation analyzed with Voronoi diagrams Michael Berhanu , Arshad Kudrolli
Tuesday, March 16, 2010 3:30PM - 3:42PM	L12.00006: Random Packing Density of Platonic Solids Jessica Baker , Arshad Kudrolli
Tuesday, March 16, 2010 3:42PM - 3:54PM	L12.00007: Generalized Hertz Law for Grains with Non-elliptic Contacts Diankang Sun , Chiara Daraio , Surajit Sen
Tuesday, March 16, 2010 3:54PM - 4:06PM	L12.00008: Frictional effects on pressure in a column of granular material Randy Back
Tuesday, March 16, 2010 4:06PM - 4:18PM	L12.00009: Nonlinear Breathing in Compressed Granular Chains Robert Simion , Adam Sokolow , Surajit Sen
Tuesday, March 16, 2010 4:18PM - 4:30PM	L12.00010: Spiral patterns in wet granular matter under vertical vibrations Kai Huang , Frank Gollwitzer , Ingo Rehberg
Tuesday, March 16, 2010 4:30PM - 4:42PM	L12.00011: Kinetic Energy Fluctuations in Loaded, Confined Non-Dissipative Granular Chains Yoichi Takato , Surajit Sen
Tuesday, March 16, 2010 4:42PM - 4:54PM	L12.00012: Monte Carlo Library Least Square (MCLLS) Method for Multiple Radioactive Particle Tracking in BPR Zhijian Wang , Kyoung Lee , Robin Gardner
Tuesday, March 16, 2010 4:54PM - 5:06PM	L12.00013: Column Collapse of Rod-like Granular Materials Melissa Trepanier , Scott Franklin
Tuesday, March 16, 2010 5:06PM - 5:18PM	L12.00014: Exploring the Role of Particle Shape in the Ordering of a Simulated 2D Hard Particle System Donald Blair

Tuesday, March 16, 2010
5:18PM - 5:30PM

L12.00015: Molasses Tail in Dense Hard Core Fluids
Masaharu Isobe , Berni Alder

Session L13: Liquid crystals: Mostly Nematics

Sponsoring Units: DFD

Chair: Fangfu Ye, University of Illinois

Room: B112

Tuesday, March 16, 2010 2:30PM - 2:42PM	L13.00001: Chirality and biaxiality in cholesteric liquid crystals Subas Dhakal , Jonathan Selinger
Tuesday, March 16, 2010 2:42PM - 2:54PM	L13.00002: Simulation studies of defect textures and dynamics in 3-d cholesteric droplets Vianney Gimenez-Pinto , Shin-Ying Lu , Jonathan Selinger , Robin Selinger
Tuesday, March 16, 2010 2:54PM - 3:06PM	L13.00003: Photopolymerization-Induced Mesophase Transition in Relation to Phase Diagram of Reactive Nematic Mesogen and Hexagonal Columnar Liquid Crystal Mixture Tsang-Min Huang , Thein Kyu
Tuesday, March 16, 2010 3:06PM - 3:18PM	L13.00004: Glassy correlations and thermal fluctuations in nematic elastomers Bing Lu , Xiangjun Xing , Fangfu Ye , Paul Goldbart
Tuesday, March 16, 2010 3:18PM - 3:30PM	L13.00005: Minimal model for polydomain nematic elastomers Fangfu Ye , Bing Lu , Xiangjun Xing , Paul Goldbart
Tuesday, March 16, 2010 3:30PM - 3:42PM	L13.00006: Real space analysis by direct observation in liquid crystal dynamics Beom-Jin Yoon , Min Sang Park , Jung Ok Park , Mohan Srinivasarao
Tuesday, March 16, 2010 3:42PM - 3:54PM	L13.00007: Prediction of flow-aligning and tumbling in a bent-core nematic liquid crystal using measurements of orientation order parameters Min Sang Park , Beom-Jin Park , Jung Ok Park , Mohan Srinivasarao
Tuesday, March 16, 2010 3:54PM - 4:06PM	L13.00008: Elastic constants and viscosities of a bent-core nematic liquid crystal studied by dynamic light scattering and magnetic Frederick transition Madhabi Majumdar , Peter Salamon , James Gleeson , Antal Jakli , Samuel Sprunt
Tuesday, March 16, 2010 4:06PM - 4:18PM	L13.00009: Bulk Structure and Interface Ordered Focal Conic Domains of the Dark Conglomerate Phase of a 4,4'-diphenylmethane Based Bent-Core Mesogen J. Maclennan , D. Chen , Y. Shen , C. Zhu , L. Hough , M. Glaser , N. Clark , N. Gimeno , M. Ros
Tuesday, March 16, 2010 4:18PM - 4:30PM	L13.00010: Blue Phase Mixtures of Bent-Core Liquid Crystals and Chiral Dopants Stefanie Taushanoff , Khoa Van Le , Robert Twieg , Hideo Takezoe , Antal Jakli
Tuesday, March 16, 2010 4:30PM - 4:42PM	L13.00011: Cones and Anticones: Spontaneous Mechanical Response of Disclinations in Nematic Glasses Carl Modes , Kaushik Bhattacharya , Mark Warner

- Tuesday, March 16, 2010 4:42PM - 4:54PM L13.00012: A Line Defect Structure in Soft-Mode Turbulence
Rinto A Nur Qomaru Zaman , Tatsuhiko Ueki , Yoshiki Hidaka , Michael I. Tribelsky , Shoichi Kai
- Tuesday, March 16, 2010 4:54PM - 5:06PM L13.00013: Macroscopic Behavior of Nematics with $D_{\{2d\}}$ Symmetry
Harald Pleiner , Helmut R. Brand
- Tuesday, March 16, 2010 5:06PM - 5:18PM L13.00014: A novel soft-core spherocylinder model for liquid crystals
Jing Zong , Xinghua Zhang , Qiang WANG
- Tuesday, March 16, 2010 5:18PM - 5:30PM L13.00015: Nematic order on curved spherical spaces
Alberto Fernandez-Nieves , Teresa Lopez-Leon , Sharan Devaiah , Ekapop Pairam
- Tuesday, March 16, 2010 5:30PM - 5:42PM L13.00016: Diffusion in Rodlike Polymer Liquid Crystals
Paul Russo , Garrett Doucet , Jianhong Qiu

Session L16: Focus Session: Polymers and Energy: Photovoltaics II

Sponsoring Units: DPOLY GERA DMP

Chair: Tom Russell, University of Massachusetts at Amherst

Room: B115

Tuesday, March 16, 2010 2:30PM - 2:42PM	L16.00001: Photo-physics of P3HT blended with highly enriched metallic and semiconducting single-walled carbon nanotubes Josh Holt , Kevin Mistry , Andrew Ferguson , Jeff Blackburn
Tuesday, March 16, 2010 2:42PM - 2:54PM	L16.00002: Modeling organic bulk-heterojunction solar cells: Parameter stability and photocurrent transients Roger Hausermann , Evelyne Knapp , Michael Moos , Nils Reinke , Thomas Flatz , Beat Ruhstaller
Tuesday, March 16, 2010 2:54PM - 3:06PM	L16.00003: Effect of recombination on the open circuit voltage in polymer-fullerene solar cells Sarah Cowan , Anshuman Roy , Alan Heeger
Tuesday, March 16, 2010 3:06PM - 3:18PM	L16.00004: Comparison of different models of transport in organic photovoltaics Paul Haney , Behrang Hamadani , Nikolai Zhitenev
Tuesday, March 16, 2010 3:18PM - 3:30PM	L16.00005: Effect of doping spin 1/2 radical impurities on the performance of polymer/fullerene bulk heterojunctions solar cell devices Ye Zhang , Golda Hukic-Markosian , Debra Mascaro , Z. Valy Vardeny
Tuesday, March 16, 2010 3:30PM - 3:42PM	L16.00006: Three-dimensional nanomorphology in blended organic solar cells explored by photocurrent microscopy Behrang Hamadani , Suyong Jung , Paul Haney , Nikolai Zhitenev
Tuesday, March 16, 2010 3:42PM - 3:54PM	L16.00007: Photonic Crystal Geometry for Organic Solar Cells Edward Samulski , Rene Lopez , Doo-Hyun Ko , John Tumbleston
Tuesday, March 16, 2010 3:54PM - 4:06PM	L16.00008: High Performance Phototransistor based on Nanostructured Regioregular Poly (3-hexylthiophene) Tanusri Pal , M. Arif , Saiful I. Khondaker
Tuesday, March 16, 2010 4:06PM - 4:18PM	L16.00009: Patterned nanocontacts on blended photovoltaic films for probing of local photoresponse Nikolai Zhitenev , Suyong Jung , Paul Haney , Behrang Hamadani
Tuesday, March 16, 2010 4:18PM - 4:30PM	L16.00010: Utilizing Scanning Probe Microscopy to Study Organic Photovoltaic Materials Ashley Kibel , Shreya Bhattacharyya , Paul Liddell , Devens Gust , Stuart Lindsay
Tuesday, March 16, 2010 4:30PM - 4:42PM	L16.00011: STM Study of Donor-Bridge-Acceptor Molecules Having Different Bridge Structure Chenggang Tao , Jibin Sun , Xiaowei Zhang , Ryan Yamachika , Daniel Wegner , Yasaman Bahri , Georgy Samsonidze , Marvin L. Cohen , Steven G. Louie , T. Don Tilley , Rachel A. Segalman , Michael F. Crommie

Tuesday, March 16, 2010 4:42PM - 4:54PM L16.00012: Nanoscale manipulation and conduction anisotropy in oligothiophene monolayers, a CS-AFM study
Florent Martin , Bas Hendriksen , Allard Katan , Miquel Salmeron , Nenad Vukmirovic , Ling-Wang Wang , Clayton Mauldin , Jean Frechet

Tuesday, March 16, 2010 4:54PM - 5:06PM L16.00013: High performance encapsulation structures utilizing Russian Doll architectures
Jimmy Granstrom , Michael Villet , Tirtha Chatterjee

Tuesday, March 16, 2010 5:06PM - 5:18PM L16.00014: Cavity Enhanced Optical Absorption in Polymer Photovoltaics
Brent Valle , Kenneth D. Singer , James Andrews

Tuesday, March 16, 2010 5:18PM - 5:30PM L16.00015: Modeling of series and parallel solar cell tandems
Alexander Kuznetsov , Anvar Zakhidov

Session L17: Focus Session: Dillon Medal Symposium

Sponsoring Units: DPOLY

Chair: Rick Register, Princeton University

Room: B116

Tuesday, March 16, 2010 2:30PM - 3:06PM	L17.00001: John H. Dillon Medal Talk: Solvent Annealing of Water-Dispersible Polyaniline Yields Highly Conductive Functional Components for Organic Electronics Invited Speaker: Yueh-Lin Loo
Tuesday, March 16, 2010 3:06PM - 3:18PM	L17.00002: Tuning optical properties of polymer films using nanorods and Janus particles Russell Composto , Shu Yang , Michael Hore , Marla McConnell
Tuesday, March 16, 2010 3:18PM - 3:30PM	L17.00003: The effects of monomer sequence distribution and isotopic substitution on solution phase behavior of random copolymers Jan Genzer , Young Kuk Jhon , Ramanan Krishnamoorti
Tuesday, March 16, 2010 3:30PM - 3:42PM	L17.00004: What can simulations of hydrophobic polymers teach us about cold denaturation? Thomas Truskett , Gaurav Goel , Shekhar Garde , Manoj Athawale
Tuesday, March 16, 2010 3:42PM - 3:54PM	L17.00005: Polymer-polymer interfaces in thin film transistors Michael Chabinye , Justin Cochran , Michael Toney
Tuesday, March 16, 2010 3:54PM - 4:06PM	L17.00006: Correlations between Morphologies and Photovoltaic Properties of RodCoil Block Copolymers Venkat Ganesan , Manas Shah , Victor Pryamitsyn
Tuesday, March 16, 2010 4:06PM - 4:18PM	L17.00007: Nanolayer Batteries and Spray-Assembled Membranes Paula Hammond
Tuesday, March 16, 2010 4:18PM - 4:30PM	L17.00008: Self Assembly and Interface Engineering of Organic Functional Materials for High Performance Polymer Solar Cells Alex Jen
Tuesday, March 16, 2010 4:30PM - 4:42PM	L17.00009: Structure of thin film brush-coated nanoparticle/homopolymer systems Peter Green , Jenny Kim , Chelsea Chen
Tuesday, March 16, 2010 4:42PM - 4:54PM	L17.00010: Universal Phase Diagrams in Rod-Coil Block Copolymers and Applications to Optoelectronics and Bioinspired Materials Rachel Segalman , Victor Ho , Bryan Boudouris
Tuesday, March 16, 2010 4:54PM - 5:06PM	L17.00011: Organosilicate Materials for High Resolution Patterning Soles Christopher
Tuesday, March 16, 2010 5:06PM - 5:18PM	L17.00012: Quantifying the role of poly(3-hexylthiophene) and fullerene crystallinity on performance of polymer solar cells Enrique Gomez

Tuesday, March 16, 2010 L17.00013: Block Copolymers with Composite Crystalline-
5:18PM - 5:30PM Glassy Hard Domains Formed from Single-Phase Melts
Richard Register , John Bishop

Session L18: Focus Session: Long Range Order in Polymeric Structure and Morphology II

Sponsoring Units: DPOLY

Chair: Thomas Epps, University of Delaware

Room: B117

Tuesday, March 16, 2010 2:30PM - 3:06PM	L18.00001: Dillon Medal Break Invited Speaker:
Tuesday, March 16, 2010 3:06PM - 3:42PM	L18.00002: Directed Self-assembly for Lithography Applications Invited Speaker: Joy Cheng
Tuesday, March 16, 2010 3:42PM - 3:54PM	L18.00003: Directed Self-assembly of Block Copolymer Thin Films on 2D Chemical Patterns Made by Electro-oxidation Nanolithography Ji Xu , Thomas Russell , Antonio Checco , Benjamin Ocko
Tuesday, March 16, 2010 3:54PM - 4:06PM	L18.00004: Electric Field-Assisted Dip-Pen Nanolithography on P4VP Polymer Films Xiaohua Wang , Suji Uppalapati , Xin Wang , Rodolfo Fernandez , Mingdi Yan , Andres La Rosa
Tuesday, March 16, 2010 4:06PM - 4:18PM	L18.00005: Orientation Control of Microphase-Separated Domains of Block Copolymer Thin Films Placed on Surfaces with Tunable Roughness Youngwoo Choo , Hyo Seon Suh , Taehee Kim , Ki-Bum Kim , Kookheon Char
Tuesday, March 16, 2010 4:18PM - 4:30PM	L18.00006: Self-Assembly of Block Copolymer on Soft Textured Substrate Dong Hyun Lee , Soojin Park , Sung Woo Hong , Thomas Russell
Tuesday, March 16, 2010 4:30PM - 4:42PM	L18.00007: Self-Assembled Polymer Nanostructures Formed from Homopolymers Induced by UV and Solvent Exposure Mingdi Yan , Sailaja Chada , Bradford Paik
Tuesday, March 16, 2010 4:42PM - 4:54PM	L18.00008: Templated Self-Assembly of Highly Ordered Square Arrays from an ABC Triblock Terpolymer Jeong Gon Son , Vivian P. Chuang , Jessica Gwyther , Jae-Byum Chang , Karl K. Berggren , Ian Manners , Caroline A. Ross
Tuesday, March 16, 2010 4:54PM - 5:06PM	L18.00009: Highly Oriented and Aligned Line Patterns of Block Copolymer over Macroscopic Areas Sung Woo Hong , Dong Hyun Lee , Soojin Park , Ting Xu , Thomas P. Russell
Tuesday, March 16, 2010 5:06PM - 5:18PM	L18.00010: Effect of chain extender on the phase behavior and morphology of high hard block content polyurethanes Achilleas Tsiotas , Chris Lindsay , Alberto Saiani
Tuesday, March 16, 2010 5:18PM - 5:30PM	L18.00011: Reversible structuring of azobenzene polymer films by surface plasmons Tobias Koenig , Svetlana Santer

Session L19: Focus Session: Hierarchically and Templated Ordered Systems II

Sponsoring Units: DPOLY

Chair: Vladimir Tsukruk, Georgia Institute of Technology

Room: B118-B119

Tuesday, March 16, 2010 2:30PM - 3:06PM	L19.00001: Dillon Medal Break Invited Speaker:
Tuesday, March 16, 2010 3:06PM - 3:18PM	L19.00002: Self-assembly of ordered mesoporous platinum from nanoparticle-block copolymer mixtures Scott Warren , Frank Disalvo , Ulrich Wiesner
Tuesday, March 16, 2010 3:18PM - 3:30PM	L19.00003: Fluidic Channels Produced by Electro Hydrodynamic Viscous Fingering Kristopher Behler , Eric Wetzal
Tuesday, March 16, 2010 3:30PM - 3:42PM	L19.00004: Fabrication of microstructured polymer films using breath-figure-templated assembly Mohan Srinivasarao , Vivek Sharma , Matija Crne
Tuesday, March 16, 2010 3:42PM - 4:18PM	L19.00005: Order Through Instability: Patterning with Polymers and Nanoparticles Invited Speaker: Alfred Crosby
Tuesday, March 16, 2010 4:18PM - 4:30PM	L19.00006: Templated Organization of Nanoparticles using Self-Assembling Peptides Nikhil Sharma , Joel Schneider , Kristi Kiick , Darrin Pochan
Tuesday, March 16, 2010 4:30PM - 4:42PM	L19.00007: Peptide -- Silica Hybrid Networks Aysegul Altunbas , Nikhil Sharma , Radhika Nagarkar , Joel Schneider , Darrin Pochan
Tuesday, March 16, 2010 4:42PM - 4:54PM	L19.00008: Dimple Patterns in Buckling Surfaces Derek Breid , Alfred Crosby
Tuesday, March 16, 2010 4:54PM - 5:06PM	L19.00009: Flame Suppression of Cotton with Polymer-Clay Thin Film Assemblies Galina Sukhonosova , Yu-Chin Li , Jaime Grunlan
Tuesday, March 16, 2010 5:06PM - 5:18PM	L19.00010: Tunable Gas Permeability of Polymer-Clay Nano Brick Wall Thin Film Assemblies Daniel Gamboa , Morgan Priolo , Jaime Grunlan
Tuesday, March 16, 2010 5:18PM - 5:30PM	L19.00011: Super Gas Barrier Thin Films via Layer-by-Layer Assembly of Polyelectrolytes and Clay Morgan Priolo , Daniel Gamboa , Jaime Grunlan

Session L32: Focus Session: Tribophysics -- Sliding Friction

Sponsoring Units: DMP GSNP DPOLY

Chair: Izabela Szlufarska, University of Wisconsin

Room: E142

- Tuesday, March 16, 2010
2:30PM - 2:42PM L32.00001: Cryolubricity of YBCO powder deposits
Keeley M. Stevens , Jacqueline Krim
- Tuesday, March 16, 2010 L32.00002: Cryolubricity in Atomic Scale Friction on
2:42PM - 2:54PM YBCO Surface
Igor Altfeder , Jacqueline Krim
- Tuesday, March 16, 2010 L32.00003: Tribo-induced Melting Transition at a Sliding
2:54PM - 3:06PM Asperity Contact
Jacqueline Krim , Benjamin Dawson , Liming Pan
- Tuesday, March 16, 2010 L32.00004: Simulated sliding of surface deposited islands
3:06PM - 3:42PM and nanoclusters: from static pinning to high speed ballistic
friction
Invited Speaker: Erio Tosatti
- Tuesday, March 16, 2010 L32.00005: Interpretation of Surface Dynamics and Bond
3:42PM - 3:54PM Strengths of Polystyrene Microspheres on a Quartz Crystal
Microbalance by Analysis of Decoupling Curves
Iyam Lynch , Jacqueline Krim
- Tuesday, March 16, 2010 L32.00006: Motion of Sb nanoparticles on HOPG:
3:54PM - 4:06PM simulation study of frictionless behavior
Ivan Stich , Jan Brndiar , Robert Turansky
- Tuesday, March 16, 2010 L32.00007: Scaling laws in superlubric sliding of metallic
4:06PM - 4:18PM nanoparticles
Michael Feldmann , Dirk Dietzel , Tristan Moenninghoff , Andre
Schirmeisen , Udo D. Schwarz
- Tuesday, March 16, 2010 L32.00008: Layered atomic structures of silver vanadate
4:18PM - 4:30PM compounds for low shear strength at high temperatures
A. AbuNada , S. Aouadi , Q. Ge , M. Tsige
- Tuesday, March 16, 2010 L32.00009: The effect of defect structure on the dynamic
4:30PM - 4:42PM frictional force at sliding Al/Al interfaces
J.E. Hammerberg , B. L. Holian , R. J. Ravelo , T.C. Germann
- Tuesday, March 16, 2010
4:42PM - 4:54PM L32.00010: Measuring contact area at the nanometer scale
Shengfeng Cheng , Mark Robbins
- Tuesday, March 16, 2010 L32.00011: Macroscopic and microscopic friction at low
4:54PM - 5:06PM temperatures: heat transfer at an AFM tip and the effect of
superconductivity on friction
Chris Dunckle , Matt Aggleton , Peter Taborek
- Tuesday, March 16, 2010 L32.00012: Transverse Shear Microscopy: Probing Elastic
5:06PM - 5:18PM Anisotropy at Organic Surfaces
Vivek Kalihari , Greg Haugstad , C. Daniel Frisbie
- Tuesday, March 16, 2010 L32.00013: Tens of micro-scale wavy crack propagation in
5:18PM - 5:30PM silicon nitride films
Donghyun Kim , Prashanth Makaram , Carl Thompson

**APS Division of Polymer Physics
Annual Business Meeting
Tuesday, March 16, 2010
5:45, Room B116**

**Session P4: Celebrating 50 Years of Lasers in Condensed Matter Physics:
Dynamics & Imaging**

Sponsoring Units: DPOLY

Chair: Marcus Cicerone, National Institute of Standards and Technology

Room: *Oregon Ballroom 204*

Wednesday, March 17, 2010 8:00AM - 8:36AM	P4.00001: Transport dynamics -- one particle at a time Invited Speaker: Steve Granick
Wednesday, March 17, 2010 8:36AM - 9:12AM	P4.00002: Mid-infrared pulse shaping permits the pathway of amyloid aggregation to be determined with rapid-scan 2D IR spectroscopy Invited Speaker: Martin Zanni
Wednesday, March 17, 2010 9:12AM - 9:48AM	P4.00003: Entangled Photon Spectroscopy with Organic Materials Invited Speaker: Theodore Goodson
Wednesday, March 17, 2010 9:48AM - 10:24AM	P4.00004: Single Molecule Studies of Conjugated Polymers Invited Speaker: Paul Barbara
Wednesday, March 17, 2010 10:24AM - 11:00AM	P4.00005: Light Scattering Studies of Dynamics of Soft Materials Invited Speaker: Alexei Sokolov

Session P12: Granular Materials II

Sponsoring Units: DFD

Chair: Colin Denniston, University of Western Ontario

Room: B110-B111

Wednesday, March 17, 2010 8:00AM - 8:12AM	P12.00001: From granular to Newtonian flow: three-dimensional imaging and rheology of suspensions Joshua A. Dijksman , Steven Slotterback , Elie Wandersman , Chris Berardi , William Derek Updegraff , Martin van Hecke , Wolfgang Losert
Wednesday, March 17, 2010 8:12AM - 8:24AM	P12.00002: Deformation of Quasi-2D Oil-in-Water Emulsions Laura Golick , Kenneth Desmond , Eric R. Weeks
Wednesday, March 17, 2010 8:24AM - 8:36AM	P12.00003: Geometry Dominance in the Formation of Clusters in Systems of Rigid Gapped Rings Christopher LaSota , Rachel Cary , Ariel Helfer
Wednesday, March 17, 2010 8:36AM - 8:48AM	P12.00004: Constitutive relations in dense granular flows John Drozd , Colin Denniston
Wednesday, March 17, 2010 8:48AM - 9:00AM	P12.00005: Properties of grains driven by an oscillating disk Kiri Nichol , Martin van Hecke
Wednesday, March 17, 2010 9:00AM - 9:12AM	P12.00006: Ring Kinetic Theory for Granular Response Functions James Dufty
Wednesday, March 17, 2010 9:12AM - 9:24AM	P12.00007: Non-affinity of displacement fields in sheared granular systems Kinga Lorincz , Peter Schall
Wednesday, March 17, 2010 9:24AM - 9:36AM	P12.00008: Sound Waves in a Homogeneously Driven Granular Fluid in Steady State Katharina Vollmayr-Lee , Annette Zippelius , Timo Aspelmeier
Wednesday, March 17, 2010 9:36AM - 9:48AM	P12.00009: Flow fluctuations and the local flowrule of granular suspensions Elie Wandersman , Joshua Dijksman , Werner de Groot , Martin van Hecke
Wednesday, March 17, 2010 9:48AM - 10:00AM	P12.00010: Packing structure of cyclically sheared dense granular spheres Andreea Panaitescu , Arshad Kudrolli

<p>Wednesday, March 17, 2010 10:00AM - 10:12AM</p>	<p>P12.00011: Networks of Broken Links in Granular Flows Mark Herrera , Shane McCarthy , Michelle Girvan , Wolfgang Losert</p>
<p>Wednesday, March 17, 2010 10:12AM - 10:24AM</p>	<p>P12.00012: Experiments with 2D quasistatic and shaken arrays of permanent magnet N-mers ($N \geq 1$) Peter Koch , Mark Shattuck</p>
<p>Wednesday, March 17, 2010 10:24AM - 10:36AM</p>	<p>P12.00013: Particle velocity distribution in a 3-dimensional vibration fluidized granular medium Hong-Qiang Wang , Klebert Feitosa , Narayanan Menon</p>
<p>Wednesday, March 17, 2010 10:36AM - 10:48AM</p>	<p>P12.00014: The Role of Extensional Viscosity in Sedimentation Theodore A. Brzinski , Paulo E. Arratia , Douglas J. Durian</p>
<p>Wednesday, March 17, 2010 10:48AM - 11:00AM</p>	<p>P12.00015: Sedimentation and Pressure Driven Flow in Fractures Tak Shing Lo , Joel Koplik</p>

Session P13: Membranes: General, Surface, Biological

Sponsoring Units: DFD

Chair: Haskell Taub, University of Missouri

Room: B112

Wednesday, March 17, 2010 8:00AM - 8:12AM	P13.00001: Studies of the Temperature-Dependent Structure of DMPC Bilayer Lipid Membranes by Atomic Force Microscopy A. Miskowicz , M. Bai , H. Taub , F.Y. Hansen
Wednesday, March 17, 2010 8:12AM - 8:24AM	P13.00002: Phospholipid-coated microbubbles: the acoustic signature of monolayer buckling Valeria Garbin , Marlies Overvelde , Jeroen Sijl , Benjamin Dollet , Nico de Jong , Detlef Lohse , Michel Versluis
Wednesday, March 17, 2010 8:24AM - 8:36AM	P13.00003: Coarse-grain simulation studies of lipid vesicles Robin Selinger , Jun Geng , Jonathan Selinger
Wednesday, March 17, 2010 8:36AM - 8:48AM	P13.00004: Role of Collective Degrees of Freedom in Formation and Disintegration of Spherical Micelles Dmitry Kopelevich , Yong Nam Ahn , Gunjan Mohan
Wednesday, March 17, 2010 8:48AM - 9:00AM	P13.00005: Critical capsule deformation in several linear flows, modeled using the Immersed Boundary Method Alex Szatmary , Charles Eggleton
Wednesday, March 17, 2010 9:00AM - 9:12AM	P13.00006: Manipulation, stability, and controlled release of micelles in AC-electric fields Victoria Froude , Y. Elaine Zhu
Wednesday, March 17, 2010 9:12AM - 9:24AM	P13.00007: Investigating bile salt aggregation using coarse-grained molecular dynamics simulations Ana Vila Verde , Daan Frenkel
Wednesday, March 17, 2010 9:24AM - 9:36AM	P13.00008: Mechanical properties of giant folds in a Langmuir monolayer Thomas Boatwright , Jeffrey Yu-Chieh Yang , Alex J. Levine , Michael Dennin
Wednesday, March 17, 2010 9:36AM - 9:48AM	P13.00009: Lipid/water system with varying charge densities at the interface monitored by sum-frequency vibrational spectroscopy Woongmo Sung , Sangjun Seok , Doseok Kim
Wednesday, March 17, 2010 9:48AM - 10:00AM	P13.00010: Attractive amphiphilic polymer layers form amorphous membranes Ho Cheung Shum , Jerome Bibette , David Weitz

<p>Wednesday, March 17, 2010 10:00AM - 10:12AM</p>	<p>P13.00011: The Effects of Concentration and Temperature on Vesicle Adsorption and Bilayer Formation Kimberly Weirich , Jacob Israelachvili , Deborah Fygenon</p>
<p>Wednesday, March 17, 2010 10:12AM - 10:24AM</p>	<p>P13.00012: Coarse-graining, Electrostatics and pH effects in phospholipid systems Alex Travasset , Sweta Vangaveti</p>
<p>Wednesday, March 17, 2010 10:24AM - 10:36AM</p>	<p>P13.00013: Measurement of red blood cell mechanics during morphological changes Gabriel Popescu , YongKeun Park , Catherine Best , Ramachandra Dasari , Michael Feld , Tatiana Kuriabova , Mark Henle , Alex Levine</p>
<p>Wednesday, March 17, 2010 10:36AM - 10:48AM</p>	<p>P13.00014: Molecular Transport through Flexible Membranes: Coupling between Solute Dynamics and Membrane Fluctuations Yong Nam Ahn , Young-Min Ban , Dmitry Kopelevich</p>
<p>Wednesday, March 17, 2010 10:48AM - 11:00AM</p>	<p>P13.00015: Experimental and Numerical Investigation of the Equilibrium Geometry of Liquid Lenses J. C. Burton , F. M. Huisman , P. Alison , D. Rogerson , P. Taborek</p>

Session P17: Focus Session: Glass Transition in Thin Films I

Sponsoring Units: DPOLY

Chair: Rodney Priestley, Princeton University

Room: B116

Wednesday, March 17, 2010 8:00AM - 8:36AM	P17.00001: Mechanics of Polymer Thin Films: What Can We Learn from the Glass Transition? Invited Speaker: Bryan Vogt
Wednesday, March 17, 2010 8:36AM - 8:48AM	P17.00002: Glassy dynamics and glass transition in thin polymer layers of PMMA deposited on different substrates Friedrich Vogt, Michael Erber , Anatoli Serghei , Martin Tress , Emmanuel Mapesa , Klaus-Jochen Eichhorn , Brigitte Voit
Wednesday, March 17, 2010 8:48AM - 9:00AM	P17.00003: Glass Transition Temperature of Polystyrene Thin Film on Polystyrene Brush Andrew Clough , Yoshihisa Fujii , Jessica Leach , Ophelia Tsui
Wednesday, March 17, 2010 9:00AM - 9:12AM	P17.00004: Confinement Effect on Glass Transition of Thin Polymer on Nanoparticles Wei Chen , Qi Xue
Wednesday, March 17, 2010 9:12AM - 9:24AM	P17.00005: Modeling glass transition and aging processes in nanocomposites and polymer thin films Victor Pryamitsyn , Venkat Ganesan
Wednesday, March 17, 2010 9:24AM - 9:36AM	P17.00006: A NanoThermal Analysis Method for Mapping Glass Transitions in Heterogeneous Soft Matter Films M.P. Nikiforov , S. Gam , S. Jesse , R.J. Composto , S.V. Kalinin
Wednesday, March 17, 2010 9:36AM - 9:48AM	P17.00007: Interplay between glass transition and thermal expansivity in absorbed and spincoated polymer films Simone Napolitano , Michael Wubbenhorst
Wednesday, March 17, 2010 9:48AM - 10:00AM	P17.00008: Observation of glassy physics within surface-bound organic molecular monolayers L.I. Clarke , D.R. Stevens , M.C. Scott , J.R. Bochinski
Wednesday, March 17, 2010 10:00AM - 10:12AM	P17.00009: Interfacial Rheology of Glassy and Non -- Glassy Polymer Monolayer at the air - water interface S. Srivastava , D. Leiske , J.K. Basu , G. Fuller
Wednesday, March 17, 2010 10:12AM - 10:24AM	P17.00010: Glass Transition in Thin Supported Polymer Films Probed by Temperature-Modulated Ellipsometry in Vacuum Mikhail Efremov , Paul Nealey

<p>Wednesday, March 17, 2010 10:24AM - 10:36AM</p>	<p>P17.00011: Calorimetric investigations of ultrathin film of poly-vinylacetate under controlled humidity Heiko Huth , Christoph Schick</p>
<p>Wednesday, March 17, 2010 10:36AM - 10:48AM</p>	<p>P17.00012: Measuring the relaxation dynamics and thermo-mechanical properties of ultrathin polymer glasses Christopher M. Stafford , Jun Young Chung , Doyoung Moon , Jack F. Douglas</p>
<p>Wednesday, March 17, 2010 10:48AM - 11:00AM</p>	<p>P17.00013: Structural signal of a dynamic glass transition Sudeshna Chattopadhyay (Bandyopadhyay) , Ahmet Uysal , Benjamin Stripe , Guennadi Evmenenko , Pulak Dutta , Steven Ehrlich , Evguenia A. Karapetrova</p>

Session P18: Focus Session: Biological-Synthetic Hybrid Materials I

Sponsoring Units: DPOLY DBP

Chair: Francis Starr, Wesleyan University

Room: B117

Wednesday, March 17, 2010 8:00AM - 8:12AM	P18.00001: Phase Behavior of DNA-Functionalized Nanoparticles: Dependence on Number and Orientation of Attached DNA strands Wei Dai , Chia Wei Hsu , Francesco Sciortino , Francis Starr
Wednesday, March 17, 2010 8:12AM - 8:24AM	P18.00002: Stability of DNA-linked Nanoparticle Crystals: Effect of Number of Strands Olivia Padovan-Merhar , Fernando Vargas Lara , Francis Starr
Wednesday, March 17, 2010 8:24AM - 8:36AM	P18.00003: Relative Stability of DNA-Linked Nanoparticle Crystals Fernando Vargas Lara , Francis Starr
Wednesday, March 17, 2010 8:36AM - 9:12AM	P18.00004: Nanoparticles with DNA-mediated interactions: from Mess to Order and Complexity Invited Speaker: Alexei Tkachenko
Wednesday, March 17, 2010 9:12AM - 9:24AM	P18.00005: Theoretical Description of the Self-Assembly Dynamics of DNA-functionalized Nanoparticles Chia Wei Hsu , Francesco Sciortino , Francis Starr
Wednesday, March 17, 2010 9:24AM - 9:36AM	P18.00006: Improving the compatibility of DNA-functionalized nanoparticles and DNA scaffolds in solutions of divalent cations William Sherman , Mudalige Kumara , Oleg Gang
Wednesday, March 17, 2010 9:36AM - 9:48AM	P18.00007: Assembly of DNA-Linked Nanoscale Platonic Solid Fang Lu , Yugang Zhang , Daniel van der Lelie , Oleg Gang
Wednesday, March 17, 2010 9:48AM - 10:00AM	P18.00008: Crystallization Dynamics of DNA-functionalized Nanoparticles Francis W. Starr , Wei Dai , Sanat Kumar
Wednesday, March 17, 2010 10:00AM - 10:12AM	P18.00009: Dynamically Tunable 3D Nanosystems: From Structural to Optical Switching Oleg Gang , Mathew Maye , Huiming Xiong , Dmytro Nykypanchuk , Mudalige Thilak Kumara , William Sherman , Matthew Sfeir
Wednesday, March 17, 2010 10:12AM - 10:24AM	P18.00010: Specific Templating of Inorganic Materials on Self-Assembled Clathrin Proteins Sarah Heilshorn

Wednesday, March 17, 2010
10:24AM - 10:36AM
P18.00011: Non-classical assembly pathways of anisotropic particles
Stephen Whitelam

Wednesday, March 17, 2010
10:36AM - 10:48AM
P18.00012: Responsive micelles, vesicles and organogels from poly(lysine)-containing block copolymers
Daniel Savin , Sandeep Naik , Jacob Ray , Ashley Montgomery

Wednesday, March 17, 2010
10:48AM - 11:00AM
P18.00013: Bionanoelectronic devices based on 1d-lipid bilayers on nanotube and nanowire templates
Aleksandr Noy

Session P19: Focus Session: Physics of Polymer Nanocomposites I

Sponsoring Units: DPOLY

Chair: Sanat Kumar, Columbia University

Room: B118-B119

Wednesday, March 17, 2010 8:00AM - 8:12AM	P19.00001: Liquid Crystalline Ordering of Nano-rods in Polymer Nanocomposites Chris Knorowski , Alex Traveset
Wednesday, March 17, 2010 8:12AM - 8:24AM	P19.00002: Confinement, Ordering, and Optical Properties of Au Nanorods in Polymer Thin Films Michael J.A. Hore , Russell J. Composto
Wednesday, March 17, 2010 8:24AM - 8:36AM	P19.00003: Effect of matrix chemical heterogeneity on effective filler interactions in model polymer nanocomposites Lisa Hall , Kenneth Schweizer
Wednesday, March 17, 2010 8:36AM - 8:48AM	P19.00004: Controlled Formation of Multicomponent Nanoparticle Assemblies Hyun Suk Kim , P.K. Sudeep , Caroline Miesch , Todd Emrick , Alfred J. Crosby
Wednesday, March 17, 2010 8:48AM - 9:00AM	P19.00005: Solubility and Mixing Enthalpy of Ideal Nanoparticles in a Polymer Melt Jonathan Seppala , Michael Mackay
Wednesday, March 17, 2010 9:00AM - 9:12AM	P19.00006: Phase behavior of polymer/nanoparticle blends with attractions near a substrate Venkat Padmanabhan , Amalie Frischknecht , Michael Mackay
Wednesday, March 17, 2010 9:12AM - 9:48AM	P19.00007: Graphene/Polymer Nanocomposites Invited Speaker: Chris Macosko
Wednesday, March 17, 2010 9:48AM - 10:00AM	P19.00008: Thermodynamics of Polymer-Clay Nanocomposites Revisited: Compressible Self-Consistent Field Theory Modeling of Melt-Intercalated Organoclays Valeriy Ginzburg , Prasanna Jog , Jeffrey Weinhold , Rakesh Srivastava
Wednesday, March 17, 2010 10:00AM - 10:12AM	P19.00009: Self-assembly of Nanoparticles at Polymer Surfaces Induced by Supercritical Carbon Dioxide Mitsunori Asada , Peter Gin , Maya K. Endoh , Sushil K. Satija , Tadanori Koga
Wednesday, March 17, 2010 10:12AM - 10:24AM	P19.00010: Examination of Surface Interaction vs. Confinement Regimes in the Molecular Dynamics of Polymer Nanocomposites Mansour AbdulBaki , Madhusudan Tyagi , Ramanan Krishnamoorti

<p>Wednesday, March 17, 2010 10:24AM - 10:36AM</p>	<p>P19.00011: Theory and Simulation Studies of Copolymer Functionalized Nanoparticles in Polymer Nanocomposites Arthi Jayaraman , Nitish Nair , Arezou Seifpour , Philip Spicer</p>
<p>Wednesday, March 17, 2010 10:36AM - 10:48AM</p>	<p>P19.00012: Polymer-mediated structure of nanoparticles in dense melts: transferability and an effective one-component approach Rajarshi Chakrabarti , Kenneth Schweizer</p>
<p>Wednesday, March 17, 2010 10:48AM - 11:00AM</p>	<p>P19.00013: Controlling the Self-Assembly of Semiconducting Nanocrystals within Conjugated Rod-Coil Block Copolymers Bryan L. McCulloch , Jeff J. Urban , Rachel A. Segalman</p>

Monday, March 15th 2010

Session	A6.	A7.	A10.	A12.	A17.	A18.	A19.
<i>Room</i>	<i>Portland 253</i>	<i>Portland 254</i>	<i>A106</i>	<i>B110-B111</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Chair</i>	<i>Zimanyi</i>	<i>Grosberg</i>	<i>Rueda</i>	<i>Bodenschatz</i>	<i>Douglas</i>	<i>Tsige</i>	<i>Yale</i>
8:00 AM	Middleton	Brujic	Van Oijen	Liu	Riggleman	Tatek	Masser
8:12 AM				Bopdenschatz		Lyubimov	Zhu
8:24 AM				Liu		Gillespie	Strickland
8:36 AM	Machta	Gundlach	Christian	Schiffbauer	Utterback	Siepmann	Shanbhag
8:48 AM			Kim	Saint-Jalmes	Sotta		Balik
9:00 AM			Bai	Guan	Sandoval		Swader
9:12 AM	Katzgraber	Rabin	Milstein	Wang	Stukalin	Sinkovits	Kim
9:24 AM			McAndrew	Thiam	Cicerone	Russo	Pavlopoulou
9:36 AM			Finzi	Orloff	Bedrov	Villet	Chen
9:48 AM	Mezard	Williams	Freedman	Reisner	Lin	Muller-Plathe	Zhou
10:00 AM			de Haan	Ou	Freed		Clark
10:12 AM			Cifra	Karpusenko	Pradhan		Yan
10:24 AM	Hartmann	Wu	Binder	Lin	Lyuksyutov	Mueller	Bertrand
10:36 AM			Weigel	Zhang	McDermott	McCarty	Yeager
10:48 AM				Jaros		Khomami	Ortiz

Session	B4.	B10.	B12.	B16.	B17.	B18.	B19.
<i>Room</i>	<i>Oregon 204</i>	<i>A106</i>	<i>B110-B111</i>	<i>B115</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Chair</i>	<i>Tyagi</i>	<i>Van Oijen</i>	<i>Coppersmith</i>	<i>Shtein</i>	<i>Luettmmer-Strathmann</i>	<i>Li</i>	<i>Nealy</i>
11:15 AM	Nagao	Phillips	Baker	Coates	Kuppa	Li	Hillmyer
11:27 AM			Colwell	Xin	Chandran	Merchan	
11:39 AM			Elrad	Olds	Sammalkorpi	Schick	
11:51 AM	Nagao	Ortiz	Matsumoto	Holmes	Lu	Amanuel	Kim
12:03 PM		Zhang	Tsekenis		Rakesh	Shingne	Bosse
12:15 PM		Rabin			Zhao	Van Horn	Seon Suh
12:27 PM	Perahia	Lau		Wang	Won	Chen	Wang
12:39 PM		Novak	Chen	Ren	Kurian	Hu	Liu
12:51 PM		Slater	Wang	Jenekhe	Kumar	Guruswamy	Wadley
1:03 PM	Frey	Bhattacharya	Maclennan	Rand	Sun	Register	Ye
1:15 PM		Lorscher	Zhu		Dalnoki-Veress		Yokoyama
1:27 PM		Benetatos	Alexander		Kim		Jha
1:39 PM	Olmsted	Jacobs	Chen	Doak	Shrestha	Arora	Yun Yang
1:51 PM		Brock	Park	Min	Sukhishvili	Schultz	Mokarian-Tabari
2:03 PM		Talaga	Yao	Salamanca-Riba	McCoy	Zhou	Stein

Session	D6	D10	D12.	D16	D17.	D18.	D19.
<i>Room</i>	<i>Portland 253</i>	<i>A106</i>	<i>B110-B111</i>	<i>B115</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Chair</i>	<i>Satija</i>	<i>Phillips</i>	<i>Gerbode</i>	<i>Nelson</i>	<i>Bhattacharya</i>	<i>Li</i>	<i>de Pablo</i>
2:30 PM	Dadmun	Eaton	Gerbode	Wang	Shibaev	Cheng	Kramer
2:42 PM			Kaya	Platt	Crne	Minus	
2:54 PM			Lohr	Shah	Majewski	Wurm	
3:06 PM	Foster	Wong	Peng	Spalenka	Verduzco	Yang	Ji
3:18 PM		Khan	Savage	Dutton	Pirogovsky	Okui	Fredin
3:30 PM		Blum	Nosenko	Aryanpour	Hule	Luo	Campbell
3:42 PM	Anastasiadis	Deniz	Ivlev	Hallermann	Dawson	Milner	Kelly
3:54 PM			Ho	Zang	Fang	Wentzel	Daga
4:06 PM			Dubbeldom	Danilov	Chakraborty	Wang	Chen
4:18 PM	Pierce	Shepherd	Kung	Rumbles	Fang	Yi	Nandan
4:30 PM		Wu	Lynch		Zhang	Turgman	Ryu
4:42 PM		Sakaoto	Warren		Mezzenga	Meyer	Chremos
4:54 PM	Wynne	Chuan	Bossev	Qi	Kumar	Cebe	Kim
5:06 PM		Miller	Barr	Wang	Oskolkov		Lee
5:18 PM		Lipman		Gredig	Green		Matsen

C1.	Poster Session I	2:00pm -	5:00pm	Exhibit CD
Mezzenga	Podzorov	Perez	McNair	Farmer
Ho	Platt	Shagolsem	Clarke	Drummy
Shin	Caldas	Etika	Ortiz	Dong
Wu	Read	Modestino	Hu	Nykypanchuk
Paudel	Agapov	Chuang	Sukhonosova	
Ajward	Yu	Campbell	Gamboa	
Granstrom	Karayiannis	Laird	Priolo	
Chen	Reneker	Yu	Behler	
Grunlan	Botelho	Hinojosa	Hammond	
Li	Anderson	Chan	Thorkelsson	
Shi	Byun	Etika	Gopinadhan	
Christensen	Byun	Su	Sharma	
George	Byun	Mastroianni	Pandey	
Oetzel	Sirivat	Zhang	Bockenbauer	
Aurongzeb	Yimlamai	Ueki	Basu	
Ohtomo	Kunanuraksapong	Comer	Ritz-Gold	
Schmidt	Kunchornsup	Easley	Bhatnagar	
Ajward	Zhao	Teh	Sathaye	
Shaw	McEnnis	Ghossein	Cai	

Tuesday, March 16th 2010

Session	H2.	H4.	H13.	H17.	H18.	H19.	H32.
<i>Room</i>	<i>Oregon 202</i>	<i>Oregon 204</i>	<i>B112</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>	<i>E142</i>
<i>Chair</i>	<i>Saleh</i>	<i>Composto/Yu</i>	<i>Selinger</i>	<i>Mckenna</i>	<i>Vogt</i>	<i>Cavicchi</i>	<i>Gotsmann</i>
8:00 AM	Sooryakumar	Rubinstein	Selinger				Aguilar-Hernandez
8:12 AM			Sigdel				Daniels
8:24 AM			Mireles				Daub
8:36 AM	Van Noor	Colby	Taylor	Israeloff	White	Papadopoulos	Takeda
8:48 AM			Martizez-Miranda		Mutiso	Kang	Kuo
9:00 AM			Kitchhoff		Firestone	Tsai	Chopin
9:12 AM	Croquette	Panyukov	Skakya	Hong	Chipara	Thomas	Ponson
9:24 AM			Iglesias	Fakhraai	Arguelles		
9:36 AM			Nguyen	Wang	Richardson		
9:48 AM		Kumacheva	Zhang	Boettcher	Han	Gin	Tsekenis
10:00 AM			Huang		Holferty	Gotrik	Hasan
10:12 AM			Nguyen		Georgiev	Mohan	Ge
10:24 AM		Leibler	Patrick		Hamilton	Clarke	Valavala
10:36 AM			Sharma		Villegas	Osuji	Archer
10:48 AM			Pan		Chantawansri	Miranda	Rottler

Session	J4.	J10.	J16.	J17.	J18.	J19.
<i>Room</i>	<i>Oregon 204</i>	<i>A106</i>	<i>B115</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Chair</i>	<i>Balazs</i>	<i>Lee</i>	<i>Alamgir</i>	<i>Larson</i>	<i>Sukhishvili</i>	<i>Alizadeh</i>
11:15 AM	Kremer	Cole	Venkataraman	Carvalho	Cho	Alizadeh
11:27 AM		Beck		Fakhri	Wei	Gopinadhan
11:39 AM		Family		Mok	Mansour	Beyer
11:51 AM	Grest	Kosmrlj	Boudouris	Ozcam	Spencer	Bunning
12:03 PM		Choi	Wang	Pujari	Spring	
12:15 PM		Liu	Levesque	Tarver	Torija	
12:27 PM	Richter	Antonieta	Berube	Wang	Sanchez-Ferrer	Murnen
12:39 PM		Sharma	Lin	Wang	Rosales	Kim
12:51 PM		Bradley	Kirby		Noro	Sharma
1:03 PM	Everaers	Martini	Rogers		Hoarfrost	Lee
1:15 PM		Hellenbeck	Colwell		Qin	Merlet-Lacroix
1:27 PM		Forrest	Dadmun		Tureau	Lin
1:39 PM	Larson	Thurson	Yerusu		Takenaka	
1:51 PM		Freeman	Ali		Choi	
2:03 PM		Kaur	Singh		Pochan	

Wednesday, March 17th 2010

P4.	P12.	P13.	P17.	P18	P19.	P32.
<i>Oregon 204</i>	<i>B110-B111</i>	<i>B112</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>	<i>E142</i>
Cicerone	<i>Denniston</i>	<i>Taub</i>	Priestley	Starr	Kumar	Tosatti
Granick	Dijksman	Miskowiec	Vogt	Dai	Knorowski	Dorbrynin
	Golick	Garbin		Padovan-Merhar	Hore	Howarter
	Lasota	Selinger		Lara	Hall	Schoch
Zanni	Drozd	Kopelevich	Vogt	Tkachenko	Kim	Gumbsch
	Nichol	Szatmary	Clough		Seppala	
	Duffy	Froude	Chen		Padmanabhan	
Goodson	Lorincz	Verde	Pryamitsyn	Hsu	Macosko	Shen
	Volmayr-Lee	Boatwright	Nikiforov	Sherman		Sfyris
	Wandersman	Sung	Napolitano	Lu		Boukany
Barbara	Panoilescu	Shum	Clarke	Starr	Ginzburg	Gotsmann
	Merrera	Weirich	Srivastava	Gang	Asada	
	Koch	Travasset	Efremov	Heilshorn	AbdulBaki	
Sokolov	Wang	Popescu	Huth	Whitelam	Jayaraman	Saenz-Arce
	Brzinski	Ahn	Stafford	Savin	Chakrabarti	Liu
	Lo	Burton	Chattopadhyay	Noy	McCulloch	Krause

Q2.	Q4.	Q12.	Q16.	Q17.	Q18.	Q19.
<i>Oregon 202</i>	<i>Oregon 204</i>	<i>B110-B111</i>	<i>B115</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Ellenback</i>	Cicerone	<i>Amar</i>	Alamgir	Roth	Gang	Mackay
Nagel	Shen	Paulose	Balsara	Lipson	Sun	Best
		Nidetz		Paeng	Eiser	Pazmino
		Chen		Pye	Collins	Kwon
Heussinger	Marcus	Santos	Taylor	Baschnagel	Manohar	Lyu
		Meng	Allahyarov		Oemrawsingh	Hagita
		Kryukov	Mullin		O'Neill	Maillard
Brujic	Conboy	Mani	Stone	Kim	Gwinn	Long
		Nakamura	Wong	Carbone	Srebnik	Toepperwein
		Martinez	Ranjan	Wang	Sahni	Malkina
Zeravcic	Betzig	Hagen	Malvankar	Priezjev	Seeman	Moll
		Kohlstedt	Prilutsky	Fytas		Wang
		Barry	Chung	Miquelard-Garnier		Schlea
Mao	Wegener	Yu	Ford	Qi	Dayal	Wang
		Zhang		Chandra	Bedzyk	
		Hentschke		Raegen	Lohmueller	

T3.	T11.	T12.	T16.	T17.	T18.	T19.
Oregon 203 Chaikin	A107-A108	B110-B111 Harnett	B115 Kronik	B116 Larson	B117 Starr	B118-B119 Krishnamoorti
Bowick	Perkins	Vukovic Adams Fiser	Nelson	Shirvanyants Wool Detcherry	Clarke Samarbakhsh Ahn	Jang Char Watkins
Wertz	Szoszkiewicz Lu Corwin	Shields Aubrecht Stanton	Islam Colesniuc Saxena	Halverson Ponmurugan Simon	Rupnik Dutt Mukherjee	Phillips Chervanyov Frischknecht
Irvine	Solis Jagota Ali	Moiseeva Faikin Soltani	Worne Vukmirovic Shin	Schweizer	Quint Yusuf Senning	Maskey Kim Bandyopadhyay
Stellacci	Wijeratne Pandey Sing	Loutherback Tanyeri Collier	Kalb Pan Lordi	Cao Guenza Read	Swanson Das Slepko	Schmidt-Rohr
Hexemer		Senousy Harnett Guo	Cheung Papastrat	Watanabe Wang Wang	Fu Stripe	Yang Gam Masoud

S1. Poster Session II 1:00pm - 4:00pm			
<i>Exhibit Hall CD</i>			
Kumar	Kalish	Corrales	Ishii
Lu	Sun	Jaye	Hourani
Choi	Mao	Ren	Park
Carrillo	Li	Wang	Hsieh
Montgomery	Liu	Bae	Mishra
Ray	Ramachandran	Onikoyi	Ji
Beyer	Yoon	Kimball	Masser
Sukhishvili	Lee	Dimitriou	Khanal
Pinto	Ahrenberg	Kim	Park
Oskolkov	Stanzione III	Bending	Whitley
Liu	Deng	Ediger	Nair
Good	Toga	Moon	Shida
Stukalin	Kondo	Hickey	Malardier- Jugroot
Benetatos	Ebata	McDermott	Zong
Duki	Crosby	Lam	Thakur
Erk	Agapov	Amanuel	Feng
Fujii	Howarter	Chen	Scholz
Ruiz-Orta	Meng	Hood	Radzi
Alamo	Waldow	Zhao	Turgman-Cohen

Thursday, March 18th 2010

Session	V2.	V4.	V12.	V13.	V17.	V18.	V19.
<i>Room</i>	Oregon 202	Oregon 204	B110-B111	B112	B116	B117	B118-B119
<i>Chair</i>	Durian	Srinivasrao	Levine	O'Hern	Larson	Stein	Krishnamoorti
8:00 AM	Reichman	Stavenga	Harper	Tighe	Cai	Michalski	Christopher
8:12 AM			Xiao	Sarangapani	Ismail	Nguyen	
8:24 AM			Park	Reichhardt	Khaliullin	Ahrens-Braunstein	
8:36 AM	Cipedetti	Steen	Kaz	Manoharan	Budzien	Welch	Anastasiadis
8:48 AM			Du		Liu	Curtis	Osti
9:00 AM			Zeng		Mbanga	Golubovic	Pasquinelli
9:12 AM	Weeks	Summers	McGorty	Kramer	Luettmer-Strathmann	Chang	Etika
9:24 AM			Schall	Mailman	Vasudevan	Arevalo	Cohen
9:36 AM			Green	Henbes	Burghardt	Yan	Maity
9:48 AM	Royall	Yoshioka	Sacanna	Ashwin	Eapen	Bitton	Dutta
10:00 AM			Ung	Daniels	Agapov	Bihari	Ratnaweera
10:12 AM			Leunissen	Salerno	Shemella	Harden	Medvedev
10:24 AM	Zhang	Autumn	Kong	Bi	Buhler	Cai	Abdulahad
10:36 AM			Ha	Saraf	Sharma	Allen	Hamilton
10:48 AM			Nikolic-Jaric	Puckett	Billen	Hancock	

Session	W10.	W12.	W13.	W16.	W17.	W18.	W19.
<i>Room</i>	A106	B110-B111	B112	B115	B116	B117	B118-B119
<i>Chair</i>	Santangelo	Blair	Reichhardt	Loo	Wang	Weiner	Jiang
11:15 AM	Bae	Mallavajula	Maloney	Salleo	You		Jones
11:27 AM	Faller	Lin	Chen		Whitmer	Mukherji	
11:39 AM	Boggara	Datla	Engel		Douglas	Cohen	
11:51 AM	Akabori	Guerra	Hoy	Conrad	Robertson-Anderson	Taribagil	Wang
12:03 PM	Harland	Kropka		Kang		Erk	Chen
12:15 PM	Diamant	Stanwyck		Lee		Toomey	Koga
12:27 PM	Gabilondo	Folkerts	Xue	Bittle	Serghei	Shull	Prasad
12:39 PM	Moldovan	Dutta	Karayiannis	Podzorov	Doyle		DeBartolo
12:51 PM	Gidalevitz	Roth	Franklin	Chan	Ollila		Dai
1:03 PM	Henle	Feitosa	Lopatina	Cicoira	Guan	Hobbie	Kewalramani
1:15 PM	Garg	Franceschini	Schreck	Santato	Chokshi	Hayward	Uysal
1:27 PM	Proksch	Thapa	Facto	Padmaperuma	Chubynsky	McGraw	Majewski
1:39 PM	Packard	Lietor-Santos	Schwarz	Kosilkin	Chennaoui	Picu	
1:51 PM	Subramaniam	Hunter	Saklayen	Bader	Kolmakov		
2:03 PM					Jacobs		Gurun

Session	X4.	X12.	X13.	X16.	X17.	X18.	X19.
<i>Room</i>	<i>Oregon 204</i>	<i>B110-B111</i>	<i>B112</i>	<i>B115</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Chair</i>	<i>Forrest</i>	<i>Krummel</i>	<i>Reichardt</i>	<i>Chan</i>	<i>Lutkenhaus</i>	<i>Crosby</i>	<i>Dinsmore</i>
2:30 PM	Reiter	Parker	Ecke	Kronik	Wu	<i>Cui</i>	Arkus
2:42 PM		Wang	Xu		Liao	<i>Long</i>	Goswami
2:54 PM		Niavarani	Edmond		Qu	<i>Kumar</i>	Discher
3:06 PM	Torkelson	Zimmerman	DeLorenzi-Venneri	Tamblyn	Audus	<i>Gong</i>	Zhong
3:18 PM		Yarin	Filippidi	Marom	Simmons		Mackay
3:30 PM		Krapenkin	Desmond	Varene	Ladd		Martin
3:42 PM	Varnik	Checco	Turitsyn	Sharifzadeh	Liu	<i>Duki</i>	Chaikin
3:54 PM		McBride	Chen	He	Jia	<i>Westbrook</i>	
4:06 PM		Markocwic	Nordstrom	Rangan	Klossner	<i>Caruthers</i>	
4:18 PM	Jacobs	Krummel	Baljon	Campbell	Wanakule	<i>Yashin</i>	Hu
4:30 PM		Yao	Clara-Rahola	Turnbull	Young	<i>Kuksenok</i>	Piazza
4:42 PM		Chen	Agarwal	Bratina	Choi	<i>Beaucage</i>	Junio
4:54 PM	McKenna	Park	Charbonnfan	Yoon	Hoagland	<i>McDonough</i>	Schmidt
5:06 PM		Sainti-Ilan	Olson Reichardt	Swiontek	Lei	<i>Streletzky</i>	Winter
5:18 PM		Lee	Holmstrom	Papadimitratos	Bai	<i>Urayama</i>	
5:30 PM							

Friday, March 19th 2010

Session	Y8.	Y10.	Y12.	Y17.	Y18.	Y19.	Y20.
<i>Room</i>	<i>Portland 255</i>	<i>A106</i>	<i>B110-B111</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>	<i>C120-C122</i>
<i>Chair</i>	<i>Colby</i>	<i>Grason</i>		<i>Podzorov</i>	<i>Olsen</i>	<i>Schweizer</i>	
8:00 AM	Kornyshev	Lezan	Bandi	Moghe	King	Vlassopoulos	Santos
8:12 AM		Akgun	Zhang	Chatterjee	Agra-Kooijman		Santos
8:24 AM		Kobori	Thomas	Wu	Lang		Baker
8:36 AM	Angell	Sahu	Haxton	Perry	Biggins	Stiakakis	Lu
8:48 AM		Mainali	Siemens	Ramini	Jha	Schweizer	Takahashi
9:00 AM		Song	Xu	Kuzyk	Olsen	Yang	Andrist
9:12 AM	Winey	Shin	Schoenholz	Epstein	Bhatnagar	Meng	Joly
9:24 AM		Vural	Petekidis	Nasrollahi	Cladis	Bozorgui	Dharmawardhama
9:36 AM		Rose	Negi	Li	Alfonzo	Basu	Hall
9:48 AM	Izgorodina	Vorov	Chikkadi	Lu	Lee	Guo	Bugaer
10:00 AM		Tehver	Ghosh	Min	Li	Ou-Yang	Queen
10:12 AM		Li	Gollub	Kirova	Deplace	Sikorski	Singh
10:24 AM	Borodin	Zhang	Schmiedeberg	Russell	Han	Giuliani	Speck
10:36 AM			Shaw			Hashmi	
10:48 AM							

Session	Z11.	Z12.	Z16.	Z17.	Z18.	Z19.
<i>Room</i>	<i>A107-109</i>	<i>B110-B111</i>	<i>B115</i>	<i>B116</i>	<i>B117</i>	<i>B118-B119</i>
<i>Chair</i>		<i>Douglas</i>	<i>Kalb</i>	<i>Lutkenhaus</i>	<i>Sharma</i>	<i>Kim</i>
11:15 AM	Tayebi	Sussman	Sarker	Sinha	Schiller	Minko
11:27 AM	Daly	Chisolm	Da Como	Lin	White	
11:39 AM	Smith	Odagaki	Shrivastava	Wang	Barros	
11:51 AM	Chen	Yunker	Rybicki	Teran	Mitra	Hur
12:03 PM	Wang	Flenner	Natan	Roddecha	Riggleman	Clough
12:15 PM	Sanders	Gunasekera	Agrait	Laanait	Bentrem	Vorselaars
12:27 PM	Ali	Clapa	Neuhausen	Lutkenhaus	Clancy	Oyerokun
12:39 PM	Anthony	Daley	Mazumdar	Saltzman	Anderson	Ducker
12:51 PM	Machta	Vignarooben	Olejniak	Seitz	Wang	Migliorini
1:03 PM	Lai	Parsaeian	Cook	Etampawala	Zhang	Taylor
1:15 PM	Cruz	Szamel	Cicoira	Park	Reding	Akgun
1:27 PM	Nosach	Marimbela	Yocom	Botelho	Schieber	Carrillo
1:39 PM	Landy	Oliver	Lupton	Castagna	Fung	Wang
1:51 PM		Axila	Wo	Starovoytov	Dhar	Elliott
2:03 PM			Cho	Behrens	Awad	Denniston

Session P32: Focus Session: Tribophysics -- Adhesion and Friction

Sponsoring Units: DMP GSNP DPOLY

Chair: Erio Tosatti, SISSA/ICTP

Room: E142

Wednesday, March 17, 2010 8:00AM - 8:12AM	P32.00001: Spreading of Nanoparticles on a Substrate Andrey Dorbrynin , Elie Raphael , Jan-Michael Carrillo
Wednesday, March 17, 2010 8:12AM - 8:24AM	P32.00002: Directionally Sensitive Adhesion of Textured Surfaces John Howarter , Jun Young Chung , Christopher Stafford
Wednesday, March 17, 2010 8:24AM - 8:36AM	P32.00003: Modification of Substrates for Improved Chemical Bonding at Epoxy Interfaces Andrew B. Schoch , Daniel A. Fischer , Joseph L. Lenhart
Wednesday, March 17, 2010 8:36AM - 9:12AM	P32.00004: Making and Breaking of Atomic Bonds in Carbon Tribocontacts Invited Speaker: Peter Gumbsch
Wednesday, March 17, 2010 9:12AM - 9:24AM	P32.00005: Study of Scratching Resistance Mechanism of Ultra-thin Diamond-Like-Carbon (DLC) Coatings Deposited on Glass Weidian Shen , Rene Crombez , Jeremy McMinis , V. S. Veerasamy
Wednesday, March 17, 2010 9:24AM - 9:36AM	P32.00006: Electromigration-Driven Surface Morphological Stabilization of a Strained Thin Film on a Substrate Georgios I. Sfyris , M. Rauf Gungor , Dimitrios Maroudas
Wednesday, March 17, 2010 9:36AM - 9:48AM	P32.00007: Characterize cohesive failure in simple shear of entangled polymer solutions on micron scales Pouyan Boukany , Sham Ravindranath , Shi-Qing Wang , James Lee
Wednesday, March 17, 2010 9:48AM - 10:24AM	P32.00008: Fundamental deformation processes controlling nanoscale friction and wear Invited Speaker: Bernd Gotsmann
Wednesday, March 17, 2010 10:24AM - 10:36AM	P32.00009: Formation of a One-Atom Contact on Pb: Adhesion and Energy Dissipation Giovanni Saenz-Arce , Gabino Rubio-Bollinger , Carlos Untiedt
Wednesday, March 17, 2010 10:36AM - 10:48AM	P32.00010: Effect of trace moisture on friction Yun Liu , Izabela Szlufarska

Wednesday, March 17,
2010
10:48AM - 11:00AM

P32.00011: Investigation of Aqueous Lubricants on Polymer
Surfaces by Nanoindenter-based Scratch Tests
Wendy E. Krause , Jing Liang , Junlong Song , Orlando J. Rojas

Session Q2: Jamming

Sponsoring Units: DCMP GSNP

Chair: Wouter Ellenbroek, University of Pennsylvania

Room: *Oregon Ballroom 202*

Wednesday, March 17,
2010
11:15AM - 11:51AM

Q2.00001: Rigidity and Excitations in Jammed Solids
Invited Speaker: Sidney Nagel

Wednesday, March 17,
2010
11:51AM - 12:27PM

Q2.00002: Jamming transition as probed by quasi-static shear
simulations
Invited Speaker: Claus Heussinger

Wednesday, March 17,
2010
12:27PM - 1:03PM

Q2.00003: Random close packing of polydisperse jammed
emulsions
Invited Speaker: Jasna Brujic

Wednesday, March 17,
2010
1:03PM - 1:39PM

Q2.00004: Jamming of Ellipsoids: Abundance of Zero-
Frequency Modes and What to Do With Them
Invited Speaker: Zorana Zeravcic

Wednesday, March 17,
2010
1:39PM - 2:15PM

Q2.00005: Elasticity and response in nearly isostatic periodic
lattices
Invited Speaker: Xiaoming Mao

Session Q4: Celebrating 50 Years of Lasers in Condensed Matter Physics: Surfaces, Imaging & Technology

Sponsoring Units: DPOLY

Chair: Marcus Cicerone, National Institute of Standards and Technology

Room: *Oregon Ballroom 204*

Wednesday, March 17, 2010 11:15AM - 11:51AM	Q4.00001: Nonlinear Optical Spectroscopy as a Unique Probe for Surfaces of Liquids, Polymers and Solids Invited Speaker: Y. Ron Shen
Wednesday, March 17, 2010 11:51AM - 12:27PM	Q4.00002: Fourier Imaging Correlation Spectroscopy for Studies of Sub-Cellular Dynamics and Biomolecular Conformation Transition Pathways Invited Speaker: Andrew Marcus
Wednesday, March 17, 2010 12:27PM - 1:03PM	Q4.00003: Exploring the Underlying Biophysics of Eukaryotic Plasma Membrane Asymmetry by Sum-Frequency Vibrational Spectroscopy Invited Speaker: John Conboy
Wednesday, March 17, 2010 1:03PM - 1:39PM	Q4.00004: Pushing the Envelope in Biological Imaging Invited Speaker: Eric Betzig
Wednesday, March 17, 2010 1:39PM - 2:15PM	Q4.00005: 3D Photonic Metamaterials Made by Direct Laser Writing Invited Speaker: Martin Wegener

Session Q12: Self-Assembly: Equilibrium and Non-Equilibrium

Sponsoring Units: DFD DCMP

Chair: Jacques Amar, University of Toledo

Room: B110-B111

Wednesday, March 17, 2010 11:15AM - 11:27AM	Q12.00001: Two-parameter sequential adsorption model of microfiber clustering Jayson Paulose , David Nelson , Joanna Aizenberg
Wednesday, March 17, 2010 11:27AM - 11:39AM	Q12.00002: Directed Self-assembly of Gold Nanoparticles using Chemically Patterned Templates Robert Nidetz , Jinsang Kim
Wednesday, March 17, 2010 11:39AM - 11:51AM	Q12.00003: Isomers of Janus colloidal clusters Qian Chen , Steve Granick
Wednesday, March 17, 2010 11:51AM - 12:03PM	Q12.00004: Design Rules for Ordered SAMs on Patchy Nanoparticles Aaron Santos , Sharon Glotzer
Wednesday, March 17, 2010 12:03PM - 12:15PM	Q12.00005: Free Energy Landscape of Colloidal Clusters at Small N Guangnan Meng , Natalie Arkus , Michael Brenner , Vinothan Manoharan
Wednesday, March 17, 2010 12:15PM - 12:27PM	Q12.00006: Epitaxial growth of colloidal nanoparticles Y. Kryukov , C. Joshi , T.P. Bigioni , J.G. Amar
Wednesday, March 17, 2010 12:27PM - 12:39PM	Q12.00007: Self assembly of magnetically interacting cubes by a turbulent Fluid Flow Madhav Mani , Filip Ilievski , Michael Brenner , George Whitesides
Wednesday, March 17, 2010 12:39PM - 12:51PM	Q12.00008: Phase separation induced by ladder-like polymer-polymer complexation Issei Nakamura , An-Chang Shi
Wednesday, March 17, 2010 12:51PM - 1:03PM	Q12.00009: Liquid-Vapor Like Phase Transition in DNA-Coated Colloids Francisco Martinez-Veracoechea , Daan Frenkel
Wednesday, March 17, 2010 1:03PM - 1:15PM	Q12.00010: Self-limited self-assembly of chiral filaments Michael Hagan , Yasheng Yang , Robert Meyer

<p>Wednesday, March 17, 2010 1:15PM - 1:27PM</p>	<p>Q12.00011: Optimal arrangement of lamellar and triangular lattices confined to cylindrical fibers Kevin Kohlstedt , Graziano Vernizzi , Francisco Solis , Monica Olvera de la Cruz</p>
<p>Wednesday, March 17, 2010 1:27PM - 1:39PM</p>	<p>Q12.00012: Self-Assembled Membranes and Chirality Driven Transitions from 2D Surfaces into 1D Ribbons Edward Barry , Zvonimir Dogic , Robert Meyer , Nadir Kaplan , Thomas Gibaud , Mark Zakhary , Hao Tu , Robert Pelcovits , Rudolf Oldenbourg</p>
<p>Wednesday, March 17, 2010 1:39PM - 1:51PM</p>	<p>Q12.00013: Organic crystal needle formation via solvent-annealing: coarsening, wetting, and crystallization in a thin liquid film Tony S. Yu , A. E. Hosoi</p>
<p>Wednesday, March 17, 2010 1:51PM - 2:03PM</p>	<p>Q12.00014: A Monte Carlo Free Energy Approach to Microphase study and Its Application on the ANNNI Model Kai Zhang , Patrick Charbonneau</p>
<p>Wednesday, March 17, 2010 2:03PM - 2:15PM</p>	<p>Q12.00015: From gas-liquid to liquid crystalline phase behavior via anisotropic attraction: A computer simulation study in three and two dimensions Reinhard Hentschke , Wen-Ze Ouyang</p>

Session Q16: Focus Session: Polymers and Energy: Fuel Cells and Batteries

Sponsoring Units: DPOLY GERA DMP

Chair: Karim Alamgir, The University of Akron

Room: B115

Wednesday, March 17, 2010 11:15AM - 11:51AM	Q16.00001: Water Retention and Proton Conductivity of Block Copolymers in Contact with Humid Air Invited Speaker: Nitash Balsara
Wednesday, March 17, 2010 11:51AM - 12:03PM	Q16.00002: Theoretical and simulation study of charge distribution and transport in ionomers Philip Taylor , Elshad Allahyarov , Kaytlin Brinker , Zachary Tobin
Wednesday, March 17, 2010 12:03PM - 12:15PM	Q16.00003: Simulation study of proton transport in a cylindrically confined ionomer channel Elshad Allahyarov , Philip Taylor , Hartmut L\"owen
Wednesday, March 17, 2010 12:15PM - 12:27PM	Q16.00004: A complete set of ion transport properties in a microstructured electrolyte Scott Mullin , Ashoutosh Panday , Greg Stone , Nitash Balsara
Wednesday, March 17, 2010 12:27PM - 12:39PM	Q16.00005: Retarding Dendrite Formation in Rechargeable Lithium Metal Batteries with Block Copolymer Electrolytes Greg Stone , Scott Mullin , Nitash Balsara
Wednesday, March 17, 2010 12:39PM - 12:51PM	Q16.00006: Synthesis of nanoporous materials using block copolymers and applications as battery separators David Wong , Scott Mullin , Greg Stone , Nitash Balsara
Wednesday, March 17, 2010 12:51PM - 1:03PM	Q16.00007: First Principles Study of Phase Transformations in Polyvinylidene Fluoride V. Ranjan , Marco Buongiorno Nardelli , J. Bernholc
Wednesday, March 17, 2010 1:03PM - 1:15PM	Q16.00008: Experimental studies of charge transport and storage in microbial biofilms Nikhil Malvankar , Kelly Nevin , Ashley Franks , Madeline Vargas , Kengo Inoue , Mark Tuominen , Derek Lovley
Wednesday, March 17, 2010 1:15PM - 1:27PM	Q16.00009: Anodes for glucose fuel cells made of carbonized nanofibers with embedded carbon nanotubes Sabina Prilutsky , Yachin Cohen , Eyal Zussman , Vadim Makarov , Eugenia Bubis , Pinchas Schechner
Wednesday, March 17, 2010 1:27PM - 1:39PM	Q16.00010: Performance of direct methanol fuel cells under various conditions Yong Hee Chung , Asad Mehmood

Wednesday, March 17,
2010
1:39PM - 1:51PM

Q16.00011: Proton-Conducting Metal-Organic Frameworks
Jamie Ford , Jason Simmons , Taner Yildirim

Session Q17: Focus Session : Glass Transition in Thin Films II

Sponsoring Units: DPOLY

Chair: Connie Roth, Emory University

Room: B116

Wednesday, March 17, 2010 11:15AM - 11:27AM	Q17.00001: Local and Average Glass Transitions in Polymer Thin Films Jane Lipson , Scott Milner
Wednesday, March 17, 2010 11:27AM - 11:39AM	Q17.00002: Dye reorientation in freestanding polystyrene films exhibits fast and slow subpopulations Keewook Paeng , Hau-Nan Lee , Stephen Swallen , Mark Ediger
Wednesday, March 17, 2010 11:39AM - 11:51AM	Q17.00003: Effect of Free Surface on Physical Aging of Polystyrene Films and Its Connection to Glass Transition Temperature Reductions: Evidence for a Gradient in Dynamics Justin Pye , Kate Rohald , Elizabeth Baker , Connie Roth
Wednesday, March 17, 2010 11:51AM - 12:27PM	Q17.00004: Molecular Dynamics Simulations of Glass-forming Polymer Films Invited Speaker: Jorg Baschnagel
Wednesday, March 17, 2010 12:27PM - 12:39PM	Q17.00005: Glass transition temperature and its distribution in nanoconfined free-standing polymer films Soyoung Kim , Connie Roth , John Torkelson
Wednesday, March 17, 2010 12:39PM - 12:51PM	Q17.00006: Molecular Weight Changes and Crosslinking Kinetics in Glassy and Elastomeric Thin Films Nicholas Carbone , Mada Ene , Jeffrey Lancaster , Jeffrey Koberstein
Wednesday, March 17, 2010 12:51PM - 1:03PM	Q17.00007: Influence of Molecular Size and Shape to Viscoelastic Properties of Polyethylene Glycol (PEG) Solution Boundary Layers Ping Wang , Sheng Qin , Xianbin Du , Da-Ming Zhu
Wednesday, March 17, 2010 1:03PM - 1:15PM	Q17.00008: Unified description of the slip phenomena in sheared polymer films: A molecular dynamics study Nikolai Priezjev
Wednesday, March 17, 2010 1:15PM - 1:27PM	Q17.00009: Non-destructive probing of mechanical anisotropy in polyimide films at nanoscale George Fytas , Nikos Gomopoulos , Gagan Saini , Michael Efremov , Paul Nealey , Keith Nelson
Wednesday, March 17, 2010 1:27PM - 1:39PM	Q17.00010: Self-wrinkling of a thin polymer film on a soft elastic substrate Guillaume Miquelard-Garnier , Andrew Croll , Alfred Crosby

<p>Wednesday, March 17, 2010 1:39PM - 1:51PM</p>	<p>Q17.00011: Molecular Weight and nanoparticle size dependence of Nanoparticle embedding into Glassy Polymer films Dongping Qi , Mark Ilton , James Forrest</p>
<p>Wednesday, March 17, 2010 1:51PM - 2:03PM</p>	<p>Q17.00012: Capillary force induced assembly of high aspect-ratio polymeric micropillar arrays Dinesh Chandra , Shu Yang</p>
<p>Wednesday, March 17, 2010 2:03PM - 2:15PM</p>	<p>Q17.00013: Varying Properties of Polymers in Thin Films: The Influence of Solvent Quality on Dewetting Adam Raegen , Mithun Chowdhury , Alexander Schmatulla , Guenter Reiter</p>

Session Q18: Biological-Synthetic Hybrid Materials II

Sponsoring Units: DBP DPOLY

Chair: Oleg Gang, Brookhaven National Laboratory

Room: B117

Wednesday, March 17, 2010 11:15AM - 11:27AM	Q18.00001: Particle Assembly with Double-Helix DNA Dazhi Peter Sun , Andrea Stadler , Daniel van der Lelie , Oleg Gang
Wednesday, March 17, 2010 11:27AM - 11:39AM	Q18.00002: Flying Colloidal Carpets Erika Eiser , Sabrina Jahn , Nienke Geerts
Wednesday, March 17, 2010 11:39AM - 11:51AM	Q18.00003: Energy Landscapes of Small, Fixed Numbers of DNA-coated Colloids Jesse Collins , Vinothan Manoharan
Wednesday, March 17, 2010 11:51AM - 12:03PM	Q18.00004: Structure of DNA-Carbon Nanotube Hybrids Suresh Manohar , Anand Jagota , Xiaomin Tu , Ming Zheng
Wednesday, March 17, 2010 12:03PM - 12:15PM	Q18.00005: Low temperature study of DNA-encapsulated silver clusters as optical emitters Sumant Oemrawsingh , Patrick O'Neill , Rick Leijssen , Elizabeth Gwinn , Deborah Kuchnir Fygenon , Dirk Bouwmeester
Wednesday, March 17, 2010 12:15PM - 12:27PM	Q18.00006: Yield, Purity and Mobility of a Silver-DNA Fluorophore in Solution Patrick O'Neill , Lourdes Velazquez , Peter Goodwin , Til Driehorst , Sumita Pennathur , Deborah Fygenon
Wednesday, March 17, 2010 12:27PM - 12:39PM	Q18.00007: Sensitivity of Ag:DNA fluorescence to single base mutations of hairpin strands Elisabeth Gwinn , Rameen Hassanzadeh , Patrick O'Neill , Deborah Fygenon
Wednesday, March 17, 2010 12:39PM - 12:51PM	Q18.00008: Can protein-imprinted polymers be used as selective binding assays? Simcha Srebnik , Liora Levi
Wednesday, March 17, 2010 12:51PM - 1:03PM	Q18.00009: Viscoelastic and not Viscous Glue Drops Produced by Orb-Weaving Spiders Vasav Sahni , Todd Blackledge , Ali Dhinojwala
Wednesday, March 17, 2010 1:03PM - 1:39PM	Q18.00010: DNA: Not Merely the Secret of Life Invited Speaker: Nadrian C. Seeman

<p>Wednesday, March 17, 2010 1:39PM - 1:51PM</p>	<p>Q18.00011: Designing autonomously motile gels that follow complex paths Pratyush Dayal , Olga Kuksenok , Anna C. Balazs</p>
<p>Wednesday, March 17, 2010 1:51PM - 2:03PM</p>	<p>Q18.00012: Buckled Membranes in Mixed-Valence Ionic Amphiphile Vesicles Analyzed by X-Ray Scattering Michael Bedzyk , Cheuk Leung , Megan Greenfield , Liam Palmer , Graziano Vernizzi , Monica Olvera de la Cruz , Samuel Stupp</p>
<p>Wednesday, March 17, 2010 2:03PM - 2:15PM</p>	<p>Q18.00013: Hybrid static/fluidic synthetic substrates to interface living and nonliving Theobald Lohmueller , Jay T. Groves</p>

Session Q19: Focus Session: Physics of Polymer Nanocomposites II

Sponsoring Units: DPOLY

Chair: Michael Mackay, University of Delaware

Room: B118-B119

Wednesday, March 17, 2010 11:15AM - 11:27AM	Q19.00001: Polymer and Nanoparticle Interactions Determining Nanocomposite Physical Properties Katherine Best , Caroline Miesch , James Watkins , Todd Emrick , Alfred Crosby
Wednesday, March 17, 2010 11:27AM - 11:39AM	Q19.00002: Fragility of Polymer Nanocomposites with Ideal Nanoparticle Dispersion Beatriz Pazmino , Jack Douglas , Francis Starr
Wednesday, March 17, 2010 11:39AM - 11:51AM	Q19.00003: The Percolation Network and The Electrical Conductivity of Carbon Nanotubes in a simple shear Gyemin Kwon , Youngjun Woo , Kwanwoo Shin , Bong June Sung
Wednesday, March 17, 2010 11:51AM - 12:03PM	Q19.00004: Nanostructured surface made from polymer/carbon nanotube has higher conductivity than noble metal surface SuPing Lyu , James Coles , Ken Gardenski , Scott Brabec , Chris Hobot
Wednesday, March 17, 2010 12:03PM - 12:15PM	Q19.00005: Dynamics of Coarse-grained Model of Filled Rubber Composite under Deformation Katsumi Hagita , Shinichi Ueno , Yasumasa Bito , Hiroshi Takano , Masao Doi , Hiroshi Morita
Wednesday, March 17, 2010 12:15PM - 12:27PM	Q19.00006: Mechanical Reinforcement Induced by Polymer-Decorated Nanoparticles in Polymer Thin Films Damien Maillard , Sanat Kumar , Benjamin Fragneaud , Jeffrey Kysar
Wednesday, March 17, 2010 12:27PM - 12:39PM	Q19.00007: Unique Plastic and Recovery Behaviour of Nano-Filled Elastomers and Thermoplastic Elastomers Didier Long , Samy Merabia , Paul Sotta
Wednesday, March 17, 2010 12:39PM - 12:51PM	Q19.00008: Investigation of crazing and cavitation in polymer nanocomposites via simulation Gregory Toepperwein , Juan de Pablo
Wednesday, March 17, 2010 12:51PM - 1:03PM	Q19.00009: Anisotropic Magnetic and Mechanical Properties of Epoxy Reinforced with Magnetic Nanofillers Olga Malkina , Korey D. Sorge , Hassan Mahfuz
Wednesday, March 17, 2010 1:03PM - 1:15PM	Q19.00010: Electron microscopy of polystyrene grafted silica nanoparticles in a homopolymer matrix subjected to steady shear Joseph Moll , Sanat Kumar , Ralph Colby , Yu Li , Brian Benicewicz

Wednesday, March 17, 2010
1:15PM - 1:27PM
Q19.00011: A New Aspect to Nano-Composite Rheology -- the Localized Memory Effect
Xiaorong Wang , Christopher Robertson

Wednesday, March 17, 2010
1:27PM - 1:39PM
Q19.00012: Percolation behavior for high performance polyimide nanocomposites processed by melt mixing
Michelle Schlea , Eric Mintz , Meisha Shofner

Wednesday, March 17, 2010
1:39PM - 2:15PM
Q19.00013: New Mechanism Responsible for the Tg-broadening and Nonlinear Response of Nanoparticle-Reinforced Elastomers
Invited Speaker: Xiaorong Wang

Session S1: Poster Session III (1:00 pm - 4:00 pm)

Room: *Exhibit CD*

S1.00001: POLYMER AND SOFTER MATTER PHYSICS II

S1.00002: Origin of translocation barriers for polyelectrolyte chains

Rajeev Kumar , Murugappan Muthukumar

S1.00003: The complex band perspective of self-localization in conducting polymers

Qing Lu , Minghai Li , Lauren O'Malley , Xi Lin

S1.00004: Morphologies in Sulfonated Styrenic Pentablock Copolymer Membranes

Jae-Hong Choi , Matt Bramson , Karen I. Winey

S1.00005: Effect of the Electrostatic Interactions on Stretching of Semiflexible and Biological Polyelectrolytes

Jan-Michael Carrillo , Andrey Dobrynin

S1.00006: Peptide and micelle morphologies in ionic liquid

Ashley Montgomery , Sandeep Naik , Jacob Ray , Daniel Savin

S1.00007: Stimuli-responsive polypeptide-based triblock copolymers

Jacob Ray , Sandeep Naik , Daniel Savin

S1.00008: Morphological and physical behavior of styrenic, phosphonium-containing ionomers

Rick Beyer , Kristoffer Stokes

S1.00009: pH -Triggered "Explosions" of Dually Responsive Polymer Micelles: Solutions versus Surfaces

Svetlana Sukhishvili , Li Xu , Oleg Borisov , Ekaterina Zhulina

S1.00010: Variable pressure NMR self-diffusion studies of fuel cell polymer electrolyte membrane

Bruno Pinto , Jaime Farrington , Phil Stallworth , Steve Greenbaum

S1.00011: None-Affine Multiaxial Deformation of Polymer Networks

Nikolay Oskolkov , Sergei Panyukov , Michael Rubinstein

S1.00012: Polyelectrolytes in electric fields: An explicit solvent simulation study

Hongjun Liu , Edward Maginn , Y. Elaine Zhu

S1.00013: Kinetic Monte Carlo Simulation of Cation Diffusion in Ytria-Stabilized Zirconia

Brian Good

S1.00014: Theory of self-healing polymer networks with reversible bonding

Evgeny Stukalin , Arun Kumar N , Ludwik Leibler , Michael Rubinstein

S1.00015: Random networks of cross-linked directed

polymers

Panayotis Benetatos , Stephan Ulrich , Annette Zippelius

S1.00016: Improving self-healing behavior of dually cross linked nanogels that encompass nanoparticles

Solomon Duki , German Kolmakov , Krzysztof Matyjaszewski , Anna Balazs

S1.00017: Stiffening, Fracture, and Friction of Physically Associating Networks by Shear Rheometry

Kendra A. Erk , Kenneth R. Shull

S1.00018: Study on hierarchical structure of polyethylene under uniaxial stretch by using USAXS, SAXS and WAXS

Sumiaki Fujii , Shotaro Nishitsuji , Mikihiro Takenaka , Hirokazu Hasegawa

S1.00019: Melting and Crystalline Properties of Isotactic Poly(propylenes) with 1,3 Defects

Carolina Ruiz-Orta , Juan P. Fernandez-Blazquez , Rufina G. Alamo , Amelia M. Anderson , Geoffrey W. Coates

S1.00020: Real-Time FTIR Spectroscopic Study of the Crystallization Process of Random Isotactic Propylene-1-Alkene Copolymers

Rufina G. Alamo , Juan P. Fernandez-Blazquez , Eduardo Pereira , Carolina Ruiz-Orta

S1.00021: Effect of crystalline form on phase transformation kinetics of poly(l-lactic acid)

Jeffrey Kalish , Shaw Ling Hsu

S1.00022: Understanding and Controlling Scrolled Polymer Single Crystal Habits in Isotactic Polybutene-1

Hao-Jan Sun , Bernard Lotz , Stephen Cheng

S1.00023: A 2D Synchrotron X-Ray Study on Stress-Induced Crystallization of Propylene-1-Butylene Random Copolymer: Polymorphism and Preferred Orientation

Yimin Mao , Christian Burger , Xiaowei Li , Benjamin Hsiao , Derek Thurman , Andy Tsou

S1.00024: Nanoparticle-arrested phase separation of polymer blends

Le Li , Xuan Ding , Caroline Miesch , P.K. Sudeep , Todd Emrick , Ryan Hayward , Thomas Russell

S1.00025: Multicompartment Micelles from pH Responsive Block Terpolymers

Chun Liu , Marc Hillmyer , Timothy Lodge

S1.00026: Scaling model for symmetric star polymers

Ram Ramachandran , Durgesh K. Rai , Gregory Beaucage

S1.00027: Dynamic microscopy method for the characterization of nano-sized particles

Beom-Jin Yoon , Jung O.K. Park , Mohan Srinivasarao , Michael H. Smith , L. Andrew Lyon

S1.00028: Glass Transition Temperature of Polystyrene Films

on Preferential Substrate

Hoyeon Lee , Sudhakar Naidu , Eunhye Kim , Du Yeol Ryu

S1.00029: Differential AC/scanning chip nanocalorimeter for in-situ measurements of vapor deposited glasses

Mathias Ahrenberg , Heiko Huth , Christoph Schick , Katie Whitaker , Mark D. Ediger

S1.00030: Observing the Twinkling Fractal Nature of the Glass Transition

Joseph Stanzone III , Richard Wool , Kenneth Strawhecker

S1.00031: Effect of Nanoconfinement on the Glass Transition Temperature and Small Molecule Diffusion in Polymers of Varying Backbone Stiffness

Hui Deng , Manish Mundra , John Torkelson

S1.00032: Residual Stress in Floating Polymer Sheets

Kamil Toga , Jiangshui Huang , Benny Davidovitch , Narayanan Menon , Thomas Russell

S1.00033: Bonding Structure of Phenylacetylene on Hydrogen-Terminated Si(111) and Si(100): Surface Photoelectron Spectroscopy Analysis and Ab-Initio Calculation

Masakazu Kondo , Edward Kramer

S1.00034: Mechanics of Thin Film Buckling

Yuri Ebata , Alfred Crosby

S1.00035: Self Wrinkling of UV-cured Polymer Films

Alfred J. Crosby , Dinesh Chandra

S1.00036: Improving Plasmonic Enhancement of Spectroscopic Signals from Polymer Analytes

Rebecca Agapov , Andrey Malkovskiy , Carlos Barrios , Alexei Sokolov , Mark Foster

S1.00037: Complex Interfaces: Gradient Libraries and Measurement Advances

John Howarter , Edwin Chan , Jun Young Chung , Peter Johnson , Jennifer Kelly , Joonsung Yoon , Christopher Stafford

S1.00038: Pattern Formation During Phase Separation of Polymer-Ionic Liquid Co-Solutions

Zhiyong Meng , Chinedum Osuji

S1.00039: Polystyrene / Polybutadiene Thin Film Polymer Blends Studied by Atomic Force Microscopy: Dewetting and Copolymer Compatibilization

Dean Waldow , Luke Latimer

S1.00040: Self-Assembly of Submonolayer-Coverage Organic Films

T.P. Corrales , P. Homm , P. Ferrari , M.J. Retamal , E.A. Cisternas , V. del Campo , U.G. Volkmann , H. Taub , F.Y. Hansen

S1.00041: A NEXAFS Characterization of Vapor Deposited Monolayer and Submonolayer films on Si, SiO₂ and

AI\$_{2}\$SO\$_{3}\$

Cherno Jaye , Daniel A. Fischer , Benjamin M. DeKoven , Jeffrey D. Chinn

S1.00042: A polymeric nanocoating on carbon nanotube arrays for developing imprinted protein sensor

L. Ren , H.Z. Zhao , C.J. Xu , Y. Yu , H.Z. Wang , Y.C. Lan , D. Wagner , M.J. Naughton , Z.F. Ren , T.C. Chiles , D. Cai

S1.00043: The Acoustic Characterization of the Hydrophobic and Hydrophilic Films

Xiaohua Wang , Xin Wang , Rodolfo Fernandez , Mingdi Yan , Andres La Rosa

S1.00044: Arrangement of block copolymer microdomains confined at hemi-spherical substrates with different brush layers

Du Sik Bae , Won Chul Joo , Jin Seok Byun , Gumhye Jeon , Jin Kon Kim

S1.00045: Probing 2D Order in Block Copolymer Monolayers Patterned by Graphoepitaxy

Adetunji Onikoyi , Edward Kramer

S1.00046: A Quantitative Determination of Parameters Governing Reaction Products in Emulsion Based Systems

Casey Kimball , Shaw Ling Hsu

S1.00047: Surface composition and morphology of dendronized perfluoro poly(2-vinylpyridine) in a poly(2-vinylpyridine) homopolymer

Michael Dimitriou , Robert Vestberg , Kristin Schmidt , Craig Hawker , Edward Kramer

S1.00048: Observation of Fddd structure in SI diblock copolymer/homopolymer blends

Myung Im Kim , Satoshi Akasaka , Tsutomu Wakada , Mikihiro Takenaka , Hirokazu Hasegawa

S1.00049: Direct measurement of deformation-induced molecular mobility in polystyrene glasses

Benjamin Bending , Hau-Nan Lee , Mark Ediger

S1.00050: Stable organic glasses transform into unusually mobile liquids via growth growth fronts

Mark Ediger , Stephen Swallen , Thomas Mates

S1.00051: Synthesis and Phase Behavior of Well Defined Coil-Rod-Coil Block Copolymer Composed of Regioregular Poly(3-hexyl thiophene)

Hong Chul Moon , Arockiam Anthonysamy , Youngmin Lee , Jin Kon Kim

S1.00052: MD simulations of the effect of grafted charged polymer coatings on electro-osmotic flow

Owen A. Hickey , James L. Harden , Christian Holm , Gary W. Slater

S1.00053: Low-q X-ray scattering behavior in polymers

Amanda McDermott , Gregory Tudryn , Jan Ilavsky , Andrew Allen , Ralph Colby , James Runt

S1.00054: Manipulation of surface crystalline structures of

ultrathin PEO films using supercritical carbon dioxide
So King Lam , Mitsunori Asada , Peter Gin , Maya Endoh , Tadanori Koga , Sushil Satija

S1.00055: First Order Phase Transition of Primary and Secondary Decanol Inside Nanoporous Silica
Samuel Amanuel

S1.00056: Hierarchical Structure on Nanofiber via Combination of Electrospinning and Polymer Crystallization
Xi Chen , Bingbing Wang , Christopher Li

S1.00057: Crystallization Control of Hard and Soft Segments of Polyurethanes via Controlled Placement of Surface Functionalized Nanoparticles
Matthew A. Hood , James M. Sands , John J. La Scala , Frederick Beyer , Christopher Y. Li

S1.00058: Polystyrene-Polylactide Bottlebrush Block Copolymer at the Air/Water Interface
Lei Zhao , Myunghwan Byun , Javid Rzayev , Zhiquan Lin

S1.00059: Metal Nanoparticle Arrays Templated by Block Copolymer Sphere Monolayers
Hiroyuki Ishii , Edward Kramer

S1.00060: Synthesis and Co-assembly of Cyclopeptide-Polymer Conjugates with Block Copolymers
Rami Hourani , Nana Zhao , Brett Helms , Ting Xu

S1.00061: Enhancement light-emission of GaN via surface-nanopatterning
Mansik Park , Bongseok Kim , Soohwan Hwang , Minsik Cho , Kyusoon Shin

S1.00062: PS-b-PDMS Block Copolymer Thin Film: Pattern Formation and Phase Behavior
I-Fan Hsieh , Stephen Z.D. Cheng , Feng Chen , Qiang Fu

S1.00063: Quantitative study of temperature-dependent order in thin films of cylindrical morphology block copolymer
Vindhya Mishra , Edward Kramer

S1.00064: Square and Rectangular Arrays from Directed Assembly of Sphere-forming Diblock Copolymers in Thin Films
Shengxiang Ji , Umang Nagpal , Wen Liao , Juan de Pablo , Paul Nealey

S1.00065: Dynamics of Main Chain Liquid Crystalline Polysiloxanes Containing β -Phenyleneterephthalate Mesogens
Kevin Masser , Harshad Patil , Ronald Hedden , James Runt

S1.00066: Effect of pressure on orientational order in fluids of semiflexible polymer chains – A Monte Carlo simulation study
Kiran Khanal , Jutta Luettmmer-Strathmann

S1.00067: Time evolution study of anisotropy of P3HT film formation using In-Situ polarized Raman

Spectroscopy

Min Sang Park , Avishek Aiyar , Jung Ok Park , Elsa Reichmanis , Mohan Srinivasarao

S1.00068: Molecular Dynamics Simulations of Gas Transport in Polymer Films

David Whitley , Simon Butler , David Adolf

S1.00069: Self-Consistent PRISM Theory-Monte Carlo Simulation of Functionalized Nanoparticles in a Polymer Matrix

Nitish Nair , Arthi Jayaraman

S1.00070: Generating self avoiding walks by Markov dependent elongations

Kazuhito Shida

S1.00071: Role of hydrophobic interactions in the self-assembly of alternating copolymers

Cecile Malardier-Jugroot , Anita S.W. Chan , Michael N. Groves

S1.00072: Studying Soft Materials with Soft Potentials -- Fast Monte Carlo Simulations

Jing Zong , Xinghua Zhang , Pengfei Zhang , Yuhua Yin , Baohui Li , Qiang Wang

S1.00073: Visual-Analytics Tools for Analyzing Polymer Conformational Dynamics

Sidharth Thakur , Syamal Tallury , Melissa Pasquinelli

S1.00074: Supramolecular Assembly of Tripodal Trisamides

Li Feng

S1.00075: Small Angle X-ray Scattering (SAXS) to Probe the Mullins Effect in Filled Elastomers

Arthur Scholz , Ed Kramer

S1.00076: The Effects of the Thickness and Type of Silicone Coating Materials on the Swelling Behaviour of Hydrogels

Zamri Radzi , J. Hannah Lee , Marc Swan , Tim Goodacre , David Bucknall , Jan Czernuszka

S1.00077: Monte Carlo study of confinement effects on controlled radical polymerization reactions

Salomon Turgman-Cohen , Jan Genzer

Session T3: Materials with Topological Defects on Gaussian Curved Surfaces

Sponsoring Units: DCMP

Chair: Paul Chaikin, New York University

Room: *Oregon Ballroom 203*

Wednesday, March 17,
2010
2:30PM - 3:06PM

T3.00001: Structure and Stability of Defect Arrays on Curved Interfaces
Invited Speaker: Mark Bowick

Wednesday, March 17,
2010
3:06PM - 3:42PM

T3.00002: Scars on Spherical Colloidosomes
Invited Speaker: David Weitz

Wednesday, March 17,
2010
3:42PM - 4:18PM

T3.00003: Topological defects in colloidal Wigner crystals on curved surfaces
Invited Speaker: William Irvine

Wednesday, March 17,
2010
4:18PM - 4:54PM

T3.00004: Self-assembly on curved surfaces: the formation of divalent nanoparticles through topological constraints
Invited Speaker: Francesco Stellacci

Wednesday, March 17,
2010
4:54PM - 5:30PM

T3.00005: Experimental Studies of Defects in (Co)polymer Nanosystems
Invited Speaker: Alexander Hexemer

Session T11: Focus Session: Single Molecule Biophysics and Chemical Physics V

Sponsoring Units: DCP DBP DPOLY
Room: A107-A108

Wednesday, March 17, 2010 2:30PM - 3:06PM	T11.00001: Single Molecule Force Spectroscopy using Optical Traps and AFMs Invited Speaker: Thomas Perkins
Wednesday, March 17, 2010 3:06PM - 3:18PM	T11.00002: Force-activated reactivity switch in a bimolecular chemical reaction at the single molecule level Robert Szoszkiewicz , Sergi Garcia-Manyes , Jian Liang , Tzu-Ling Kuo , Julio M. Fernandez
Wednesday, March 17, 2010 3:18PM - 3:30PM	T11.00003: Characterization of mechanical properties of Type IV pili (Tfp) using atomic force microscopy Shun Lu , Hanjeong Harvey , Lori Burrows , John Dutcher
Wednesday, March 17, 2010 3:30PM - 3:42PM	T11.00004: Direct measurement of mechanical susceptibility in single-molecule proteins Eric Corwin , Maxime Clusel , Jasna Brujic
Wednesday, March 17, 2010 3:42PM - 3:54PM	T11.00005: Semi-flexible polymer with heterogeneous bending rigidity adsorbed at interfaces Francisco Solis , Graziano Vernizzi , Monica Olvera de la Cruz
Wednesday, March 17, 2010 3:54PM - 4:06PM	T11.00006: Sequence-Dependent Force Response During Peeling of Single Stranded DNA from Graphite Anand Jagota , Suresh Manohar , Dmitri Vezenov
Wednesday, March 17, 2010 4:06PM - 4:18PM	T11.00007: Dynamics of polymer expansion out of spherical capsids Issam Ali
Wednesday, March 17, 2010 4:18PM - 4:30PM	T11.00008: Probing the Mechanical Properties of Plasma von Willebrand Factor Using Atomic Force Microscopy Sitara Wijeratne , Eric Botello , Eric Frey , Ching-Hwa Kiang , Jing-Fei Dong , Hui-Chun Yeh
Wednesday, March 17, 2010 4:30PM - 4:42PM	T11.00009: Immobilization dynamics of a tethered membrane by peptide binding - a coarse-grained computer simulation model Ras Pandey , Hendrik Heinz , Barry Farmer
Wednesday, March 17, 2010 4:42PM - 4:54PM	T11.00010: Fluid Flows and Their Role in the Regulation of Biological Molecules in the Bloodstream Charles Sing , Alfredo Alexander-Katz

Session T12: Microfluidics II: Devices

Sponsoring Units: DFD

Chair: Cindy Harnett, University of Louisville

Room: B110-B111

Wednesday, March 17, 2010 2:30PM - 2:42PM	T12.00001: Mechanical actuators at the nanoscale: molecular propellers, paddles and wheels Lela Vukovic , Boyang Wang , Petr Kral
Wednesday, March 17, 2010 2:42PM - 2:54PM	T12.00002: Smart Capsules: Engineering New Temperature and Pressure Sensitive Materials with Microfluidics Laura Adams , James Wilking , Anderson Ho Cheung Shum , Sebastian Seiffert , Shmuel Rubinstein , Yuanjin Zhao , David Weitz
Wednesday, March 17, 2010 2:54PM - 3:06PM	T12.00003: Directed Fluid Flow Produced by Arrays of Magnetically Actuated Core-Shell Biomimetic Cilia B. L. Fiser , A. R. Shields , B. A. Evans , R. Superfine
Wednesday, March 17, 2010 3:06PM - 3:18PM	T12.00004: Microfluidic Mixing and Confined Flows with Biomimetic Cilia Arrays A.R. Shields , B.L. Fiser , B.A. Evans , R. Superfine
Wednesday, March 17, 2010 3:18PM - 3:30PM	T12.00005: Devices for the production and sorting of microfluidic droplets Donald Aubrecht , John Heyman , Jeremy Agresti , Sarah K"oster , David Weitz
Wednesday, March 17, 2010 3:30PM - 3:42PM	T12.00006: Surface-functionalized Microelectrofluidic Biosensors Michael A. Stanton , Guilherme N.M. Ferreira , Jean-Luc Fraikin , A. N. Cleland
Wednesday, March 17, 2010 3:42PM - 3:54PM	T12.00007: Electrode-based detection technique for microfluidic devices Evgeniya Moiseeva , Adrian Fletcher , Cindy Harnett
Wednesday, March 17, 2010 3:54PM - 4:06PM	T12.00008: Microfluidic high-throughput nanoparticle counter Jean-Luc Fraikin , Andrew Cleland
Wednesday, March 17, 2010 4:06PM - 4:18PM	T12.00009: Analysis and fabrication of micro scale self-terminated electrochemical growth by a pressure-driven method Fatemeh Soltani , Alex Wlasenko , Geoff Steeves
Wednesday, March 17, 2010 4:18PM - 4:30PM	T12.00010: Improved Performance of Deterministic Lateral Displacement Arrays with Triangular Posts Kevin Louterback , Kevin Chou , Jason Puchalla , Robert Austin , James Sturm

<p>Wednesday, March 17, 2010 4:30PM - 4:42PM</p>	<p>T12.00011: Hydrodynamic Trap for Single Cells and Particles Melikhan Tanyeri , Charles Schroeder</p>
<p>Wednesday, March 17, 2010 4:42PM - 4:54PM</p>	<p>T12.00012: Control of Molecular Transport and Chemical Reaction Dynamics in Confined Volumes Pat Collier</p>
<p>Wednesday, March 17, 2010 4:54PM - 5:06PM</p>	<p>T12.00013: Cost effective fabrication method for microscaled interdigitated electrodes for fast 3D ACEO pumps Yehya Senousy , Cindy Harnett</p>
<p>Wednesday, March 17, 2010 5:06PM - 5:18PM</p>	<p>T12.00014: Interaction of thin-film microcoils with the air/water interface and applications in microfluidics Cindy K. Harnett , Thomas M. Lucas , Julia W. Aebersold</p>
<p>Wednesday, March 17, 2010 5:18PM - 5:30PM</p>	<p>T12.00015: Development of an AFM-based hanging fiber rheometer for interfacial microrheology Shuo Guo , Xiaomin Xiong , Zuli Xu , Ping Sheng , Penger Tong</p>

Session T16: Focus Session: Organic Electronics and Photonics: Transport

Sponsoring Units: DMP DPOLY

Chair: Leeor Kronik, The Weizmann Institute of Science

Room: B115

Wednesday, March 17, 2010 2:30PM - 3:06PM	T16.00001: Multiscale modelling of charge transport in organic electronic materials Invited Speaker: Jenny Nelson
Wednesday, March 17, 2010 3:06PM - 3:18PM	T16.00002: Temperature dependent charge transport in regioregular poly (3-hexylthiophene) crystalline nanoribbon field effect transistor Muhammad Islam , M. Arif , Lei Zhai , Saiful I. Khondaker
Wednesday, March 17, 2010 3:18PM - 3:30PM	T16.00003: Exponential temperature dependence of conductance in metal-organic sandwiches Corneliu Colesniuc , Alexander Balatsky , Ivan Schuller
Wednesday, March 17, 2010 3:30PM - 3:42PM	T16.00004: Master Equation Approach to the Simulation of Transport Properties in Materials with Structural and Site-Energy Disorder Avadh Saxena , Ivo Batistic , Enrique Batista , Richard Martin , Darryl Smith
Wednesday, March 17, 2010 3:42PM - 3:54PM	T16.00005: Unifying high- and low-temperature transport in organic semiconductors in large electric fields Jeff Worne , Douglas Natelson , John Anthony
Wednesday, March 17, 2010 3:54PM - 4:06PM	T16.00006: Microscopic insight into the hopping transport in disordered semiconducting polymers Nenad Vukmirovic , Lin-Wang Wang
Wednesday, March 17, 2010 4:06PM - 4:18PM	T16.00007: Charge and energy transports via poly-phenylacetylene based dendrimers Yongwoo Shin , Minghai Li , Xi Lin
Wednesday, March 17, 2010 4:18PM - 4:30PM	T16.00008: The trap DOS in small molecule organic semiconductors: A quantitative comparison of thin-film transistors with single crystals Wolfgang Kalb , Simon Haas , Kurt Pernstich , Thomas Mathis , Bertram Batlogg
Wednesday, March 17, 2010 4:30PM - 4:42PM	T16.00009: Polarization-resolved optical spectroscopy imaging of electronic states in crystalline organic semiconductors thin films Z. Pan , I. Cour , M. Sutton , R. L. Headrick , M. Furis

<p>Wednesday, March 17, 2010 4:42PM - 4:54PM</p>	<p>T16.00010: Percolation Processes in Scintillation of Organic Crystals Vincenzo Lordi , Sebastien Hamel , Leslie Carman , Stephen Payne , Natalia Zaitseva</p>
<p>Wednesday, March 17, 2010 4:54PM - 5:06PM</p>	<p>T16.00011: Bottom-up modelling of charge transport in polymer semiconductors David Cheung , David McMahon , Alessandro Troisi</p>
<p>Wednesday, March 17, 2010 5:06PM - 5:18PM</p>	<p>T16.00012: Vapor deposition polymerization of a conjugated n-type polyimide Alexander Papastrat , Shuai Zhu , Mitchell Anthamatten</p>

Session T17: Focus Session: Dynamics of Polymers and Complex Fluids I

Sponsoring Units: DPOLY

Chair: Ron Larson, University of Michigan

Room: B116

Wednesday, March 17, 2010 2:30PM - 2:42PM	T17.00001: Importance of the difference between maximum and average tube length fluctuations of entangled polymers David Shirvanyants , Sergey Panyukov , Michael Rubinstein
Wednesday, March 17, 2010 2:42PM - 2:54PM	T17.00002: How Entangled Polymer Chains Relax Richard Wool
Wednesday, March 17, 2010 2:54PM - 3:06PM	T17.00003: Dynamics in a polymeric melt: coupling the standard model to a slip-link model Francois Detcheverry , Darin Pike , Juan de Pablo
Wednesday, March 17, 2010 3:06PM - 3:18PM	T17.00004: Unconcatenated ring polymer melts: Molecular dynamics study of the static and dynamic properties Jonathan Halverson , Won Bo Lee , Gary Grest , Alexander Grosberg , Kurt Kremer
Wednesday, March 17, 2010 3:18PM - 3:30PM	T17.00005: Microscopic definition of entanglement M. Ponmurugan , Jing Cao , Alexei Likhtman
Wednesday, March 17, 2010 3:30PM - 3:42PM	T17.00006: Polymer Architecture Effects on the Viscoelastic Bulk Modulus Sindee Simon , Jiayi Guo
Wednesday, March 17, 2010 3:42PM - 4:18PM	T17.00007: Localization and elasticity in entangled polymer liquids as a mesoscopic glass transition Invited Speaker: Kenneth Schweizer
Wednesday, March 17, 2010 4:18PM - 4:30PM	T17.00008: Coupling Effects in Molecular Dynamics Simulation of Polymer melts Jing Cao , Alexei Likhtman
Wednesday, March 17, 2010 4:30PM - 4:42PM	T17.00009: Interplay of cooperativity and entanglements in polymer melt dynamics: insights from theory and simulations Marina Guenza , Ivan Lyubimov
Wednesday, March 17, 2010 4:42PM - 4:54PM	T17.00010: Predicting non-linear rheology of randomly branched entangled polymer melts Daniel Read , Chinmay Das , Michael Kapnistos , Tom McLeish

Wednesday, March 17,
2010
4:54PM - 5:06PM

T17.00011: Entanglement in miscible blends
Hiroshi Watanabe

Wednesday, March 17,
2010
5:06PM - 5:18PM

T17.00012: Comparing tube models for predicting the linear
rheology of branched polymer melts
Zuowei Wang , Xue Chen , Ronald Larson

Wednesday, March 17,
2010
5:18PM - 5:30PM

T17.00013: Foundational issues in nonlinear rheology of
entangled polymeric liquids
Shi-Qing Wang , Pouyan Boukany , Sham Ravidranath , Yangyang Wang
, Xin Li

Session T18: Focus Session: Biological-Synthetic Hybrid Materials III

Sponsoring Units: DPOLY DBP

Chair: Francis Starr, Wesleyan University

Room: B117

Wednesday, March 17, 2010 2:30PM - 2:42PM	T18.00001: Self-assembling Phage-Quantum Dot Nanocomplexes for Quantitative Biodetection Matthew Clarke , HyeongGon Kang , Jeeseong Hwang
Wednesday, March 17, 2010 2:42PM - 2:54PM	T18.00002: Single mode excitation of microtubules using a double slit ultrasound device Abdorreza Samarbakhsh , Jack Tuszynski
Wednesday, March 17, 2010 2:54PM - 3:06PM	T18.00003: Design, Characterization and Application of Biocompatible Micro- and Nano-Particles for Dynamic X-ray Visual Imaging Sungsook Ahn , Sung Yong Jung , Sang Joon Lee
Wednesday, March 17, 2010 3:06PM - 3:18PM	T18.00004: Ultrafast Polarization Phase Selective (PPS) molecular radiation signatures helping molecules-build-molecules that can do what no molecule has done before Kresimir Rupnik , Judy Cherian , Takahisa Tokumoto , Stephen McGill
Wednesday, March 17, 2010 3:18PM - 3:30PM	T18.00005: Mesoscopic Simulations of the Insertion of the Amphiphilic Nanotubes into Lipid Bilayers Meenakshi Dutt , Michael Nayhouse , Olga Kuksenok , Alexander Alexeev , Steven R. Little , Anna C. Balazs
Wednesday, March 17, 2010 3:30PM - 3:42PM	T18.00006: Attachment dynamics of Photosystem I on nano-tailored surfaces for photovoltaic applications Dibyendu Mukherjee , Barry D. Bruce , Bamin Khomami
Wednesday, March 17, 2010 3:42PM - 3:54PM	T18.00007: Branched Actin Networks and Optimized Orientation D.A. Quint , J.M. Schwarz
Wednesday, March 17, 2010 3:54PM - 4:06PM	T18.00008: Quantitative Analysis of Statics and Dynamics of Actin Cables in Fission Yeast Eddy Yusuf , Jian-Qiu Wu , Dimitrios Vavylonis
Wednesday, March 17, 2010 4:06PM - 4:18PM	T18.00009: Actin Polymerization Driven Mitochondrial Transport in Mating <i>S. cerevisiae</i> by Fourier Imaging Correlation Spectroscopy Eric Senning , Andrew Marcus
Wednesday, March 17, 2010 4:18PM - 4:30PM	T18.00010: Kinetic Proofreading of Cytoskeletal Structures Douglas Swanson , Ned Wingreen

Wednesday, March 17, 2010
4:30PM - 4:42PM
T18.00011: Poisson's ratio and microrheology of composite elastic materials with rigid rods.
Moumita Das , F.C. MacKintosh

Wednesday, March 17, 2010
4:42PM - 4:54PM
T18.00012: First principles study of biomineral hydroxyapatite
Alexander Slepko

Wednesday, March 17, 2010
4:54PM - 5:06PM
T18.00013: Experimental studies of the direct flexoelectric effect in bone materials
John Fu

Wednesday, March 17, 2010
5:06PM - 5:18PM
T18.00014: Morphology changes caused by seawater ions in templated calcite crystals.
Benjamin Stripe , Ahmet Uysal , Pulak Dutta

Session T19: Focus Session: Polymer-Nanoparticle Interactions I

Sponsoring Units: DPOLY

Chair: Ramanan Krishnamoorti, University of Houston

Room: B118-B119

Wednesday, March 17, 2010 2:30PM - 2:42PM	T19.00001: Thermally Stable Gold Nanoparticles with a Crosslinked Diblock Copolymer Shell Se Gyu Jang , Anzar Khan , Craig J. Hawker , Edward J. Kramer
Wednesday, March 17, 2010 2:42PM - 2:54PM	T19.00002: Control on the Dispersion of Colloidal Quantum Dots with Unconventional Block Copolymers in Nanocomposite Films Kookheon Char , Wan Ki Bae , Jeonghun Kwak , Changhee Lee , Matthias Zorn , Rudolf Zentel
Wednesday, March 17, 2010 2:54PM - 3:06PM	T19.00003: Additive-Driven Assembly of Block Copolymers: A Strategy for Well Ordered Hybrid Nanocomposites James Watkins , Vikram Daga , Ying Lin
Wednesday, March 17, 2010 3:06PM - 3:18PM	T19.00004: Effects of Nanoparticle Size Polydispersity On the Tethered Nanoparticle Phase Diagram Carolyn Phillips , Sharon Glotzer
Wednesday, March 17, 2010 3:18PM - 3:30PM	T19.00005: Many-body correction to the polymer-mediated interaction between nanoparticles: Potential theory. Alexander Chervanyov , Gert Heinrich
Wednesday, March 17, 2010 3:30PM - 3:42PM	T19.00006: Three-body Interactions in Polymer Nanocomposites Amalie L. Frischknecht , Arun Yethiraj
Wednesday, March 17, 2010 3:42PM - 3:54PM	T19.00007: Conformational Study of Rigid Polymers Grafted on Silica Nanoparticle Sabina Maskey , Flint Pierce , Dvora Perahia , Gary S. Grest
Wednesday, March 17, 2010 3:54PM - 4:06PM	T19.00008: Phase Behavior of Thin Film Polystyrene(PS)-Coated Nanoparticles/PS Mixtures Jenny Kim , Peter Green
Wednesday, March 17, 2010 4:06PM - 4:18PM	T19.00009: Competing Phase Separation and Dewetting in Nanofilled Polymer Blend Films Diya Bandyopadhyay , Jack Douglas , Alamgir Karim
Wednesday, March 17, 2010 4:18PM - 4:54PM	T19.00010: NMR Studies of Polymer-Nanoparticle Interfaces in Biological and Synthetic Nanocomposites Invited Speaker: Klaus Schmidt-Rohr

<p>Wednesday, March 17, 2010 4:54PM - 5:06PM</p>	<p>T19.00011: Dynamics of the Polyisoprene Matrix with the Addition of Polystyrene-Grafted Gold Nanoparticles Hengxi Yang , Peter Green</p>
<p>Wednesday, March 17, 2010 5:06PM - 5:18PM</p>	<p>T19.00012: Polymer diffusion in silica nanoparticle / polymer nanocomposites Sangah Gam , Jeff Meth , Steve Zane , Karen I. Wieny , Nigel Clarke , Russell J. Composto</p>
<p>Wednesday, March 17, 2010 5:18PM - 5:30PM</p>	<p>T19.00013: Effective diffusion rate through a random polymer network in tension Hassan Masoud , Alexander Alexeev</p>

Session V2: Relaxation and Dynamic Heterogeneity and Glass

Sponsoring Units: DCMF

Chair: Douglas Durian, University of Pennsylvania

Room: *Oregon Ballroom 202*

Thursday, March 18, 2010 V2.00001: Irreversible reorganization in a supercooled liquid
8:00AM - 8:36AM originates from localized soft modes
Invited Speaker: David Reichman

Thursday, March 18, 2010 V2.00002: Dynamic Heterogeneity and Relaxation Time Very
8:36AM - 9:12AM Close to Dynamic Arrest
Invited Speaker: Luca Cipelletti

Thursday, March 18, 2010 V2.00003: Dynamic Heterogeneity and the Colloidal Glass
9:12AM - 9:48AM Transition in Confinement
Invited Speaker: Eric R. Weeks

Thursday, March 18, 2010 V2.00004: Locally Favoured Structures and Dynamic Arrest
9:48AM - 10:24AM
Invited Speaker: Paddy Royall

Thursday, March 18, 2010 V2.00005: Experimental studies on the local structure,
10:24AM - 11:00AM dynamics, and dynamic heterogeneity in colloidal glasses
Invited Speaker: Zexin Zhang

Session V4: Biological Nanostructures for Photonics and Adhesion

Sponsoring Units: DPOLY

Chair: Mohan Srinivasrao, Center for Advanced Research on Optical Microscopy

Room: *Oregon Ballroom 204*

Thursday, March 18, 2010 V4.00001: Butterfly wing coloration studied with a novel
8:00AM - 8:36AM imaging scatterometer
Invited Speaker: Doekele Stavenga

Thursday, March 18, 2010 V4.00002: Beetle-inspired Capillarity-based Switchable
8:36AM - 9:12AM Adhesion
Invited Speaker: Paul Steen

Thursday, March 18, 2010 V4.00003: Bioinspired Structures and Devices for
9:12AM - 9:48AM Nanophotonics
Invited Speaker: Christopher J. Summers

Thursday, March 18, 2010 V4.00004: Mechanism of the tunable structural color of neon
9:48AM - 10:24AM tetra
Invited Speaker: Shinya Yoshioka

Thursday, March 18, 2010 V4.00005: Mechanisms Underlying the Emergent Properties
10:24AM - 11:00AM of Gecko-like Nanostructures
Invited Speaker: Kellar Autumn

Session V12: Colloidal Particles and Clusters

Sponsoring Units: DFD

Chair: Alex Levine, University of California, Los Angeles

Room: B110-B111

Thursday, March 18, 2010	V12.00001: Optical trapping of small particles: The breakdown of the ray optics regime	Rachael Harper , Alex Levine
8:00AM - 8:12AM		
Thursday, March 18, 2010	V12.00002: Multidimensional optical fractionation with holographic verification	Ke Xiao , David Grier
8:12AM - 8:24AM		
Thursday, March 18, 2010	V12.00003: Dielectrophoresis Force of PMMA Colloidal Clusters	Hyunjoo Park , Ming-Tzo Wei , H. Daniel Ou-Yang , David Pine
8:24AM - 8:36AM		
Thursday, March 18, 2010	V12.00004: Measurement of barrier potentials between colloidal particles and liquid-liquid interfaces	David Kaz , Ryan McGorty , Vinothan Manoharan
8:36AM - 8:48AM		
Thursday, March 18, 2010	V12.00005: Formation of colloidal-particle "tails" at oil/water interfaces	Kan Du , T. Emrick , T.P. Russell , A.D. Dinsmore
8:48AM - 9:00AM		
Thursday, March 18, 2010	V12.00006: Capillary interactions among colloidal spheres at a curved liquid interface	Chuan Zeng , F. Brau , B. Davidovitch , A. D. Dinsmore
9:00AM - 9:12AM		
Thursday, March 18, 2010	V12.00007: Dynamics of colloidal particles sticking to an oil-water interface	Ryan McGorty , D. M. Kaz , V. N. Manoharan
9:12AM - 9:24AM		
Thursday, March 18, 2010	V12.00008: Critical Casimir Effect provides novel Control of Colloidal Interactions	Peter Schall
9:24AM - 9:36AM		
Thursday, March 18, 2010	V12.00009: Elastic Excitations in Colloidal Crystals Confined in an Emulsion Droplet	N.L. Green , Margaux Guiche , C.E. Maloney , M.F. Islam
9:36AM - 9:48AM		
Thursday, March 18, 2010	V12.00010: Lock and Key Colloids through Polymerization-Induced Buckling of Monodispersed Silicon Oil Droplets	Stefano Sacanna , William T.M. Irvine , Paul M. Chaikin , David J. Pine
9:48AM - 10:00AM		
Thursday, March 18, 2010	V12.00011: Rational Self-Assembly of Nano-Colloids using DNA Interaction	Marie T. Ung , Reynaldo Scarlett , Talid R. Sinno , John C. Crocker
10:00AM - 10:12AM		
Thursday, March 18, 2010	V12.00012: Getting a grasp of sticky ends: numerical simulations of DNA-mediated particle interactions	Mirjam Leunissen , Daan Frenkel
10:12AM - 10:24AM		
Thursday, March 18, 2010	V12.00013: Different modulation mechanisms of attractive colloidal interaction by lipid and protein functionalization	Yupeng Kong , Raghuveer Parthasarathy
10:24AM - 10:36AM		

Thursday, March 18, 2010 V12.00014: Direct measurement of modified drag coefficient
10:36AM - 10:48AM for a colloidal particle near flat walls
Chungil Ha , Hyuk Kyu Pak , H.D. Ou-Yang

Thursday, March 18, 2010 V12.00015: Shear-Induced Rotation of Axisymmetric
10:48AM - 11:00AM Particles in Poiseuille Flow in the Electric Field
Marija Nikolic-Jaric , Douglas J. Thomson , Greg E. Bridges , Graham A.
Ferrier

Session V13: Focus Session: Jamming I

Sponsoring Units: GSNP

Chair: Corey O'Hern, Yale University

Room: B112

- Thursday, March 18, 2010 V13.00001: Scaling relations in shear flow near the jamming transition
8:00AM - 8:12AM Brian Tighe , Erik Woldhuis , Joris Remmers , Martin van Hecke , Wim van Saarloos
- Thursday, March 18, 2010 V13.00002: Anisotropic Heterogeneous Dynamics in Confined Colloidal Liquids under Oscillatory Shear
8:12AM - 8:24AM Prasad Sarangapani , Andrew Schofield , Yingxi Elaine Zhu
- Thursday, March 18, 2010 V13.00003: The Jamming Transition and Crossover to Clogging for Disks with Quenched Disorder
8:24AM - 8:36AM Charles Reichhardt , Cynthia J. Olson Reichhardt , Evan Groopman , Zohar Nussinov
- Thursday, March 18, 2010 V13.00004: Thermodynamics of Sphere Packings at Small N: Experiments and Theory
8:36AM - 9:12AM Invited Speaker: Vinothan Manoharan
- Thursday, March 18, 2010 V13.00005: Topology of force chains in dense granular materials
9:12AM - 9:24AM Miroslav Kramar , Konstantin Mischaikow , Lou Kondic , Yiguang Yan
- Thursday, March 18, 2010 V13.00006: Constraint Satisfaction in Static Granular Packings: Identifying a Diverging Length Scale
9:24AM - 9:36AM Mitch Mailman , Bulbul Chakraborty , Corey Ohern
- Thursday, March 18, 2010 V13.00007: From the local Coulomb rule to a global failure criterion for packings of frictional particles
9:36AM - 9:48AM Silke Henkes , Carolina Brito , Olivier Dauchot , Martin van Hecke , Wim van Saarloos
- Thursday, March 18, 2010 V13.00008: The Statistical Mechanics of Small Packings
9:48AM - 10:00AM S.S. Ashwin , Jerzy Blawdziewicz , Corey O'Hern , Mark Shattuck
- Thursday, March 18, 2010 V13.00009: Measuring an Equation of State in an Air-Fluidized Monolayer on Approach to Jamming
10:00AM - 10:12AM Lynn J. Daniels , Ning Xu , Douglas J. Durian
- Thursday, March 18, 2010 V13.00010: Power law avalanche distributions in quasistatic shear of disordered systems with inertia
10:12AM - 10:24AM Kenneth Salerno , Mark Robbins , Craig Maloney
- Thursday, March 18, 2010 V13.00011: Statistical properties of shear-driven granular materials
10:24AM - 10:36AM Dapeng Bi , Bulbul Chakraborty
- Thursday, March 18, 2010 V13.00012: Jamming of Granular Materials in Wedge Hoppers
10:36AM - 10:48AM Summer Saraf , Scott Franklin
- Thursday, March 18, 2010 V13.00013: Local Packing Fraction Statistics in a Two-Dimensional Granular Media
10:48AM - 11:00AM James Puckett , Frederic Lechenault , Karen Daniels

Session V17: Focus Session: Dynamics of Polymers and Complex Fluids II

Sponsoring Units: DPOLY

Chair: Ron Larson, University of Michigan

Room: B116

Thursday, March 18, 2010 8:00AM - 8:12AM	V17.00001: Diffusion of Particles in Polymer Solutions Liheng Cai , Michael Rubinstein
Thursday, March 18, 2010 8:12AM - 8:24AM	V17.00002: Diffusion of Small Penetrants in Polybutadienes Ahmed E. Ismail , Gary S. Grest , Flint Pierce , Mathew C. Celina
Thursday, March 18, 2010 8:24AM - 8:36AM	V17.00003: Application of the discrete slip-link model to bidisperse linear systems Renat Khaliullin , Jay Schieber
Thursday, March 18, 2010 8:36AM - 8:48AM	V17.00004: Relaxation dynamics in chain fluids Joanne Budzien
Thursday, March 18, 2010 8:48AM - 9:00AM	V17.00005: X-ray Intensity Fluctuation Spectroscopy Studies of Dynamics of Block Copolymers in Selective Solvents Yongsheng Liu , Julian Spring , Karl Ludwig , Rama Bansil
Thursday, March 18, 2010 9:00AM - 9:12AM	V17.00006: Modeling dynamic mechanical response in polydomain nematic elastomers Badel Mbanga , Fangfu Ye , Jonathan Selinger , Robin Selinger
Thursday, March 18, 2010 9:12AM - 9:24AM	V17.00007: Pressure effects on the dynamics of semiflexible polymer melts Jutta Luettmer-Strathmann , Kiran Khanal
Thursday, March 18, 2010 9:24AM - 9:36AM	V17.00008: Irreversible Flow-Induced Structure Transition in Rodlike Micelle Solutions M. Vasudevan , E. Buse , D. Lu , A. Shen , B. Khomami , R. Sureshkumar
Thursday, March 18, 2010 9:36AM - 9:48AM	V17.00009: Rheology and structure of concentrated multi- walled carbon nanotube dispersions under shear flow Wesley Burghardt , Saswati Pujari , Sameer Rahatekar , Jeffrey Gilman , Krzysztof Koziol , Alan Windle
Thursday, March 18, 2010 9:48AM - 10:00AM	V17.00010: Logarithmic Relaxation in Supercooled Liquids Jacob Eapen
Thursday, March 18, 2010 10:00AM - 10:12AM	V17.00011: Decoupling of Relaxation Processes in Dynamics of Macromolecules Alexander Agapov , Alexei Sokolov
Thursday, March 18, 2010 10:12AM - 10:24AM	V17.00012: All-atom molecular dynamics simulations of amorphous, crosslinked PDMS Philip T. Shemella , Teodoro Laino , Oliver Fritz , Alessandro Curioni
Thursday, March 18, 2010 10:24AM - 10:36AM	V17.00013: Dynamics of Hydrogen-Bonded Supramolecular Polymers Eric Buhler , Jean Candau , Elena Kolomiets , Jean-Marie Lehn

Thursday, March 18, 2010 V17.00014: Dynamics of associative polymer solutions:
10:36AM - 10:48AM Capillary break-up, jetting and rheology
Vivek Sharma , James G. Serdy , Phil Threfall-Holmes , Gareth H.
McKinley

Thursday, March 18, 2010 V17.00015: Shear banding in a simulated telechelic polymeric
10:48AM - 11:00AM gel
Joris Billen , Joris Stegen , Mark Wilson , Avinoam Rabinovitch , Arlette
R.C. Baljon

Session V18: Biopolymer Molecules - Solutions, Networks, and Gels

Chair: Gila Stein, University of Houston

Room: B117

- Thursday, March 18, 2010 8:00AM - 8:12AM V18.00001: The Effects of Filament Aging and Annealing on a Lamellipodium Undergoing Disassembly By Severing
Paul Michalski , Anders Carlsson
- Thursday, March 18, 2010 8:12AM - 8:24AM V18.00002: Studying the formation of different phases of self-assembled cross-linked F-actin
Lam T. Nguyen , Wei Yang , Linda S. Hirst
- Thursday, March 18, 2010 8:24AM - 8:36AM V18.00003: A structural study of F-actin - filamin networks
Ashley Ahrens-Braunstein , Lam Nguyen , Linda Hirst
- Thursday, March 18, 2010 8:36AM - 8:48AM V18.00004: The mobility of individual filaments in microtubule and actin bundles
David Welch , Andrew Ward , Timothy Sanchez , Edward Barry , Zvonimir Dogic
- Thursday, March 18, 2010 8:48AM - 9:00AM V18.00005: Characterization of Hyaluronan-Protein Microstructures and Polymer Solutions
J.E. Curtis , L. Mclane , M. Bedoya , R. Beatty , A. Kramer , H. Boehm , J. Scrimgeour
- Thursday, March 18, 2010 9:00AM - 9:12AM V18.00006: Unbinding of Semi-flexible Bio-polymers from Columnar Traps: An Exactly Solvable Problem of Statistical Mechanics
Leonardo Golubovic
- Thursday, March 18, 2010 9:12AM - 9:24AM V18.00007: Semi-flexible Polymer Dynamics in Nanoslits Smaller than the Persistence Length
Jen-Fang Chang , Yeng-Long Chen
- Thursday, March 18, 2010 9:24AM - 9:36AM V18.00008: Gap Dependent Rheology in Type I Collagen Gels
Richard Arevalo , Jeffrey Urbach , Daniel Blair
- Thursday, March 18, 2010 9:36AM - 9:48AM V18.00009: Fundamental studies on shear-thinning and self-healing peptide hydrogels
Congqi Yan , Aysegul Altunbas , Radhika Nagarkar , Basavaraja Madivala , Norman Wagner , Joel Schneider , Darrin Pochan
- Thursday, March 18, 2010 9:48AM - 10:00AM V18.00010: Structure-Properties Relationship of Hierarchically Ordered Large and Small Molecules Self-Assemblies.
Ronit Bitton , Daniel Carvajal , Jason Mantei , Yuri Velichko , Kenneth Shull , Samuel Stupp
- Thursday, March 18, 2010 10:00AM - 10:12AM V18.00011: Protein Structure and Stability in Neat Ionic Liquid
Malvika Bihari , Thomas P. Russell , David A. Hoagland
- Thursday, March 18, 2010 10:12AM - 10:24AM V18.00012: Biomimetic surface coatings from modular amphiphilic proteins
James Harden , Fan Wan , Stephen Fischer , Scott Dick

Thursday, March 18, 2010 V18.00013: Sensitive and selective protein detection by a molecular imprint nanosensor
10:24AM - 10:36AM D. Cai , L. Ren , H.Z. Zhao , C.J. Xu , Y. Yu , H.Z. Wang , Y.C. Lan , D. Wagner , M.J. Naughton , Z.F. Ren , T.C. Chiles

Thursday, March 18, 2010 V18.00014: Imaging the Enzymatic Degradation of Individual Bundles of Cellulose Fibers
10:36AM - 10:48AM Scott Allen , Oleh Tanchak , Amanda Quirk , Anthony Clarke , Jacek Lipkowski , John Dutcher

Thursday, March 18, 2010 V18.00015: Convection driven generation of long-range material gradients in microchannels
10:48AM - 11:00AM Matthew Hancock , Yanan Du , Jiankang He , Ali Khademhosseini

Session V19: Focus Session: Polymer-Nanoparticle Interactions II

Sponsoring Units: DPOLY

Chair: Ramanan Krishnamoorti, University of Houston

Room: B118-B119

- Thursday, March 18, 2010 V19.00001: The Effects of Thin Films and Confinement on
8:00AM - 8:36AM Nanopatterning
Invited Speaker: Soles Christopher
- Thursday, March 18, 2010 V19.00002: A SAXS study of the impregnation of pH-
8:36AM - 8:48AM responsive polymeric microgels with metal nanoparticles
S.H. Anastasiadis , E. Pavlopoulou , M. Vamvakaki , K.E. Christodoulakis
, G. Portale , W. Bras
- Thursday, March 18, 2010 V19.00003: Assembly of Conjugated Polymers- Gold
8:48AM - 9:00AM Nanoparticles
Naresh Osti , Thusitha Etampawala , Dilru Ratnaweera , Uwe Bunz ,
Vincent Rotello , Dvora Perahia
- Thursday, March 18, 2010 V19.00004: A Systematic Study of Noncovalent Interactions
9:00AM - 9:12AM Between Polymers and Carbon Nanotubes via Molecular
Dynamics Simulations
Melissa Pasquinelli , Syamal Tallury
- Thursday, March 18, 2010 V19.00005: Tunable Dispersion of Carbon Nanotubes in
9:12AM - 9:24AM Water using pH-Responsive Polymers
Krishna Etika , Michael Cox , Jaime Grunlan
- Thursday, March 18, 2010 V19.00006: The conformation of Pluronic[®]
9:24AM - 9:36AM block copolymers adsorbed on carbon nanotubes and their
interaction with water studied by small-angle neutron
scattering
Yachin Cohen , Meirav Granite , Wim Pyckhout-Hintzen , Aurel
Radulescu
- Thursday, March 18, 2010 V19.00007: Localized, plasmon-mediated heating from
9:36AM - 9:48AM embedded nanoparticles in nanocomposites
Somsubhra Maity , Lori Downen , Jason Bochinski , Laura Clarke
- Thursday, March 18, 2010 V19.00008: The Morphology of Silver Layers on SU8
9:48AM - 10:00AM polymers prepared by Electroless Deposition
Aniruddha Dutta , Biao Yuan , Helge Heinrich , Chris Grabill , Henry
Williams , Stephen Kuebler , Aniket Bhattacharya
- Thursday, March 18, 2010 V19.00009: Semi Fluorinated Polymers Mediated
10:00AM - 10:12AM Nanoparticle Assemblies
Dilru Ratnaweera , Umesh Shrestha , Dennis W. Smith Jr. , Dvora Perahia
, Scott T. Iacono , Joseph Mabry
- Thursday, March 18, 2010 V19.00010: Experimental Characterization and Modeling of
10:12AM - 10:24AM the Non-linear Mechanical behavior of a Carbon Black Filled
SBR
Grigori Medvedev , Aparajita Bhattacharya , James Caruthers

Thursday, March 18, 2010 V19.00011: Balancing Size Exclusion and Adsorption of
10:24AM - 10:36AM Methacrylate Polymers in Nanoporous Silica
Asem Abdulahad , Sekyung Lee , Taihyun Chang , Chang Ryu

Thursday, March 18, 2010 V19.00012: Radiation Effects on Polypropylene Carbon
10:36AM - 10:48AM Nanofibers
John Hamilton , Thomas Mion , Alin C. Chipara , Elamin I. Ibrahim ,
Karen Lozano , Magdalena Chipara , Steven C. Tidrow , Mircea Chipara

Session W10: Lipid Bilayers I

Sponsoring Units: DBP

Chair: Christian Santangelo, University of Massachusetts

Room: A106

- Thursday, March 18, 2010 W10.00001: Lipid membrane rigidity from fluctuation
11:15AM - 11:27AM measurement in nm scale
Sung Chul Bae , Bo Wang , Chang-Ki Min , Steve Granick
- Thursday, March 18, 2010 W10.00002: What is the difference between a supported and a
11:27AM - 11:39AM free lipid bilayer?
Roland Faller
- Thursday, March 18, 2010 W10.00003: Effect of pH and Ibuprofen on Phospholipid
11:39AM - 11:51AM Bilayer Bending Modulus
Mohan Boggara , Antonio Faraone , Ramanan Krishnamoorti
- Thursday, March 18, 2010 W10.00004: Shapes of biological membranes due to
11:51AM - 12:03PM curvature-inducing proteins
Kiyotaka Akabori , Christian Santangelo
- Thursday, March 18, 2010 W10.00005: Microrheology of freestanding lipid bilayers
12:03PM - 12:15PM Christopher Harland , Miranda Bradley , Raghuvier Parthasarathy
- Thursday, March 18, 2010 W10.00006: Correlated motion of membrane proteins and
12:15PM - 12:27PM their effect on membrane viscosity
Haim Diamant , Naomi Oppenheimer
- Thursday, March 18, 2010 W10.00007: Effect of myristoylated N-terminus of Arf1 on
12:27PM - 12:39PM the bending rigidity of phospholipid membranes
Beatriz Burrola Gabilondo , Hernan Zhou , Paul A. Randazzo , Wolfgang Losert
- Thursday, March 18, 2010 W10.00008: Molecular dynamics simulation study of
12:39PM - 12:51PM structural changes and pore formation in phospholipid bilayers
in the presence of dimethylsulfoxide
Dorel Moldovan , Raghava Alapati , Jieqiong Lin , Brian Novak , Ram Devireddy
- Thursday, March 18, 2010 W10.00009: Interaction of antimicrobial biomimetics with
12:51PM - 1:03PM bacterial and cytoplasmic membrane models
David Gidalevitz
- Thursday, March 18, 2010 W10.00010: Dynamics of inter-leaflet lipid exchange in
1:03PM - 1:15PM membranes: Mechanism for stress relaxation
Mark L. Henle , L. Mahadevan
- Thursday, March 18, 2010 W10.00011: Cholesterol transport in model membranes
1:15PM - 1:27PM Sumit Garg , Lionel Porcar , Paul Butler , Ursula Perez-Salas
- Thursday, March 18, 2010 W10.00012: Local measurements of phase transitions in
1:27PM - 1:39PM Bacteriorhodopsin membrane
R. Proksch , M.P. Nikiforov , S. Hohlbauch , W.P. King , S. Antoraz Contera , K. Voitchovsky , S.V. Kalinin

Thursday, March 18, 2010 W10.00013: Lipid bilayer membranes: Missing link in the
1:39PM - 1:51PM comprehension of synovial lubrication?
Ross Packard , Leonie Cowley , Yves Dubief

Thursday, March 18, 2010 W10.00014: Particle/fluid interface replication as a means of
1:51PM - 2:03PM producing topographically patterned surfaces: Substrates for
supported lipid bilayers
Anand Subramaniam , Sigolene Lecuyer , Kumaran Ramamurthi , Richard
Losick , Howard Stone

Session W12: Foams and Suspensions

Sponsoring Units: DFD

Chair: Dan Blair, Georgetown Univeristy

Room: B110-B111

- Thursday, March 18, 2010 W12.00001: Rheology of a dilute suspension of cubic nanoparticles
11:15AM - 11:27AM Rajesh Kumar Mallavajula , Donald Koch , Lynden Archer
- Thursday, March 18, 2010 W12.00002: Hydrodynamic Interaction of Colloid Suspension in Ribbon Channels
11:27AM - 11:39AM Binhua Lin , Sergey Novikov , Stuart A. Rice
- Thursday, March 18, 2010 W12.00003: Jamming of Solid-Stabilized Emulsions
11:39AM - 11:51AM Sujit Datta , Kosta Ladavac , Rodrigo Guerra , David Weitz
- Thursday, March 18, 2010 W12.00004: Compressibility of Emulsions with MRI
11:51AM - 12:03PM Rodrigo Guerra , David Weitz
- Thursday, March 18, 2010 W12.00005: Liquid organic foams for formulation optimization: an assessment of foam linear viscoelasticity and its temporal dependence
12:03PM - 12:15PM Jamie Kropka , Lisa Mondy , Mat Celina
- Thursday, March 18, 2010 W12.00006: Characterization of Intermittent and Continuous Dynamics in Jammed Aqueous Foam
12:15PM - 12:27PM Sam Stanwyck , Michael Folkerts , Oleg Shpyrko
- Thursday, March 18, 2010 W12.00007: The Search for Precursor and Aftershock Dynamics in Aqueous Foam
12:27PM - 12:39PM Michael M. Folkerts , Samuel W. Stanwyck , Oleg G. Shpyrko
- Thursday, March 18, 2010 W12.00008: Structural Inhomogeneities in a Dense Emulsion
12:39PM - 12:51PM S. K. Dutta , E. D. Knowlton , D. L. Blair
- Thursday, March 18, 2010 W12.00009: Coarsening in Two Dimensional Foams
12:51PM - 1:03PM Adam Roth , Christopher Jones , Douglas Durian
- Thursday, March 18, 2010 W12.00010: Structure and dynamics of a coarsening emulsion
1:03PM - 1:15PM Klebert Feitosa , John Crocker
- Thursday, March 18, 2010 W12.00011: Critical transition in fiber suspension
1:15PM - 1:27PM Alexandre Franceschini , Elizabeth Guazzelli , David Pine
- Thursday, March 18, 2010 W12.00012: Viscous properties of aluminum oxide nanotubes and aluminium oxide nanoparticles - silicone oil suspensions
1:27PM - 1:39PM Ram Thapa , Steven French , Adrian Delgado , Carlos Ramos , Jose Gutierrez , Mircea Chipara , Karen Lozano
- Thursday, March 18, 2010 W12.00013: Exploring the phase behavior of microgel suspensions with Neutron Scattering and Hydrostatic Pressure
1:39PM - 1:51PM Juan-Jose Lietor-Santos , Urs Gasser , Alberto Fernandez-Nieves

Thursday, March 18, 2010 W12.00014: Influence of Boundary Mobility on the Dynamics
1:51PM - 2:03PM of Confined Colloidal Suspensions
Gary L. Hunter , Kazem V. Edmond , Eric R. Weeks

Session W13: Focus Session: Jamming II

Sponsoring Units: GSNP

Chair: C. Olson Reichhardt, Los Alamos National Laboratory

Room: B112

- Thursday, March 18, 2010 W13.00001: Avalanches and diffusion in model bubble rafts
11:15AM - 11:27AM near jamming
Craig Maloney
- Thursday, March 18, 2010 W13.00002: Observing rearrangements in a 2D emulsion
11:27AM - 11:39AM flowing through a hopper
Dandan Chen , Ken Desmond , Eric R. Weeks
- Thursday, March 18, 2010 W13.00003: How do hard, regular tetrahedra pack?
11:39AM - 11:51AM Michael Engel , Amir Haji-Akbari , Aaron S. Keys , Xiaoyu Zheng , Rolfe G. Petschek , Peter Palffy-Muhoray , Sharon C. Glotzer
- Thursday, March 18, 2010 W13.00004: Minimal Energy Polymer Packings
11:51AM - 12:27PM Invited Speaker: Robert Hoy
- Thursday, March 18, 2010 W13.00005: The Packing and Jamming of Real Polymer
12:27PM - 12:39PM Chains
Gi Xue , Chao Teng
- Thursday, March 18, 2010 W13.00006: Dense and nearly jammed random packings of
12:39PM - 12:51PM model polymers
Nikos Karayiannis , Karerina Foteinopoulou , Manuel Laso
- Thursday, March 18, 2010 W13.00007: Frictionless Packings of Rod-like Granular
12:51PM - 1:03PM Materials
Scott Franklin
- Thursday, March 18, 2010 W13.00008: Jamming in Granular Polymers and Frictional
1:03PM - 1:15PM Granular Assemblies
Lena Lopatina , Charles Reichhardt , Cynthia Reichhardt
- Thursday, March 18, 2010 W13.00009: How does jamming and glassy behavior depend
1:15PM - 1:27PM on particle shape?
Carl Schreck , Corey O'Hern
- Thursday, March 18, 2010 W13.00010: Large-Scale Structures in Dense Granular Flows
1:27PM - 1:39PM through a Vertical Channel
Kevin Facto , Donald Candela
- Thursday, March 18, 2010 W13.00011: Avalanches Near the Onset of Jamming
1:39PM - 1:51PM J.M. Schwarz , Bismayan Chakrabarti
- Thursday, March 18, 2010 W13.00012: Jamming in Vertical Channels
1:51PM - 2:03PM G. William Baxter , Jeffrey McCausland , Fiona Steel
- Thursday, March 18, 2010 W13.00013: Confinement of Colloidal Suspensions in a
2:03PM - 2:15PM Cylindrical Geometry
Nabiha Saklayen , Gary L. Hunter , Kazem V. Edmond , Eric R. Weeks

Session W16: Focus Session: Organic Electronics and Photonics: Transistors and Light Emitting Devices

Sponsoring Units: DMP DPOLY

Chair: Lynn Loo, Princeton University

Room: B115

- Thursday, March 18, 2010 W16.00001: Microstructural Effects on Charge Transport in
11:15AM - 11:51AM Organic Semiconductors
Invited Speaker: Alberto Salleo
- Thursday, March 18, 2010 W16.00002: Characterization of Soluble Anthradithiophene
11:51AM - 12:03PM Derivatives
Brad Conrad , Calvin Chan , Marsha Loth , John Anthony , David Gundlach
- Thursday, March 18, 2010 W16.00003: Amorphous Dithenylcyclopentadienone-
12:03PM - 12:15PM Carbazole copolymer for Organic Thin-Film Transistors
E. Kang , J. Yuen , W. Walker , N. Coates , S. Cho , E. Kim , F. Wudl
- Thursday, March 18, 2010 W16.00004: Selective Crystallization of Solution-Processable
12:15PM - 12:27PM Organic Semiconductors for Enhanced Organic Thin-Film Transistor Performance
Stephanie Lee , Samuel Tang , Michael Toney , John Anthony , Yueh-Lin (Lynn) Loo
- Thursday, March 18, 2010 W16.00005: Infrared Electro-Optic Response of TIPS-
12:27PM - 12:39PM Pentacene Thin Film Field Effect Transistors
E.G. Bittle , J.W Brill , J.E. Anthony
- Thursday, March 18, 2010 W16.00006: Origin of the bias stress instability in single-
12:39PM - 12:51PM crystal OFETs
Vitaly Podzorov , Bumsu Lee , Daniel Mastrogiovanni , Alan Wan , Eric Garfunkel
- Thursday, March 18, 2010 W16.00007: Electrical and structural characterization of high
12:51PM - 1:03PM performance airbrushed organic thin film transistors
Calvin Chan , Lee Richter , Chernoy Jaye , Brad Conrad , Hyun Wook Ro , David Germack , Daniel Fischer , Dean DeLongchamp , David Gundlach
- Thursday, March 18, 2010 W16.00008: Sensing with electrochemical transistors
1:03PM - 1:15PM Fabio Cicoira , George G. Malliaras
- Thursday, March 18, 2010 W16.00009: Tetracene films for light-emitting transistors:
1:15PM - 1:27PM chemical and physical effects of the organic dielectric substrates
Clara Santato , Fabio Cicoira , Simone Bertolazzi
- Thursday, March 18, 2010 W16.00010: Controlling Emission Zone in Blue OLEDs by
1:27PM - 1:39PM Material Design
Asanga Padmaperuma , Evgueni Polikarpov , James Swensen , Lelia Cosimbescu , Phillip Koech , Liang wang
- Thursday, March 18, 2010 W16.00011: Polymerizable ionic liquids for fixed junction
1:39PM - 1:51PM light-emitting electrochemical cells
Ilya Kosilkin , Matt Martens , Michael Murphy , Janelle Leger
- Thursday, March 18, 2010 W16.00012: Quantum Dot Light-emitting Electrochemical
1:51PM - 2:03PM Cells
Amanda Norell Bader , Janelle Leger

Session W17: Focus Session: Dynamics of Polymers and Complex Fluids III

Chair: Shi-Qing Wang, The University of Akron

Room: B116

- Thursday, March 18, 2010 W17.00001: Sequence Dependent Electrophoretic Separations of DNA in Pluronic F127 Gels
11:15AM - 11:27AM Seungyong You , David H. Van Winkle
- Thursday, March 18, 2010 W17.00002: Clusters of Janus Particles in Stokes Flow
11:27AM - 11:39AM Jonathan Whitmer , Erik Luijten
- Thursday, March 18, 2010 W17.00003: High Frequency Relaxation in Fluid Mixtures, Protein Solubility and Entropy-Enthalpy Compensation
11:39AM - 11:51AM Jack Douglas , Jacek Dudowicz , Karl Freed
- Thursday, March 18, 2010 W17.00004: Single-Molecule Studies of DNA Dynamics and Intermolecular Forces
11:51AM - 12:27PM Invited Speaker: Rae Robertson-Anderson
- Thursday, March 18, 2010 W17.00005: Polymer dynamics during capillary flow into nanopores
12:27PM - 12:39PM Anatoli Serghei , Thomas P. Russell
- Thursday, March 18, 2010 W17.00006: Modification of the coil-stretch transition by confinement
12:39PM - 12:51PM Patick Doyle , Jing Tang , Jeremy Jones
- Thursday, March 18, 2010 W17.00007: Nanofluidic flow with polymers
12:51PM - 1:03PM Santtu Ollila , Colin Denniston , Mikko Karttunen , Tapio Ala-Nissila
- Thursday, March 18, 2010 W17.00008: Single-Molecule Tracking of Polymers on Surfaces
1:03PM - 1:15PM Juan Guan , Bo Wang , Stephen Anthony , Sung Chul Bae , Subhalakshmi Kumar , Steve Granick
- Thursday, March 18, 2010 W17.00009: Surface Directed Phase Separation and Ordering in Semi-flexible Polymer Solution under Confinement
1:15PM - 1:27PM Paresh Chokshi , Venkat Ganesan
- Thursday, March 18, 2010 W17.00010: Nonmonotonic size dependence of the electrophoretic mobility of stiff and slightly flexible rods in random arrays of obstacles
1:27PM - 1:39PM Mykyta V. Chubynsky , Gary W. Slater
- Thursday, March 18, 2010 W17.00011: Fluorescent nanospheres as a probe for confined fluids rheology
1:39PM - 1:51PM Mourad Chennaoui , Janet S. Wong
- Thursday, March 18, 2010 W17.00012: Life-like functionality and self-organization in a system of communicating polymeric microcapsules
1:51PM - 2:03PM German Kolmakov , Amitabh Bhattacharya , Victor Yashin , Anna Balazs
- Thursday, March 18, 2010 W17.00013: Reduced Interfacial Entanglement Density Affects Boundary Condition of Polymer Flow
2:03PM - 2:15PM Karin Jacobs

Session W18: Focus Session: Polymer Network Mechanics I

Sponsoring Units: DPOLY

Chair: Jerome Weiner, Brown University

Room: B117

Thursday, March 18, 2010 W18.00001: ABSTRACT WITHDRAWN

11:15AM - 11:27AM

Thursday, March 18, 2010 W18.00002: Possible explanation of anomalous ductility in

11:27AM - 11:39AM

thermoset/thermoplastic polymer alloys

Debashish Mukherji , Cameron Abrams

Thursday, March 18, 2010 W18.00003: Toughness and Fracture Energy of PDMS

11:39AM - 11:51AM

Bimodal and Trimodal Elastomers

Claude Cohen , Geoffrey Genesky

Thursday, March 18, 2010 W18.00004: Novel Telechelic Polymer Hydrogels using

11:51AM - 12:03PM

Homo and Hetero-combinations of End-blocks

Rajiv R. Taribagil , Marc A. Hillmyer , Timothy P. Lodge

Thursday, March 18, 2010 W18.00005: Tunable Strain-Stiffening of Physically

12:03PM - 12:15PM

Associating Networks

Kendra A. Erk , Kenneth R. Shull

Thursday, March 18, 2010 W18.00006: Buckling instabilities in patterned, poly(N-

12:15PM - 12:27PM

isopropylacrylamide) microgels

Ryan Toomey , Samuel DuPont , Ryan Cates

Thursday, March 18, 2010 W18.00007: Strain hardening, fracture and toughening

12:27PM - 1:03PM

mechanisms in self-assembling gels

Invited Speaker: Kenneth Shull

Thursday, March 18, 2010 W18.00008: Wrinkling and strain softening in polymer

1:03PM - 1:15PM

supported networks of pristine single-wall carbon nanotubes

Erik K. Hobbie , Daneesh Simien , Jeffrey Fagan , Ji Yeon Huh , Jun Young Chung , Steven Hudson , Jan Obrzut , Christopher Stafford

Thursday, March 18, 2010 W18.00009: Creasing Instability of Hydrogel Surfaces:

1:15PM - 1:27PM

Nucleation, Growth Dynamics & Hysteresis

Ryan Hayward , Jinhwan Yoon , Jungwook Kim

Thursday, March 18, 2010 W18.00010: Entanglement swelling in polymer glasses

1:27PM - 1:39PM

Joshua McGraw , Kari Dalnoki-Veress

Thursday, March 18, 2010 W18.00011: Long-range correlations and solution of boundary

1:39PM - 1:51PM

value problems for semi-flexible polymer networks

Catalin Picu , Hamed Hatami-Marbini

Session W19: Focus Session: Synchrotron X-ray and Neutron Techniques in Soft Matter and Biological

Sponsoring Units: DPOLY DBP

Chair: Zhang Jiang, Argonne National Laboratory

Room: B118-B119

- Thursday, March 18, 2010 W19.00001: Characterizing 3-D Assembly of Block Copolymer Films using Rotational Small Angle Neutron Scattering
11:15AM - 11:51AM
Invited Speaker: Ronald Jones
- Thursday, March 18, 2010 W19.00002: Development of Resonant Soft X-ray Scattering for Polymer Systems at Advanced Light Source
11:51AM - 12:03PM
Cheng Wang , Alexander Hexemer , James Nasiatka , Elaine Chan , Howard Padmore
- Thursday, March 18, 2010 W19.00003: X-ray reflectivity and diffuse studies of lipid bilayer stacks on solid substrates
12:03PM - 12:15PM
Gang Chen , M. Mukhopadhyay , Y. Ma , Sunil K. Sinha , C. DeCaro , J. Berry , Laurence B. Lurio , Z. Jiang , A. Brozell , D. Bricarello , Atul N. Parikh
- Thursday, March 18, 2010 W19.00004: Reduced Viscosity of Free Surface in Entangled Polymer Melt Films
12:15PM - 12:27PM
Tad Koga , C. Li , M. Endoh , J. Koo , M. Rafailovich , S. Narayanan , D. Lee , L. Lurio , S. Sinha
- Thursday, March 18, 2010 W19.00005: Surface Freezing Controlled Meniscus Relaxation in Side Chain Comb Polymers
12:27PM - 12:39PM
Shishir Prasad , Zhang Jiang , Michael Sprung , Sunil Sinha , Ali Dhinojwala
- Thursday, March 18, 2010 W19.00006: X-ray Photon Correlation Spectroscopy Measurements of Dynamics within Concentrated Eye-Lens Protein Suspensions
12:39PM - 12:51PM
Janae DeBartolo , V. N. C. Karunaratne , Justin Berry , Laurence Lurio , George Thurston , Alec Sandy , Suresh Narayanan , John Weizeorick
- Thursday, March 18, 2010 W19.00007: GISAXS Study of Lateral Instability in Nanoimprinted Polymer Gratings
12:51PM - 1:03PM
Yeling Dai , Oleg Shpyrko , Kyle Alvine , Joseph Strzalka , Alec Sandy , Hyun Wook Ro , Christopher Soles
- Thursday, March 18, 2010 W19.00008: Electrostatic 2D assembly of bionanoparticles on a cationic lipid monolayer.
1:03PM - 1:15PM
Sumit Kewalramani , Suntao Wang , Masafumi Fukuto , Lin Yang , Zhongwei Niu , Giang Nguyen , Qian Wang
- Thursday, March 18, 2010 W19.00009: Biomimetic growth of calcium oxalate crystals: synchrotron X-ray studies
1:15PM - 1:27PM
Ahmet Uysal , Benjamin Stripe , Pulak Dutta
- Thursday, March 18, 2010 W19.00010: Neutron and X-ray Scattering From Single Supported Lipid Bilayers: Reflectometry, Grazing Incidence In-Plane Diffraction and Off-Specular Scattering
1:27PM - 2:03PM
Invited Speaker: Jaroslaw Majewski

Thursday, March 18, 2010 W19.00011: \textit{In-situ} synchrotron small angle and wide
2:03PM - 2:15PM angle X-ray scattering (SAXS/WAXS) study of polyethylene
and polyethylene/clay nanocomposites during multiaxial
deformation
Bilge Gurun , David Bucknall , Yonathan Thio

Session X4: Dynamics of Nano-confined Polymer Films

Sponsoring Units: DPOLY

Chair: James Forrest, University of Waterloo

Room: *Oregon Ballroom 204*

Thursday, March 18, 2010 X4.00001: Consequences of Residual Stresses in Thin
2:30PM - 3:06PM Polymer Films
Invited Speaker: Guenter Reiter

Thursday, March 18, 2010 X4.00002: Distributions of Glass Transition Temperatures and
3:06PM - 3:42PM Physical Aging and Diffusion Behaviors in Confined Polymer
Films and Nanocomposites
Invited Speaker: John Torkelson

Thursday, March 18, 2010 X4.00003: Substrate effects on the relaxation dynamics of
3:42PM - 4:18PM nano-confined polymers: Insight from MD simulations
Invited Speaker: Fathollah Varnik

Thursday, March 18, 2010 X4.00004: Liquid Front Profiles Affected by Entanglement-
4:18PM - 4:54PM induced Slippage
Invited Speaker: Karin Jacobs

Thursday, March 18, 2010 X4.00005: Dynamics in ultrathin films
4:54PM - 5:30PM
Invited Speaker: Gregory McKenna

Session X12: General Fluid Mechanics: Surface and Thermal Effects

Sponsoring Units: DFD

Chair: Amber Krummel, Harvard University

Room: B110-B111

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| Thursday, March 18, 2010
2:30PM - 2:42PM | X12.00001: Watching heat flow near a nucleating bubble
Scott Parker , David Cahill , Steve Granick |
| Thursday, March 18, 2010
2:42PM - 2:54PM | X12.00002: Fluctuations of interfacial forces near a moving contact line
Yongjian Wang , Shuo Guo , Ping Sheng , Penger Tong |
| Thursday, March 18, 2010
2:54PM - 3:06PM | X12.00003: Slip boundary conditions for the moving contact line in molecular dynamics and continuum simulations
Anoosheh Niavarani , Nikolai Priezjev |
| Thursday, March 18, 2010
3:06PM - 3:18PM | X12.00004: Sub-Micron Velocity Measurements near a Moving Contact Line
Jeremiah Zimmerman , Mark M. Weislogel , Derek C. Tretheway |
| Thursday, March 18, 2010
3:18PM - 3:30PM | X12.00005: Drop Impact on Superhydrophobic Electrospun Nanomats
Alexander Yarin , Andreas Lembach , Iliya Roisman , Tatiana Gambaryan-Roisman , Cameron Tropea , Peter Stephan |
| Thursday, March 18, 2010
3:30PM - 3:42PM | X12.00006: Controlling ice formation on nanostructured superhydrophobic surfaces
Tom Krupenkin , Lidiya Mishchenko , Benjamin Hatton , J. Ashley Taylor , Vaibhav Bahadur , Joanna Aizenberg |
| Thursday, March 18, 2010
3:42PM - 3:54PM | X12.00007: Morphology of air nanobubbles trapped at hydrophobic nanopatterned surfaces
Antonio Checco , Tommy Hofmann , Elaine DiMasi , Charles Black , Benjamin Ocko |
| Thursday, March 18, 2010
3:54PM - 4:06PM | X12.00008: Correlation of Bulk Viscosity and Liquid Slip on Smooth Hydrophobic Surfaces
Sean McBride , Bruce Law |
| Thursday, March 18, 2010
4:06PM - 4:18PM | X12.00009: On Features of Capillary Flows as Predicted from Direct Comparison between Network Models and Experiments
B. Markicevic , K. Hoff , H. Li , A. Zand , H. K. Navaz |
| Thursday, March 18, 2010
4:18PM - 4:30PM | X12.00010: Direct Imaging of Two-phase Flow in Porous Media at the Pore Level
Amber Krummel , Stefan Munster , Stefan Lindstroem , David Weitz |
| Thursday, March 18, 2010
4:30PM - 4:42PM | X12.00011: Surface Tension Driven Instability in the Regime of Stokes Flow
Zhenwei Yao , Mark Bowick , Xiangjun Xing |
| Thursday, March 18, 2010
4:42PM - 4:54PM | X12.00012: Thermal Performance of Surface Wick Structures.
Yongkang Chen , Noel Tavan , John Baker , Lawrence Melvin , Mark Weislogel |

Thursday, March 18, 2010 X12.00013: Cold Water Jets on a Hot Si surface
4:54PM - 5:06PM Ji Yong Park , Chang-Ki Min , David Cahill , Steve Granick

Thursday, March 18, 2010 X12.00014: Optimal convective mixing by forced two-
5:06PM - 5:18PM dimensional Stokes flows
David Saintillan , Qizheng Yan

Thursday, March 18, 2010 X12.00015: Self-sustaining oscillations of the falling sphere in
5:18PM - 5:30PM some viscoelastic fluids
Young Ju Lee , Chensong Zhang

Session X13: Focus Session: Jamming III

Sponsoring Units: GSNP

Chair: Ch. Reichardt, Los Alamos National Laboratory

Room: B112

Thursday, March 18, 2010 X13.00001: Hysteresis in the jamming of frictional granular
2:30PM - 2:42PM disks

Robert Ecke , Mahesh Bandi , Michael Rivera

Thursday, March 18, 2010 X13.00002: A toy spin model for jammed solids
2:42PM - 2:54PM

Shiliyang Xu , Xavier Illa , J.M. Schwarz

Thursday, March 18, 2010 X13.00003: Rotational and Translational Diffusion Near the
2:54PM - 3:06PM Colloidal Glass Transition

Kazem V. Edmond , Mark T. Elsesser , Gary L. Hunter , David J. Pine ,
Eric R. Weeks

Thursday, March 18, 2010 X13.00004: Self-dynamic response in simple liquids as
3:06PM - 3:18PM resolved by Vibration-Transit theory

Giulia DeLorenzi-Venneri , Eric Chisolm , Duane Wallace

Thursday, March 18, 2010 X13.00005: Critical Phenomena in Periodically-Sheared
3:18PM - 3:30PM Suspensions

Emmanouela Filippidi , Laurence Ramos , Paul Chaikin , David Pine

Thursday, March 18, 2010 X13.00006: Force Network of a 2D Frictionless Emulsion
3:30PM - 3:42PM System

Kenneth Desmond , Eric R. Weeks

Thursday, March 18, 2010 X13.00007: Critical correlations and dynamics of force
3:42PM - 3:54PM networks in a model of jammed granular solids

Konstantin Turitsyn , Ilya Gruzberg , Julie Stern , Bernard Nienhuis

Thursday, March 18, 2010 X13.00008: Density of States in 2D Colloidal Systems
3:54PM - 4:06PM

Ke Chen , Wouter Ellenbroek , Zexin Zhang , Ning Xu , Peter Yunker ,
Andrea Liu , Arjun Yodh

Thursday, March 18, 2010 X13.00009: Microfluidic Rheology of Soft Colloids near
4:06PM - 4:18PM Jamming

Kerstin Nordstrom , E. Verneuil , P.E. Arratia , J.P. Gollub , D.J. Durian

Thursday, March 18, 2010 X13.00010: The "jammed state" of a simulated transient
4:18PM - 4:30PM polymeric network

Arlette Baljon , Joris Stegen , Joris Billen , Mark Wilson , Avinoam
Rabinovitch

Thursday, March 18, 2010 X13.00011: Phase behavior of PNIPAM-PEG microgel
4:30PM - 4:42PM suspensions

Joaquim Clara-Rahola , Benjamin Sierra-Martin , Andrew Lyon , Alberto
Fernandez-Nieves

Thursday, March 18, 2010 X13.00012: Soft Glassy Rheology of Nanosacle Ionic
4:42PM - 4:54PM Materials (NIMs)

Praveen Agarwal , Haibo Qi , Lynden Archer

Thursday, March 18, 2010 X13.00013: Structural and Dynamical Study of a
4:54PM - 5:06PM Monodisperse Hard-Sphere Glass Former
Patrick Charbonneau , Atsushi Ikeda , Jacobus A. van Meel , Kunimasa
Miyazaki

Thursday, March 18, 2010 X13.00014: Jamming, Clogging, and Dynamical
5:06PM - 5:18PM Heterogeneities for Vortex Matter in Nanostructured
Superconductors
Cynthia J. Olson Reichhardt , Charles Reichhardt

Thursday, March 18, 2010 X13.00015: Efficient method for locating characteristic
5:18PM - 5:30PM potential-energy minima of liquids
Erik Holmstrom , Nicolas Bock , Travis Peery , Raquel Lizarraga , Giulia
De Lorenzi-Venneri , Eric Chisolm , Duane Wallace

Session X16: Focus Session: Organic Electronics and Photonics: Electronic Structure and Interfaces

Sponsoring Units: DMP DPOLY

Chair: Calvin Chan, National Institute of Standards and Technology

Room: B115

- Thursday, March 18, 2010 X16.00001: Theoretical spectroscopy of organic semiconductors: challenges and progress
2:30PM - 3:06PM
Invited Speaker: Leeor Kronik
- Thursday, March 18, 2010 X16.00002: Electronic structure of metal-organic interfaces from first principles
3:06PM - 3:18PM
Isaac Tamblyn , Su Ying Quek , Stanimir A. Bonev , Jeffrey B. Neaton
- Thursday, March 18, 2010 X16.00003: Describing both Dispersion and Electronic Structure Using Density Functional Theory: The Case of Metal-Phthalocyanine Dimers
3:18PM - 3:30PM
Noa Marom , Alexandre Tkatchenko , Matthias Scheffler , Leeor Kronik
- Thursday, March 18, 2010 X16.00004: Charge carrier dynamics at the sexithiophene/Au(111) interface
3:30PM - 3:42PM
Erwan Varene , Isabel Martin , Martin Wolf , Petra Tegeder
- Thursday, March 18, 2010 X16.00005: First-principles study of the electronic structure of organic semiconductors
3:42PM - 3:54PM
Sahar Sharifzadeh , Ariel J. Biller , Leeor Kronik , Jeffrey B. Neaton
- Thursday, March 18, 2010 X16.00006: Organic semiconductor interfaces: low-lying lattice modes of pentacene monolayers
3:54PM - 4:06PM
Rui He , Graciela Blanchet , Aron Pinczuk
- Thursday, March 18, 2010 X16.00007: Energy level alignment of Zn-tetraphenylporphyrins derivatives adsorbed on wide band gap semiconductor oxides
4:06PM - 4:18PM
Sylvie Rangan , Senia Katalinic , Ryan Thorpe , Robert Allen Bartynski , Jonathan Rochford , Elena Galoppini
- Thursday, March 18, 2010 X16.00008: Energy level alignments and photocurrents in crystalline Si - organic semiconductor heterojunction diodes
4:18PM - 4:30PM
Ian Campbell
- Thursday, March 18, 2010 X16.00009: Structural, electronic, and non-equilibrium charge transport properties of silicon-polymer interfaces
4:30PM - 4:42PM
Joseph Turnbull , Wenchang Lu , Jerry Bernholc
- Thursday, March 18, 2010 X16.00010: Indium diffusion and the electronic energy structure in polymer layers on indium tin oxide
4:42PM - 4:54PM
Gvido Bratina , Polona \v{S}kraba , Satoru Igarashi , Hiroshi Nohira , Kazuyuki Hirose
- Thursday, March 18, 2010 X16.00011: Charge injection mechanism through LiF layer in organic light emitting diodes: randomly oriented dipole model
4:54PM - 5:06PM
Hong Kee Yoon , Choon Sup Yoon
- Thursday, March 18, 2010 X16.00012: Cathode interface studies of polymer light emitting devices
5:06PM - 5:18PM
Stephen Swiontek , Marian Tzolov

Thursday, March 18, 2010 X16.00013: Transparent Carbon Nanotube layers in OLED
5:18PM - 5:30PM device structures
Alexios Papadimitratos , Anvar Zakhidov , John Ferraris

Session X17: Charged and Ion-Containing Polymers I

Sponsoring Units: DPOLY

Chair: Jodie Lutkenhaus, Yale

Room: B116

Thursday, March 18, 2010 X17.00001: The slow relaxation mode - from solutions to gel
2:30PM - 2:42PM networks
Chi Wu

Thursday, March 18, 2010 X17.00002: Viscosity and scattering function of dilute,
2:42PM - 2:54PM semidilute and concentrated polyelectrolyte solution:
Molecular dynamics simulations
Qi Liao

Thursday, March 18, 2010 X17.00003: Persistence length of a linear polyelectrolyte in
2:54PM - 3:06PM the presence of salt
Wei Qu , Erik Luijten

Thursday, March 18, 2010 X17.00004: Polyelectrolyte Complexation: A Field-Theoretic
3:06PM - 3:18PM Description of Phase Behavior
Debra Audus , Glenn Fredrickson

Thursday, March 18, 2010 X17.00005: Modeling the LCST of Lightly Charged
3:18PM - 3:30PM Polyelectrolytes
David S. Simmons , Isaac C. Sanchez

Thursday, March 18, 2010 X17.00006: Transverse migration of a polyelectrolyte driven
3:30PM - 3:42PM by electric and pressure-driven flow fields
Tony Ladd , Rahul Kekre , Jason Butler

Thursday, March 18, 2010 X17.00007: Stretching a strong polyelectrolyte chain under
3:42PM - 3:54PM AC-electric fields: A molecular dynamics simulation study
Hongjun Liu , Edward Maginn , Y. Elaine Zhu

Thursday, March 18, 2010 X17.00008: Ion Diffusion in polyelectrolyte solution
3:54PM - 4:06PM
Pengxiang Jia , Jiang Zhao

Thursday, March 18, 2010 X17.00009: Tribological and Rheological Properties of a
4:06PM - 4:18PM Synovial Fluid Model
Rebecca Klossner , Jing Liang , Wendy Krause

Thursday, March 18, 2010 X17.00010: Effects of Salts and Ionic Liquids on the
4:18PM - 4:30PM Thermodynamics of Poly(ethylene oxide)-Containing Block
Copolymers
Nisita Wanakule , Justin Virgili , Alexander Teran , Nitash Balsara

Thursday, March 18, 2010 X17.00011: Morphology effects on the ionic conductivity of
4:30PM - 4:42PM PEO-containing block copolymers
Wen-Shiue Young , Thomas Epps

Thursday, March 18, 2010 X17.00012: Morphologies in Diblock Copolymer and Ionic
4:42PM - 4:54PM Liquid Mixtures
Jae-Hong Choi , Liang Gwee , Yossef A. Elabd , Karen I. Winey

Thursday, March 18, 2010 X17.00013: Homopolymer Dissolution in a Hydrophilic Ionic
4:54PM - 5:06PM Liquid
David Hoagland , John Harner

Thursday, March 18, 2010 X17.00014: Thermoreversible Ion Gels from Supramolecular
5:06PM - 5:18PM Assembly via Hydrogen Bonding in Ionic Liquids
Yu Lei , Timothy Lodge

Thursday, March 18, 2010 X17.00015: Thermodynamics and Mechanism of the Block
5:18PM - 5:30PM Copolymer Micelle Shuttle between Water and an Ionic
Liquid
Zhifeng Bai , Timothy Lodge

Session X18: Focus Session: Polymer Network Mechanics II

Sponsoring Units: DPOLY

Chair: Al Crosby, University of Massachusetts, Amherst

Room: B117

Thursday, March 18, 2010 2:30PM - 2:42PM	X18.00001: Cavitation, Elasticity and Fracture in Strong Hydrogels Jun Cui , Ahmad Madkour , Gregory Tew , Alfred Crosby
Thursday, March 18, 2010 2:42PM - 2:54PM	X18.00002: Mechanics of Polymer Networks Subjected to Photochemically-Induced Rearrangement Kevin Long , Timothy Scott , Jerry Qi , Martin Dunn
Thursday, March 18, 2010 2:54PM - 3:06PM	X18.00003: Simulations of Self-Healing Polymer Networks Arun Kumar N , Evgeny Stukalin , Ludwik Leibler , Michael Rubinstein
Thursday, March 18, 2010 3:06PM - 3:42PM	X18.00004: Toughening Mechanism of Double Network Hydrogels Invited Speaker: Jian Ping Gong
Thursday, March 18, 2010 3:42PM - 3:54PM	X18.00005: Self-healing in dually crosslinked nanogels: Computational modeling Solomon Duki , Victor Yashin , German Kolmakov , Anna Balazs
Thursday, March 18, 2010 3:54PM - 4:06PM	X18.00006: Viscosity-Based Constitutive Model for the Nonlinear Deformations of Shape Memory Network Polymers Kristofer Westbrook , Francisco Castro , H. Jerry Qi
Thursday, March 18, 2010 4:06PM - 4:18PM	X18.00007: Investigation of the Non-Linear Viscoelastic Behavior of Lightly Cross-linked SBR: The Need for a New Modeling Perspective James Caruthers , Aparajita Bhattacharya , Grigori Medvedev
Thursday, March 18, 2010 4:18PM - 4:30PM	X18.00008: Modeling the BZ reaction in gels with chemo-responsive crosslinks Victor V. Yashin , Olga Kuksenok , Anna C. Balazs
Thursday, March 18, 2010 4:30PM - 4:42PM	X18.00009: Controlling bending of chemo-responsive gels with gradient in cross-link density Olga Kuksenok , Victor V. Yashin , Anna C. Balazs
Thursday, March 18, 2010 4:42PM - 4:54PM	X18.00010: Prediction of Gel Modulus using the Gel-Tensile Blob (GTB) Model for Network Structure Gregory Beaucage , Sathish K. Sukumaran
Thursday, March 18, 2010 4:54PM - 5:06PM	X18.00011: Polymeric Microgels as Potential Drug Delivery Vesicles Ryan McDonough , Kiril Streltzky , Mekki Bayachou , Pubudu Peiris
Thursday, March 18, 2010 5:06PM - 5:18PM	X18.00012: Effect of heating rate, polymer concentration, and cross-linking density on volume phase transition of microgels Kiril A. Streltzky , John T. McKenna , Imaan Benmerzouga
Thursday, March 18, 2010 5:18PM - 5:30PM	X18.00013: Ultraslow Stretching of Polymer Gels in Solvents Kenji Urayama , Akihiro Konda , Toshikazu Takigawa

Session X19: Focus Session: Polymer Colloids: Particle Interactions and Assembly

Sponsoring Units: DPOLY

Chair: Tony Dinsmore, University of Massachusetts, Amherst

Room: *B118-B119*

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| Thursday, March 18, 2010
2:30PM - 2:42PM | X19.00001: Directing the Self-Assembly of Colloidal Particles
Natalie Arkus , Vinothan Manoharan , Michael Brenner |
| Thursday, March 18, 2010
2:42PM - 2:54PM | X19.00002: Anisotropic self-assembly of colloidal particles in polymer-colloid composites: A simulation study
Monojoy Goswami , Bobby Sumpter |
| Thursday, March 18, 2010
2:54PM - 3:06PM | X19.00003: Patchy particles by self assembly
Dennis Discher , David Christian |
| Thursday, March 18, 2010
3:06PM - 3:18PM | X19.00004: Tunable helical micelles via kinetic assembly of charged block copolymer
Sheng Zhong , Ke Zhang , Karen Wooley , Darrin Pochan |
| Thursday, March 18, 2010
3:18PM - 3:30PM | X19.00005: Modeling the Structures Arising From Defect Bonding Among Colloidal Particles in a Cholesteric Liquid Crystal
Frances Mackay , Colin Denniston |
| Thursday, March 18, 2010
3:30PM - 3:42PM | X19.00006: Measurement of Colloidal Interactions Using Holographic Microscopy and Multi-particle Scattering Theory
Kristopher Eric Martin , Jerome Fung , Vinothan Manoharan |
| Thursday, March 18, 2010
3:42PM - 4:18PM | X19.00007: Self-Replication Without Life (yet)
Invited Speaker: Paul Chaikin |
| Thursday, March 18, 2010
4:18PM - 4:30PM | X19.00008: Dynamics of nanoparticles in an Optical Trap studied by Fluorescence Correlation Spectroscopy
Yi Hu , H.D. Ou-Yang |
| Thursday, March 18, 2010
4:30PM - 4:42PM | X19.00009: Critical Depletion
Roberto Piazza , Stefano Buzzaccaro , Alberto Parola , Jader Colombo |
| Thursday, March 18, 2010
4:42PM - 4:54PM | X19.00010: Depletion-Enhanced Nanoparticle Compressibility
Joseph Junio , H.D. Ou-Yang |
| Thursday, March 18, 2010
4:54PM - 5:06PM | X19.00011: Structural transitions in condensed colloidal virus phases
Nathan Schmidt , Steve Barr , Andrew Udit , Leonardo Gutierrez , Thanh Nguyen , M. G. Finn , Erik Luijten , Gerard Wong |
| Thursday, March 18, 2010
5:06PM - 5:18PM | X19.00012: Entropically Driven Exfoliation of Clay in a Clay/Polymer Nanocomposite
Horst Winter , Katie Lania , Fei Li , Xiaoliang Wang |

Session Y8: Ion Interactions and Transport in Ion-Containing Polymers

Sponsoring Units: DPOLY

Chair: Ralph Colby, The Pennsylvania State University

Room: *Portland Ballroom 255*

Friday, March 19, 2010 8:00AM - 8:36AM	Y8.00001: Nonlinear polarization of ionic liquids: theory, simulations, experiments Invited Speaker: Alexei Kornyshev
Friday, March 19, 2010 8:36AM - 9:12AM	Y8.00002: Independent tuning of acidity and ionicity in protic ionic liquids and their polymers. Comparing Li^+ to H^+ transport Invited Speaker: C.A. Angell
Friday, March 19, 2010 9:12AM - 9:48AM	Y8.00003: Hierarchical Structures in Ion-Containing Polymers Invited Speaker: Karen I. Winey
Friday, March 19, 2010 9:48AM - 10:24AM	Y8.00004: Components of Dielectric Constants of Ionic Liquids Invited Speaker: Ekaterina I. Izgorodina
Friday, March 19, 2010 10:24AM - 11:00AM	Y8.00005: Ion Transport and Structural Properties of Polymeric Electrolytes and Ionic Liquids from Molecular Dynamics Simulations Invited Speaker: Oleg Borodin

Session Y10: Computational Molecular Biophysics

Sponsoring Units: DBP

Chair: Gregory Grason, University of Massachusetts

Room: A106

Friday, March 19, 2010 8:00AM - 8:12AM	Y10.00001: Frustration in protein elastic network models Timothy Lezon , Ivett Bahar
Friday, March 19, 2010 8:12AM - 8:24AM	Y10.00002: Periplasmic Vestibule Determines the Ligand Selectivity in <i>E. coli</i> AMTB Ugur Akgun , Shahram Khademi
Friday, March 19, 2010 8:24AM - 8:36AM	Y10.00003: Development of electronic structure calculation for biomolecules based on fragment molecular orbital method with three-body term Tomoki Kobori , Shinji Tsuneyuki , Keitaro Sodeyama
Friday, March 19, 2010 8:36AM - 8:48AM	Y10.00004: EPR Spectral Analysis of Vanadyl Model Compounds via Bayesian Inference, Non-linear Least-squares and Statistical Geometry Indra Sahu , Laxman Mainali , Keith Earle
Friday, March 19, 2010 8:48AM - 9:00AM	Y10.00005: EPR Data Analysis on Copper Complexes using Bayesian Inference, Nonlinear-Least Squares and Statistical Geometry Laxman Mainali , Indra Sahu , Keith Earle
Friday, March 19, 2010 9:00AM - 9:12AM	Y10.00006: Temperature dependence of gramicidin channel conductance Hyundeok Song , Thomas Beck
Friday, March 19, 2010 9:12AM - 9:24AM	Y10.00007: A statistical model of protein binding in parallel actin bundles Homin Shin , Gregory Grason , Kirstin Purdy Drew , Gerard Wong
Friday, March 19, 2010 9:24AM - 9:36AM	Y10.00008: Vibrational Dynamics of Atoms in Proteins Derya Vural , Henry Glyde
Friday, March 19, 2010 9:36AM - 9:48AM	Y10.00009: In search of a viable reaction pathway in the chelation of a metallo-protein Frisco Rose , Miroslav Hodak , Jerry Bernholc
Friday, March 19, 2010 9:48AM - 10:00AM	Y10.00010: A Unified Model of Protein Folding Cooperativity Oleg Vorov , Dennis Livesay , Donald Jacobs
Friday, March 19, 2010 10:00AM - 10:12AM	Y10.00011: Allosteric Transitions in Myosin V: Structural Basis for the Dynamics Riina Tehver , D. Thirumalai
Friday, March 19, 2010 10:12AM - 10:24AM	Y10.00012: Brownian dynamics simulations of insulin microspheres formation Wei Li , Amit Chakrabarti , James Gunton
Friday, March 19, 2010 10:24AM - 10:36AM	Y10.00013: Ionic Moving and Selective Mechanism Through Single Channel of Biomembrane Lingyun Zhang , Peng-Ye Wang

Session Y12: Disordered and Glassy Systems I

Sponsoring Units: DFD

Room: B110-B111

Friday, March 19, 2010 8:00AM - 8:12AM	Y12.00001: Fragile granular jamming Mahesh Bandi , Michael Rivera , Florent Krzakala , Robert Ecke
Friday, March 19, 2010 8:12AM - 8:24AM	Y12.00002: Jamming under shear Jie Zhang , Jie Ren , Somayeh Farhadi , Robert Behringer
Friday, March 19, 2010 8:24AM - 8:36AM	Y12.00003: Clogging Transition in a Tilted Silo Charles Thomas , Douglas Durian
Friday, March 19, 2010 8:36AM - 8:48AM	Y12.00004: Kinetic Heterogeneities at Dynamical Crossovers Thomas Haxton , Andrea Liu
Friday, March 19, 2010 8:48AM - 9:00AM	Y12.00005: Elasticity near jamming probed in bidisperse foams Alexander Siemens , Martin van Hecke
Friday, March 19, 2010 9:00AM - 9:12AM	Y12.00006: Structural signature of jamming transition Ning Xu
Friday, March 19, 2010 9:12AM - 9:24AM	Y12.00007: Investigating Jamming percolation using renormalization group methods Samuel Schoenholz , Amy Bug , Andrea Liu
Friday, March 19, 2010 9:24AM - 9:36AM	Y12.00008: Yielding of colloidal glasses and gels George Petekidis , Nick Koumakis , John Brady
Friday, March 19, 2010 9:36AM - 9:48AM	Y12.00009: Dynamics of a colloidal glass during stress-mediated structural arrest Ajay Negi , Chinedum Osuji
Friday, March 19, 2010 9:48AM - 10:00AM	Y12.00010: Visualization of shear banding in colloidal glasses Vijayakumar Chikkadi , Andrew Schofield , Bernard Nienhuis , Peter Schall
Friday, March 19, 2010 10:00AM - 10:12AM	Y12.00011: Density of states and soft modes in ordered and disordered colloidal systems: Experimental observations Antina Ghosh , Vijayakumar K. Chikkadi , Peter Schall , Jorge Kurchan , Daniel Bonn
Friday, March 19, 2010 10:12AM - 10:24AM	Y12.00012: Irreversible Flow of Particle Suspensions with Non-uniform Strain J.P. Gollub , Jeffrey S. Guasto , Andrew S. Ross
Friday, March 19, 2010 10:24AM - 10:36AM	Y12.00013: Dynamics of soft spheres beyond the hard-sphere limit Michael Schmiedeberg , Andrea J. Liu
Friday, March 19, 2010 10:36AM - 10:48AM	Y12.00014: Effects of Shape on Diffusion and Shear Flows Robert Shaw , Norman Packard

Session Y17: Focus Session: Organic Electronics and Photonics - Electronic, Optical, Magnetic Properties

Chair: Vitaly Podzorov, Rutgers University
Room: B116

Friday, March 19, 2010 8:00AM - 8:12AM	<u>Y17.00001: Photoinduced absorption studies of triplet-enhanced conjugated polymer-based diodes</u> Dhanashree Moghe , Suchi Guha , Mohammad Samiullah
Friday, March 19, 2010 8:12AM - 8:24AM	<u>Y17.00002: Structure and optical properties of self-assembled distyrylbenzene electrolytes</u> Tirtha Chatterjee , Julia H. Ortony , Arkadiusz Chworos , Edward J. Kramer
Friday, March 19, 2010 8:24AM - 8:36AM	<u>Y17.00003: Mode delocalization in all-polymer distributed Bragg lasers</u> Yeheng Wu , Rolfe Petschek , Kenneth Singer
Friday, March 19, 2010 8:36AM - 8:48AM	<u>Y17.00004: Organic Materials with Exceptional Figures of Merit for All-Optical Signal Processing and Optical Limiting</u> Joseph W. Perry , Joel M. Hales , San-Hui Chi , Jonathon Matichak , Stephen Barlow , Seth Marder , Karl Thorley , Thomas E. O. Screen , Harry L. Anderson
Friday, March 19, 2010 8:48AM - 9:00AM	<u>Y17.00005: Reversible photodegradation of Amplifield Spontaneous Emission of Disperse Orange 11 dye doped in PMMA Polymer</u> Shiva K. Ramini , Eliseo DeLeon , Benjamin Anderson , Mark G. Kuzyk
Friday, March 19, 2010 9:00AM - 9:12AM	<u>Y17.00006: Using Scale Invariance to Identify Universal Properties of Quantum Systems With Exceptionally Large Nonlinear-Optical Response</u> Mark Kuzyk
Friday, March 19, 2010 9:12AM - 9:24AM	<u>Y17.00007: A Multifunctional Organic Bistable Device</u> Bin Li , Jung-Woo Yoo , Chi-Yueh Kao , Ho Won Jang , Chang Beom Eom , Arthur J. Epstein
Friday, March 19, 2010 9:24AM - 9:36AM	<u>Y17.00008: Electrical Conductivity of Polyaniline Thin Films</u> Zahra Nasrollahi , Catalin Martin , David B. Tanner , Young-Gi Kim , Patrick Kinlen
Friday, March 19, 2010 9:36AM - 9:48AM	<u>Y17.00009: An adapted Su-Schrieffer-Heeger Hamiltonian for conducting polymers</u> Minghai Li , Xi Lin
Friday, March 19, 2010 9:48AM - 10:00AM	<u>Y17.00010: Exciton transfer rate between two neutral \textit{trans}-polyacetylene chains</u> Qing Lu , Minghai Li , Xi Lin
Friday, March 19, 2010 10:00AM - 10:12AM	<u>Y17.00011: Electric and Magnetic Performances of Self-Doped Sulfonated Polyanilines (SPAN) and Their Copolymers with Polycaprolactone (PCL)</u> Y. Min , J.C. Wu , J.H. Park , A.J. Epstein
Friday, March 19, 2010 10:12AM - 10:24AM	<u>Y17.00012: Ferroelectricity of carbon based materials</u> Natasha Kirova , Serguei Brazovskii

Friday, March 19, 2010
10:24AM - 10:36AM

Y17.00013: Density fluctuations and phase transitions of
ferroelectric polymer nanorods
Thomas P. Russell , Anatoli Serghei

Session Y18: Elastomers and Gels

Sponsoring Units: DPOLY

Chair: Bradley Olsen, Massachusetts Institute of Technology

Room: B117

Friday, March 19, 2010 8:00AM - 8:12AM	Y18.00001: Dynamics of Poly(ethylene glycol) Based Gels Created in situ with Polyisocyanates Daniel King , Ralph Colby
Friday, March 19, 2010 8:12AM - 8:24AM	Y18.00002: Dynamics of Main Chain Liquid Crystal Elastomers by X-ray Scattering Dena M. Agra-Kooijman , Leela Joshi , Sonal Dey , Satyendra Kumar , Wanting Ren , Whitney Kline , Anselm C. Griffin
Friday, March 19, 2010 8:24AM - 8:36AM	Y18.00003: Segmental order of entangled polymer networks is controlled by monomer fluctuations along the confining tube Michael Lang , Jens-Uwe Sommer
Friday, March 19, 2010 8:36AM - 8:48AM	Y18.00004: Strain induced polarization in chiral nematic liquid crystal elastomers John Simon Biggins
Friday, March 19, 2010 8:48AM - 9:00AM	Y18.00005: Effects of charge inhomogeneities on the phase behavior of Polyelectrolyte gels Prateek Jha , Jos Zwanikken , Juan de Pablo , Monica Olvera de la Cruz
Friday, March 19, 2010 9:00AM - 9:12AM	Y18.00006: Yielding Mechanisms in Associating Telechelic Protein Hydrogels B.D. Olsen , D.A. Tirrell , J.A. Kornfield , Z.-G. Wang
Friday, March 19, 2010 9:12AM - 9:24AM	Y18.00007: Cell Migration on crosslinked gelatin based scaffolds Divya Bhatnagar , Miriam Rafailovich
Friday, March 19, 2010 9:24AM - 9:36AM	Y18.00008: Incompressible Biaxial Nematic Liquid Crystal Elastomers for Artificial Muscles P.E. Cladis , Simon Krause , Yusril Yusuf , S. Hashimoto , L. Fel , Heino Finkelmann , Shoichi Kai
Friday, March 19, 2010 9:36AM - 9:48AM	Y18.00009: Crystallization Induced Structuring and Properties of CEC-P-CEC Elastomeric Multiblock Terpolymers C. Guillermo Alfonzo , Guillaume Fleury , Frank S. Bates , Kimberly A. Chaffin
Friday, March 19, 2010 9:48AM - 10:00AM	Y18.00010: Interpenetrating Polymer Network Hydrogels Based on VP/MMA Gel and PLGA Diacrylate Macromers J. Hannah Lee , Zamri Radzi , Marc Swan , David Bucknall , Jan Czernuszka
Friday, March 19, 2010 10:00AM - 10:12AM	Y18.00011: Photo-Crosslinkable Shape-Memory Elastomers Containing Hydrogen-Bonding Side-Groups Jiahui Li , Christopher Lewis , Mitchell Anthamatten

Friday, March 19, 2010 10:12AM - 10:24AM	Y18.00012: Structural changes of semicrystalline polyolefin block copolymer elastomers during step cycle mechanical processing Fanny Deplace , Zhigang Wang , Philip Hustad , Juan Tian , Jeffrey M. Rose , Geoffrey W. Coates , Fumihiko Shimizu , Shigeyuki Toki , Lixia Rong , Jie Zhu , Benjamin S. Hsiao , Glenn H. Fredrickson , Edward J. Kramer
Friday, March 19, 2010 10:24AM - 10:36AM	Y18.00013: Origin of cononsolvency, based on the structure of tetrahydrofuran--water mixture Charles Han , Jinkun Hao , He Cheng

Session Y19: Focus Session: Polymer Colloids: Dynamics

Sponsoring Units: DPOLY DCMP

Chair: Ken Schweizer, University of Illinois, Urbana-Champaign

Room: B118-B119

Friday, March 19, 2010 8:00AM - 8:36AM	Y19.00001: Multiarm Star Polymers as Model Soft Colloids Invited Speaker: Dimitris Vlassopoulos
Friday, March 19, 2010 8:36AM - 8:48AM	Y19.00002: Slow dynamics, ageing and crystallization of a multiarm star glass: New routes to equilibrium? Emmanuel Stiakakis , Agnieszka Wilk , Joachim Kohlbrecher , Dimitris Vlassopoulos , George Petekidis
Friday, March 19, 2010 8:48AM - 9:00AM	Y19.00003: Activated transport, tunable fragility and thermal jamming in microgel suspensions Ken Schweizer , Jian Yang
Friday, March 19, 2010 9:00AM - 9:12AM	Y19.00004: Slow dynamics, elasticity and soft jamming of dense suspensions of many arm stars and microgels Jian Yang , Kenneth Schweizer
Friday, March 19, 2010 9:12AM - 9:24AM	Y19.00005: The Rheology of Concentrated Cross-Linker-Free Polymeric Microgels: Particulate Dispersions or Polymer Solutions? Zhiyong Meng , Chinedum Osuji
Friday, March 19, 2010 9:24AM - 9:36AM	Y19.00006: Phase behavior of repulsive polymer-tethered colloids Behnaz Bozorgui , Maya Sen , William L. Miller , Josep C. Pamies , Angelo Cacciuto
Friday, March 19, 2010 9:36AM - 9:48AM	Y19.00007: Unusual microscopic dynamics in melts of star-like polymer grafted nanoparticles and their binary mixtures Jaydeep Basu , S. Srivastava , Sivasurender C , A. Kandar , Sarika C , S. Narayanan , A. Sandy
Friday, March 19, 2010 9:48AM - 10:00AM	Y19.00008: Connecting nanoscale motion and rheology of gel-forming colloidal suspensions Hongyu Guo , Subramanian Ramakrishnan , James Harden , Robert Leheny
Friday, March 19, 2010 10:00AM - 10:12AM	Y19.00009: Self-diffusion of nanoparticles in a crowded environment H.D. Ou-Yang , Joseph Junio , Yi Hu
Friday, March 19, 2010 10:12AM - 10:24AM	Y19.00010: Dynamics of nanospheres near the free surface of dibutyl phthalate Marcin Sikorski , Suresh Narayanan , Christian Gutt , Birgit Fischer , Ivan Kuzmenko , Alec Sandy
Friday, March 19, 2010 10:24AM - 10:36AM	Y19.00011: On the Dynamics of Spin-Coating of Rapidly Dried Colloidal Suspensions Maximiliano Giuliani , Wenceslao Gonzalez-Vinas , Kristin Poduska , Anand Yethiraj
Friday, March 19, 2010 10:36AM - 10:48AM	Y19.00012: Polymeric stabilization of colloidal asphaltenes Sara Hashmi , Abbas Firoozabadi

Session Y20: Glassy and Amorphous Materials

Sponsoring Units: DMP DCMP

Room: C120-122

Friday, March 19, 2010 8:00AM - 8:12AM	Y20.00001: Structure and dynamics of iron doped and undoped silicate glasses Cristiane N. Santos , Domingos D.S. Meneses , Patrick Echegut , Emmanuel Lecomte
Friday, March 19, 2010 8:12AM - 8:24AM	Y20.00002: Optical and structural characterization of yttrium calcium borate glasses Cristiane Santos , Domingos D.S. Meneses , Patrick Echegut , Daniel R. Neuville , Antonio C. Hernandez , Alain Ibanez
Friday, March 19, 2010 8:24AM - 8:36AM	Y20.00003: Light-Induced Electron Paramagnetic Resonance Studies of the Phase Change Material a-Ge ₂ Sb ₂ Te ₅ David Baker , P. Craig Taylor , Tining Su , Brian Simonds , Youn Gu
Friday, March 19, 2010 8:36AM - 8:48AM	Y20.00004: Electrical transport mechanism studies of amorphous Ge ₂ Sb ₂ Te ₅ films at nm scales Wenjian Lu , Chanjong Ju , Kookrin Char
Friday, March 19, 2010 8:48AM - 9:00AM	Y20.00005: Structural evolution of Mg and Mg-rich bulk alloy during thermal expansion and rapid quenching by ab initio molecular dynamics Masae Takahashi
Friday, March 19, 2010 9:00AM - 9:12AM	Y20.00006: Glass transition in structural-glass models Ruben S. Andrist , Derek Larson , Helmut G. Katzgraber
Friday, March 19, 2010 9:12AM - 9:24AM	Y20.00007: The effect of hydrogen on the radiation-enhanced viscosity of amorphous silicon. Jean-Francois Joly , Sjoerd Roorda , Normand Mousseau , Laurent Lewis
Friday, March 19, 2010 9:24AM - 9:36AM	Y20.00008: First-principles simulations of Raman spectra of As-S glasses Chamila Dharmawardhana , Koblar Jackson
Friday, March 19, 2010 9:36AM - 9:48AM	Y20.00009: Anomalous Crystal Growth In Supercooled OTP On Temperature Cycling Stephen C. Hall , Sean Lindsay
Friday, March 19, 2010 9:48AM - 10:00AM	Y20.00010: Reciprocal-Space Approach for Atomic Interactions and Configuration Correlations in Highly Inhomogeneous Systems Volodymyr Bugaev , Alexander Udyansky , Peter Wochner
Friday, March 19, 2010 10:00AM - 10:12AM	Y20.00011: Excess low temperature heat capacity in a-Si:H thin films prepared by hot-wire CVD Daniel Queen , Frances Hellman , Richard Crandall , Qi Wang
Friday, March 19, 2010 10:12AM - 10:24AM	Y20.00012: Molecular modeling of a stable glass -- the case of trehalose Sadanand Singh , Devin Averett , Juan de Pablo
Friday, March 19, 2010 10:24AM - 10:36AM	Y20.00013: Dynamic Phase Transitions in Driven Kinetically Constrained Lattice Models Thomas Speck

Session Z11: Lipid Bilayers II

Sponsoring Units: DBP

Room: A107-A109

Friday, March 19, 2010 11:15AM - 11:27AM	Z11.00001: Stress Induced Domain Formation in Multilamellar Lipid Bilayers Lobat Tayebi , Sean Gillmore , Atul Parikh
Friday, March 19, 2010 11:27AM - 11:39AM	Z11.00002: Antibiotics and the mechanics of cellular bulging in gram-negative bacteria K. Daly , Ned S. Wingreen , Ranjan Mukhopahyay
Friday, March 19, 2010 11:39AM - 11:51AM	Z11.00003: Compositional Heterogeneity in Ternary Models for the Cell Membrane Robin Smith , Frederick Heberle , Jing Wu , Gerald Feigenson
Friday, March 19, 2010 11:51AM - 12:03PM	Z11.00004: Field-theoretic model of membrane/protein assemblies Kang Chen , Glenn Fredrickson , Kim Rasmussen , Paul Welch
Friday, March 19, 2010 12:03PM - 12:15PM	Z11.00005: Effect of biocompatible polymers on the structural integrity of lipid bilayers under external stimuli Jia-Yu Wang , Ravinath Kausik , Chi-Yuan Chen , Song-I. Han , Jeremy Marks , Ka Yee Lee
Friday, March 19, 2010 12:15PM - 12:27PM	Z11.00006: Towards general design rules for membrane active antimicrobials Lori Sanders , Nathan Schmidt , Abhijit Mishra , Vernita Gordon , Gerard Wong
Friday, March 19, 2010 12:27PM - 12:39PM	Z11.00007: pH-dependent Differential Scanning Calorimetry and Dynamic Light Scattering Studies of 21:0 PC and 18:0 PS Lipid Binary System Rejwan Ali
Friday, March 19, 2010 12:39PM - 12:51PM	Z11.00008: Quantitative Imaging of Membrane Shape Transformation and Pearling Stephen Anthony , Yan Yu , Steve Granick
Friday, March 19, 2010 12:51PM - 1:03PM	Z11.00009: Criticality in Plasma Membranes Ben Machta , James Sethna , Sarah Veatch , Stefanos Papanikolaou
Friday, March 19, 2010 1:03PM - 1:15PM	Z11.00010: Topological Transitions in Mitochondrial Membranes controlled by Apoptotic Proteins Ghee Hwee Lai , Lori K. Sanders , Abhijit Mishra , Nathan W. Schmidt , Gerard C.L. Wong , Olena Ivashyna , Paul H. Schlesinger
Friday, March 19, 2010 1:15PM - 1:27PM	Z11.00011: The buckling transition of ionic shells and electrostatics Monica Olvera de la Cruz , Rastko Sknepnek , Graziano Vernizzi
Friday, March 19, 2010 1:27PM - 1:39PM	Z11.00012: Facilitation of Electron Transfer in the Presence of Mitochondria-Targeting Molecule SS31 Tetiana Nosach , Mark Ebrahim , Yuhang Ren , Shaun Darrah , Hazel Szeto
Friday, March 19, 2010 1:39PM - 1:51PM	Z11.00013: Mean-field overcharging of macromolecules via charge or surface modulation Jonathan Landy

Session Z12: Disordered and Glassy Systems II

Sponsoring Units: DFD

Chair: Jack Douglas, National Institute of Standards and Technology

Room: B110-B111

Friday, March 19, 2010 11:15AM - 11:27AM	Z12.00001: Microscopic statistical dynamical theory of correlated motion in glassy fluids and suspensions Daniel Sussman , Ken Schweizer
Friday, March 19, 2010 11:27AM - 11:39AM	Z12.00002: Improved model for the transit entropy of monatomic liquids Eric Chisolm , Nicolas Bock , Duane Wallace
Friday, March 19, 2010 11:39AM - 11:51AM	Z12.00003: Free energy landscape theory of glass transition Takashi Odagaki
Friday, March 19, 2010 11:51AM - 12:03PM	Z12.00004: Observation of the Disorder-Induced Crystal-to-Glass Transition Peter Yunker , Zexin Zhang , Arjun Yodh
Friday, March 19, 2010 12:03PM - 12:15PM	Z12.00005: Characteristic length scale of the inhomogeneous mode-coupling theory: beyond scaling predictions Elijah Flenner , Grzegorz Szamel
Friday, March 19, 2010 12:15PM - 12:27PM	Z12.00006: On the Molecular Structure of $\text{Ge}_x\text{Sb}_x\text{Se}_{1-2x}$ glasses K. Gunasekera , P. Boolchand , A. Jackson
Friday, March 19, 2010 12:27PM - 12:39PM	Z12.00007: Relating the Dynamics of Supercooled Liquids to the Sensitivity of Modes to Small Perturbations Vasile Iulian Clapa , Tsampikos Kottos , Francis Starr
Friday, March 19, 2010 12:39PM - 12:51PM	Z12.00008: Direct evidence of enhanced surface mobility in molecular glass forming system 1,3-bis-(1-naphthyl)-5-(2-naphthyl)benzene Chad Daley , Dan Scifo , Zahra Fakhraai , Mark Ediger , James Forrest
Friday, March 19, 2010 12:51PM - 1:03PM	Z12.00009: On the Elastic behavior of Sodium Borate Glasses K. Vignarooban , P. Boolchand , R. Kerner , M. Micoulaut
Friday, March 19, 2010 1:03PM - 1:15PM	Z12.00010: Aging of the generalized density susceptibility in a strong glass Azita Parsaeian , Horacio E. Castillo , Katharina Vollmayr-Lee
Friday, March 19, 2010 1:15PM - 1:27PM	Z12.00011: Glass transition and dynamic scaling in soft repulsive particles: a mode-coupling theory study Grzegorz Szamel , Ludovic Berthier , Hugo Jacquin , Elijah Flenner
Friday, March 19, 2010 1:27PM - 1:39PM	Z12.00012: Time reparametrization symmetry in a short-range p-spin model Gcina Mavimbela , Horacio E. Castillo
Friday, March 19, 2010 1:39PM - 1:51PM	Z12.00013: Brillouin scattering study of glass-transition dynamics in glycerol at pressures up to 60 kbar William Oliver III , Titus Morris , Taylor Byrum
Friday, March 19, 2010 1:51PM - 2:03PM	Z12.00014: Triangular Relations in Structural Glasses Karina E. Avila , Horacio E. Castillo , Azita Parsaeian

Session Z16: Focus Session: Organic Electronics and Photonics: Fundamentals

Sponsoring Units: DMP DPOLY

Chair: Wolfgang Kalb

Room: B115

Friday, March 19, 2010 11:15AM - 11:27AM	Z16.00001: Near-infrared photoresponse in single walled carbon nanotube/polymer composite films Biddut K. Sarker , M. Arif , Saiful I. Khondaker
Friday, March 19, 2010 11:27AM - 11:39AM	Z16.00002: Single molecule photoluminescence excitation spectroscopy of polyfluorene Enrico Da Como , John Lupton
Friday, March 19, 2010 11:39AM - 11:51AM	Z16.00003: Quadratic Electro-Optic Effect in Doped Nonconjugated Conductive Polymer 1,4-Trans-Polyisoprene, an Organic Quantum Dot System S. Shrivastava , A. Narayanan , M. Thakur
Friday, March 19, 2010 11:51AM - 12:03PM	Z16.00004: Spin-orbit coupling and spin relaxation rate in singly charged pi-conjugated polymer chains James Rybicki , Tho Duc Nguyen , Yugang Sheng , Markus Wohlgenannt
Friday, March 19, 2010 12:03PM - 12:15PM	Z16.00005: Polarizability, susceptibility, and dielectric constant of nano-scale molecular films: a microscopic view Amir Natan , Natalia Kuritz , Leeor Kronik
Friday, March 19, 2010 12:15PM - 12:27PM	Z16.00006: Tuning vibrations in single-molecule junctions: inelastic electron tunneling spectroscopy of an alkanedithiol Nicolas Agrait , Carlos R. Arroyo , Thomas Frederiksen , Gabino Rubio-Bollinger , Marisela Velez , Andres Arnau , Daniel Sanchez-Portal
Friday, March 19, 2010 12:27PM - 12:39PM	Z16.00007: Towards molecular electronics with scalable nanopore junctions Alex Neuhausen , David Goldhaber-Gordon , Chris Chidsey
Friday, March 19, 2010 12:39PM - 12:51PM	Z16.00008: Photophysics of MEH-PPV film under High Hydrostatic Pressure: The Role of Charge-Transfer Excitons S. Mazumdar , K. Aryanpour , D. Psiachos
Friday, March 19, 2010 12:51PM - 1:03PM	Z16.00009: Optical Probes of MEH-PPV films at High Hydrostatic Pressure E. Olejnik , S. Singh , B. Pandit , V. Morandi , J. Holt , C.-X. Sheng , Z.V. Vardeny
Friday, March 19, 2010 1:03PM - 1:15PM	Z16.00010: Self Assembled Dipole Monolayers on CNTs: Effect on Transport and Charge Collection Alexander Cook , Bumsu Lee , Alexander Kuznetsov , Vitaly Podzorov , Anvar Zakhidov
Friday, March 19, 2010 1:15PM - 1:27PM	Z16.00011: Efficient electron and hole injection in organic transistors with carbon nanotube electrodes Fabio Cicoira , Richard Martell
Friday, March 19, 2010 1:27PM - 1:39PM	Z16.00012: Octadecanethiol Island Formation on Single Crystal Zinc Oxide Surfaces Andrea Yocom , Reuben Collins , Thomas Furtak , Darick Baker , Timothy Ohno

Friday, March 19, 2010 1:39PM - 1:51PM	Z16.00013: Mechanical control of morphology in fluorene oligomers: First principles calculations Elizabeth M. Lupton , Feng Liu
Friday, March 19, 2010 1:51PM - 2:03PM	Z16.00014: Large Single Grain Thin Film by Hollow Capillary Method Songtao Wo , Randall Headrick , John Anthony
Friday, March 19, 2010 2:03PM - 2:15PM	Z16.00015: Exploring photomechanical switching capability and self-assembly of individual molecules on semiconductor surfaces Jongweon Cho , Ivan V. Pechenezhskiy , Luis Berbil-Bautista , Daniel Poulsen , Jean M. J. Frechet , Michael F. Crommie

Session Z17: Charged and Ion-Containing Polymers II

Sponsoring Units: DPOLY

Chair: Jodie Lutkenhaus, Yale University

Room: B116

Friday, March 19, 2010 11:15AM - 11:27AM	Z17.00001: Segmental dynamics and cross-linking in ion containing polymers Kokonad Sinha , Janna Maranas
Friday, March 19, 2010 11:27AM - 11:39AM	Z17.00002: The interplay of ion crosslinking, free ion content, and polymer mobility in PEO-based single-ion conductors Kan-Ju Lin , Janna Maranas
Friday, March 19, 2010 11:39AM - 11:51AM	Z17.00003: Conductivity and Water Content in Asymmetrical Sulfonated Block Copolymers Xin Wang , Nitash P. Balsara , Keith M. Beers , Moon J. Park
Friday, March 19, 2010 11:51AM - 12:03PM	Z17.00004: Ionic Conductivity Trends with Molecular Weight in PEO and PEO-Based Solid Polymer Electrolytes Alexander Teran , Scott Mullin , Nisita Wanakule , Ashoutosh Panday , Nitash Balsara
Friday, March 19, 2010 12:03PM - 12:15PM	Z17.00005: Electrospinning of an Alkaline Polymer Electrolyte Supacharee Roddecha , Zexuan Dong , Yiquan Wu , Mitchell Anthamatten
Friday, March 19, 2010 12:15PM - 12:27PM	Z17.00006: Formation of a Dense Ionic Layer at an Electrified Interface Between Two Electrolyte Solutions Nouamane Laanait , Jaesung Yoon , Binyang Hou , Petr Vanysek , Mati Meron , Binhua Lin , Guangming Luo , Ilan Benjamin , Mark Schlossman
Friday, March 19, 2010 12:27PM - 12:39PM	Z17.00007: Thermal Properties of Poly(allylamine hydrochloride)/Poly(acrylic acid) Layer-by-Layer Assemblies Jodie Lutkenhaus , Lin Shao
Friday, March 19, 2010 12:39PM - 12:51PM	Z17.00008: Mean Field Theory of Aggregation and Symmetry-Breaking in Ionomer Melts Erica Saltzman , Sanat Kumar , Igal Szleifer
Friday, March 19, 2010 12:51PM - 1:03PM	Z17.00009: Hierarchical Structure of Poly(ethylene) Based Ionomers Michelle E. Seitz , Christopher D. Chan , Kathleen L. Opper , Travis W. Baughman , Kenneth B. Wagener , Karen I. Winey
Friday, March 19, 2010 1:03PM - 1:15PM	Z17.00010: Interdiffusion of long alcohols into thin ionomer films; In situ Neutron Reflectivity study Thusitha Etampawala , Dilru Ratnaweera , Umesh Shrestha , Dvora Perahia , Christopher Cornelius , Jaroslaw Majewski
Friday, March 19, 2010 1:15PM - 1:27PM	Z17.00011: Anisotropic Proton Conduction in Aligned Block Copolymer Electrolyte Membranes at Equilibrium with Humid Air Moon Park , Nitash Balsara
Friday, March 19, 2010 1:27PM - 1:39PM	Z17.00012: Ab-initio study of polypyrrole as a pervaporation membrane Andre Botelho , Xi Lin

Friday, March 19, 2010 1:39PM - 1:51PM	Z17.00013: Dynamics of Sulfonated Polystyrene Ionomers by Dielectric Relaxation Spectroscopy Alicia Castagna , Wenqin Wang , Karen Winey , James Runt
Friday, March 19, 2010 1:51PM - 2:03PM	Z17.00014: A Polarizable Potential for Poly(ethylene oxide) ~in Aqueous Solution Oleg Starovoytov , Oleg Borodin , Dmitry Bedrov , Grant Smith
Friday, March 19, 2010 2:03PM - 2:15PM	Z17.00015: Charging and Screening in Nonpolar Solutions of Nonionizable Surfactants Sven Behrens

Session Z18: New Experimental, Theoretical, and Computational Methods in Polymer and Soft Matter Physics

Sponsoring Units: DPOLY

Chair: Vivek Sharma

Room: B117

Friday, March 19, 2010 11:15AM - 11:27AM	Z18.00001: Computational modeling of red blood cells: A symplectic integration algorithm Ulf D. Schiller , Anthony J. C. Ladd
Friday, March 19, 2010 11:27AM - 11:39AM	Z18.00002: Testing Theory Against Experiment and Simulation for Chain Fluids: Can Lattice Compete with Continuum? Ronald White , Jane Lipson
Friday, March 19, 2010 11:39AM - 11:51AM	Z18.00003: Efficient calculation of electrostatic interactions within dynamic dielectric environments Kipton Barros , Erik Luijten
Friday, March 19, 2010 11:51AM - 12:03PM	Z18.00004: Theory of spinodal decomposition assisted polymer crystallization in a binary polyolefin mixture Mithun Mitra , Murugappan Muthukumar
Friday, March 19, 2010 12:03PM - 12:15PM	Z18.00005: Field theoretic simulations in the Gibbs ensemble Robert Riggleman , Glenn Fredrickson
Friday, March 19, 2010 12:15PM - 12:27PM	Z18.00006: Highly constrained polymer dynamics with an enhanced bond-fluctuation model Frank Bentrem , Colin McFaul
Friday, March 19, 2010 12:27PM - 12:39PM	Z18.00007: Molecular Dynamics Simulations of Polymer Surfaces Thomas Clancy , Sarah Frankland
Friday, March 19, 2010 12:39PM - 12:51PM	Z18.00008: HOOMD-blue, general-purpose many-body dynamics on the GPU Joshua Anderson , Aaron Keys , Carolyn Phillips , Trung Dac Nguyen , Sharon Glotzer
Friday, March 19, 2010 12:51PM - 1:03PM	Z18.00009: Quantifying and Minimizing Lattice Anisotropy Qiang Wang
Friday, March 19, 2010 1:03PM - 1:15PM	Z18.00010: Quantitative test of polymer field theories by fast lattice Monte Carlo simulations Xinghua Zhang , Pengfei Zhang , Baohui Li , Qiang Wang
Friday, March 19, 2010 1:15PM - 1:27PM	Z18.00011: Cracks in Ductile Polymers Using Cohesive Zone Modeling Derek Reding
Friday, March 19, 2010 1:27PM - 1:39PM	Z18.00012: What exactly is measured by passive microbead rheology? Jay Schieber , Ekaterina Pilyugina

Friday, March 19, 2010 1:39PM - 1:51PM	Z18.00013: Measuring colloid interactions and dynamics with digital holographic microscopy and multi-particle scattering theory Jerome Fung , David Kaz , Ryan McGorty , Guangnan Meng , K. Eric Martin , Vinothan N. Manoharan
Friday, March 19, 2010 1:51PM - 2:03PM	Z18.00014: Probing the Physics of Organic-Organic Heterojunctions using Laterally defined Organic Field Effect Diodes Bal Mukund Dhar , Geetha Kini , Nina Markovic , Howard Katz
Friday, March 19, 2010 2:03PM - 2:15PM	Z18.00015: Positron Annihilation Spectroscopy as a Novel Interfacial Probe for Thin Polymeric Films and Nano-Composites Somia Awad , Hongmin Chen , Grace Maina , L. James Lee , Xiaohong Gu , Y.C. Jean

Session Z19: Focus Session: Polymer Brushes

Sponsoring Units: DPOLY

Chair: Chanjoong Kim, Kent State University

Room: B118-B119

Friday, March 19, 2010 11:15AM - 11:51AM	Z19.00001: Design and applications of functionalized polymer brushes Invited Speaker: Sergiy Minko
Friday, March 19, 2010 11:51AM - 12:03PM	Z19.00002: Mixed Polymer Brushes: A Tool for Nanolithography? Su-Mi Hur , Amalie Frischknecht , Dale Huber , Glenn Fredrickson
Friday, March 19, 2010 12:03PM - 12:15PM	Z19.00003: Mechanical Properties of Polystyrene Brush Films Andrew Clough , Yoshihisa Fujii , Zhaohui Yang , Ophelia Tsui
Friday, March 19, 2010 12:15PM - 12:27PM	Z19.00004: Diblock-copolymer brush tethered to a nanoparticle Bart Vorselaars , Mark M. Matsen , Jaeup Kim , Tanya L. Chantawansri , Glenn H. Fredrickson
Friday, March 19, 2010 12:27PM - 12:39PM	Z19.00005: Adsorption of end-adsorbing homopolymers A and B from solution onto a solid interface Folusho Oyerokun , Richard Vaia
Friday, March 19, 2010 12:39PM - 12:51PM	Z19.00006: Grafted Peptides for the Control of Interfacial Properties William Ducker , Wade Mosse , Sally Gras
Friday, March 19, 2010 12:51PM - 1:03PM	Z19.00007: Strong Polyelectrolyte Brushes: A self-consistent field theory study Gabriele Migliorini , Mark Matsen
Friday, March 19, 2010 1:03PM - 1:15PM	Z19.00008: Protein adsorption at polyethylene oxide brushes of various surface coverage Warren Taylor , Richard Jones
Friday, March 19, 2010 1:15PM - 1:27PM	Z19.00009: Surface Dynamics of Untethered Chains on top of Chemically Identical Polymer Brushes Bulent Akgun , Gokce Ugur , Zhang Jiang , Suresh Narayanan , Sushil Satija , Mark D. Foster
Friday, March 19, 2010 1:27PM - 1:39PM	Z19.00010: Molecular Dynamics Simulations of Fractionation of Molecular Brushes During Spreading on Substrates Jan-Michael Carrillo , Andrey Dobrynin , Sergei Sheiko
Friday, March 19, 2010 1:39PM - 1:51PM	Z19.00011: Surface Diffusion of Single Molecules on Poly(N-isopropylacrylamide) Brush Surfaces Shengqin Wang , Y. Elaine Zhu
Friday, March 19, 2010 1:51PM - 2:03PM	Z19.00012: Structure of End-Grafted Polymer Brushes -- A Molecular Dynamics Study Ian Elliott , Tonya L. Kuhl , Roland Faller
Friday, March 19, 2010 2:03PM - 2:15PM	Z19.00013: First principles Modelling of Brush formation of linear oligomers on Al Surfaces Colin Denniston , Lingti Kong , Martin Mueser

Special DPOLY Events

DPOLY Reception

5:30 – 9:00 PM

Sunday, March 14th 2010

Lola's Room at the Crystal Ballroom

1332 W. Burnside

Portland, OR 97209

(503)225-0047

<http://www.mcmenamins.com/index.php?loc=64&id=144>

This DPOLY reception recognizes **Michael Rubinstein** recipient of the 2010 Polymer Physics Prize) and **Yueh-Lin (Lynn) Loo** (recipient of the 2010 Dillon Medal).

DPOLY Business Meeting

5:45 PM, Tuesday, March 16, 2010

Oregon Convention Center

Room B116

DPOLY Award Lectures

Polymer Physics Prize:

8:00 AM, Tuesday, March 16, 2010

Oregon Convention Center

Oregon Ballroom 204

Michael Rubinstein

Polymer Physics Prize Talk: Our Love Story with Polymers or “Is This Really Physics?”

Padden Prize Symposium:

11:15 AM, Tuesday, March 16, 2010

Oregon Convention Center

Room B116

Dillon Medal:

2:30PM, Tuesday, March 16, 2010

Oregon Convention Center

Room B116

Yueh-Lin (Lynn) Loo

Dillon Medal Prize Lecture: Solvent Annealing of Water-Dispersible Polyaniline Yields Highly Conductive Functional Components for Organic Electronics

Disclaimer: The information contained within this booklet is unofficial and is accurate as of 1/28/2010. For all official information please refer to the APS March Meeting Proceedings (<http://meetings.aps.org/Meeting/MAR10/>)