

The background of the entire image is a dense field of grey, semi-transparent spheres. Interspersed among these are several long, wavy chains of smaller orange spheres, representing polymer molecules. The overall effect is a textured, molecular-like surface.

2019

DPOLY

Division of Polymer Physics

March Meeting Program

March 4th - 8th

Boston, MA

2019 DPOLY SHORT COURSE

X-ray and Neutron Scattering for Polymer Science

Day and Time: Saturday March 2, 1:00 PM – 6:00 PM
Sunday March 3, 8:15 AM – 5:30 PM

Course Description: The 2019 DPOLY short course will introduce the principles of X-ray and Neutron Scattering from polymeric materials. The first part of the course will focus on techniques that probe polymer structure, including transmission scattering, reflectivity and grazing incidence, with emphasis on hard x-ray, soft x-ray and neutron sources. The second part of the course will cover techniques that probe polymer dynamics, including x-ray photon correlation spectroscopy, quasielastic neutron scattering, and neutron spin echo. The course will conclude with an introduction to new challenges and opportunities, such as integration of scattering with other experimental methods, machine learning, and big data.

Who Should Attend: Students, postdocs, faculty and industrial researchers who are interested in learning about different scattering methods and their applications in polymer science.

Course Organizer: Gila Stein, University of Tennessee

Course Modules and Speakers:

1. Transmission Small Angle Scattering (X-ray and Neutron)
 - Mark Dadmun, University of Tennessee
 - Karen Winey, University of Pennsylvania
2. Reflectivity (X-ray and Neutron)
 - David Bucknall, Heriot-Watt University
3. Grazing-Incidence Small Angle X-ray Scattering
 - Eva Herzig, University of Bayreuth
4. Soft X-ray Scattering and Reflectivity
 - Eliot Gann, National Institute of Standards and Technology
 - Dean DeLongchamp, National Institute of Standards and Technology
5. X-ray Photon Correlation Spectroscopy
 - Sunil Sinha, University of California, San Diego
6. Quasielastic Neutron Scattering
 - Janna Maranas, Penn State University
7. Neutron Spin Echo
 - Rana Ashkar, Virginia Tech
8. Integration of scattering with other experimental methods, autonomous experiments, and machine learning
 - Alex Hexemer, Lawrence Berkeley National Laboratory
9. Big Data
 - Alessandro Sepe, Big Data Science Center, Shanghai Synchrotron Radiation Facility

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Welcome from the Program Chair

Dear Colleagues,

Welcome to the 2019 APS March Meeting Division of Polymer Physics program. Especially welcome to our new members and attendees; I hope that this will be your first of many visits to this outstanding meeting. This year's DPOLY program includes an exceptionally broad suite of topics and a number of exciting innovations; I would like to bring to your attention several of its highlights.

Short course: The 2019 DPOLY Short Course will provide a tutorial on scattering methods in polymer science. This course provides a unique opportunity to be exposed to cutting edge methods in scattering from experts across the world, at a level accessible to beginning 'scatterers'. I strongly encourage you to take this opportunity.

Kavli: This year's APS Kavli Session, which is a Society-wide session, is focused on discovery of new materials. Two of the speakers are Mark Ediger and Sharon Glotzer. Kavli sessions featuring polymers and soft materials are relatively rare; I hope you will attend to support our colleagues, enjoy hearing about their breakthrough research, and help highlight the high level of participation of DPOLY membership in the March Meeting.

DPOLY Awards: This year's UKPPG/DPOLY Lecture Exchange winner, Ignacio Martin-Fabiani, will speak in the Monday midday session followed by a slate of other outstanding speakers. Our Polymers Physics Award and Dillon Medal Recipients, Ron Larson and Zahra Fakhraei, will speak at the beginning of their award session in the Tuesday morning and afternoon sessions, respectively. Other DPOLY-led sessions run no programming against these two award talks and instead begin 36 minutes late. Immediately after the Polymer Physics Prize session, this (very large) room will be divided into two halves by facility staff; the Padden Symposium – our graduate award symposium – will be held in one of these two rooms with a 24-minute delayed start to allow for this room separation. This will place the Padden in a much larger room than in recent years, and I strongly encourage you to take this opportunity to see some of our brightest young minds without the audience overcrowding that is common at this session. Along these same lines, the Polymer Physics Poster Session runs entirely unopposed by other DPOLY programming in the Wednesday midday session. As part of this session, we run a graduate and postdoctoral student competition; this session is well worth attending whether your interest is in science or in getting early contacts with future potential recruits.

Emerging Topics: Our invited and focus sessions highlight a number of emerging areas that are entirely new to the DPOLY program and that I encourage you to explore. These include sessions on big data (**A51**, **B55**), chirality (**A50**, **E50**, **F50**), sequence control (**P54**, **V54**, **X51**), dielectric spectroscopy (**A55**, **E54**), advanced manufacturing (**A49**, **B49**, **H49**) and polymer physics at scale for the global energy challenge (**F35**).

Finally, the program committee welcomes feedback and suggestions ahead of next year's meeting. We especially encourage recommendations for new or returning focus topics and invited sessions. These ideas form the backbone of our annual meeting and will be set this spring to early summer. Your 2020 APS March Meeting DPOLY Program Chair and point of contact is Connie Roth of Emory University, with whom the program will be in excellent hands. It has been an honor to serve as your program chair. I hope you enjoy this year's meeting as much as I have enjoyed interacting with the many DPOLY members who have contributed to its success. See you in March.

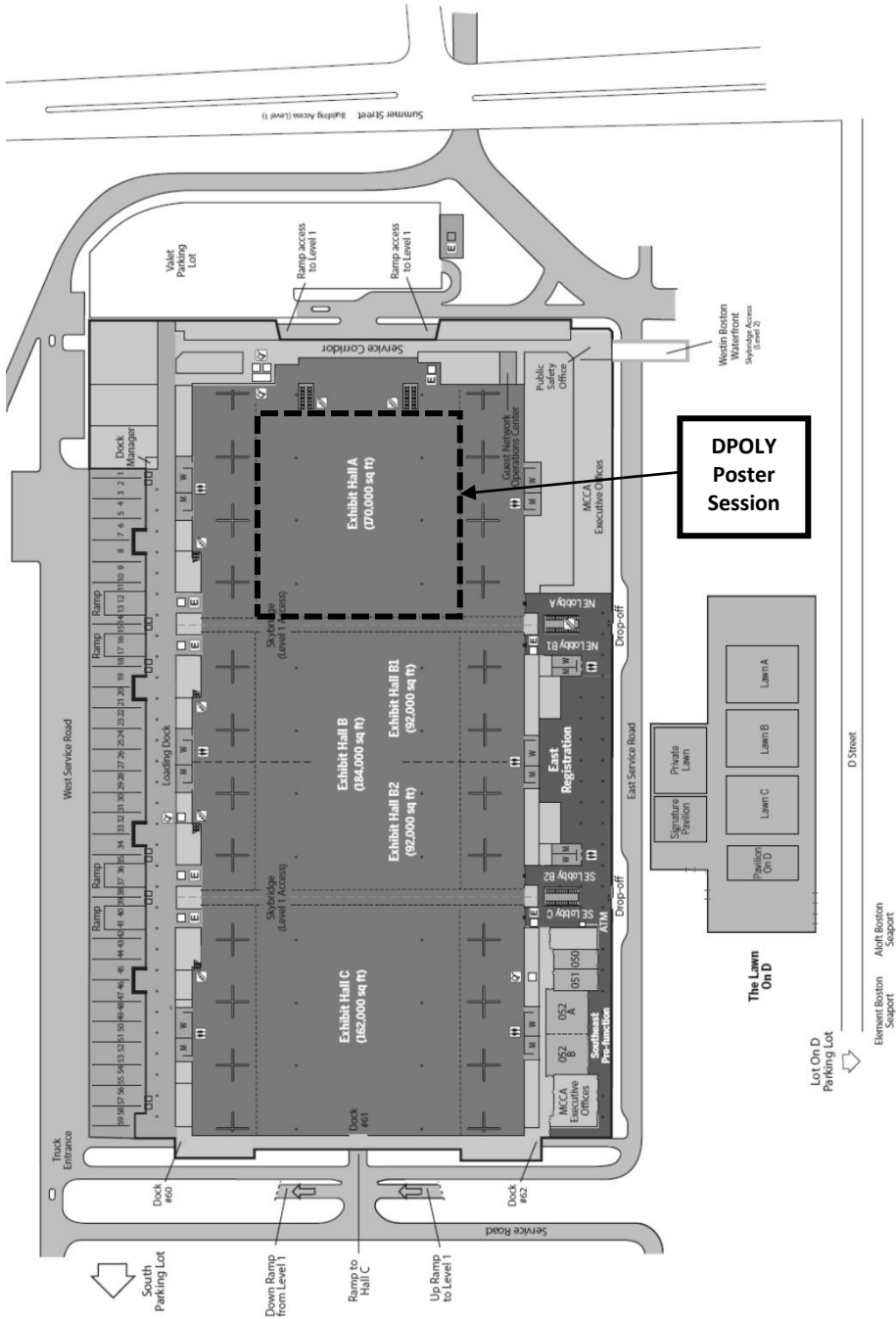
Sincerely,



David S. Simmons

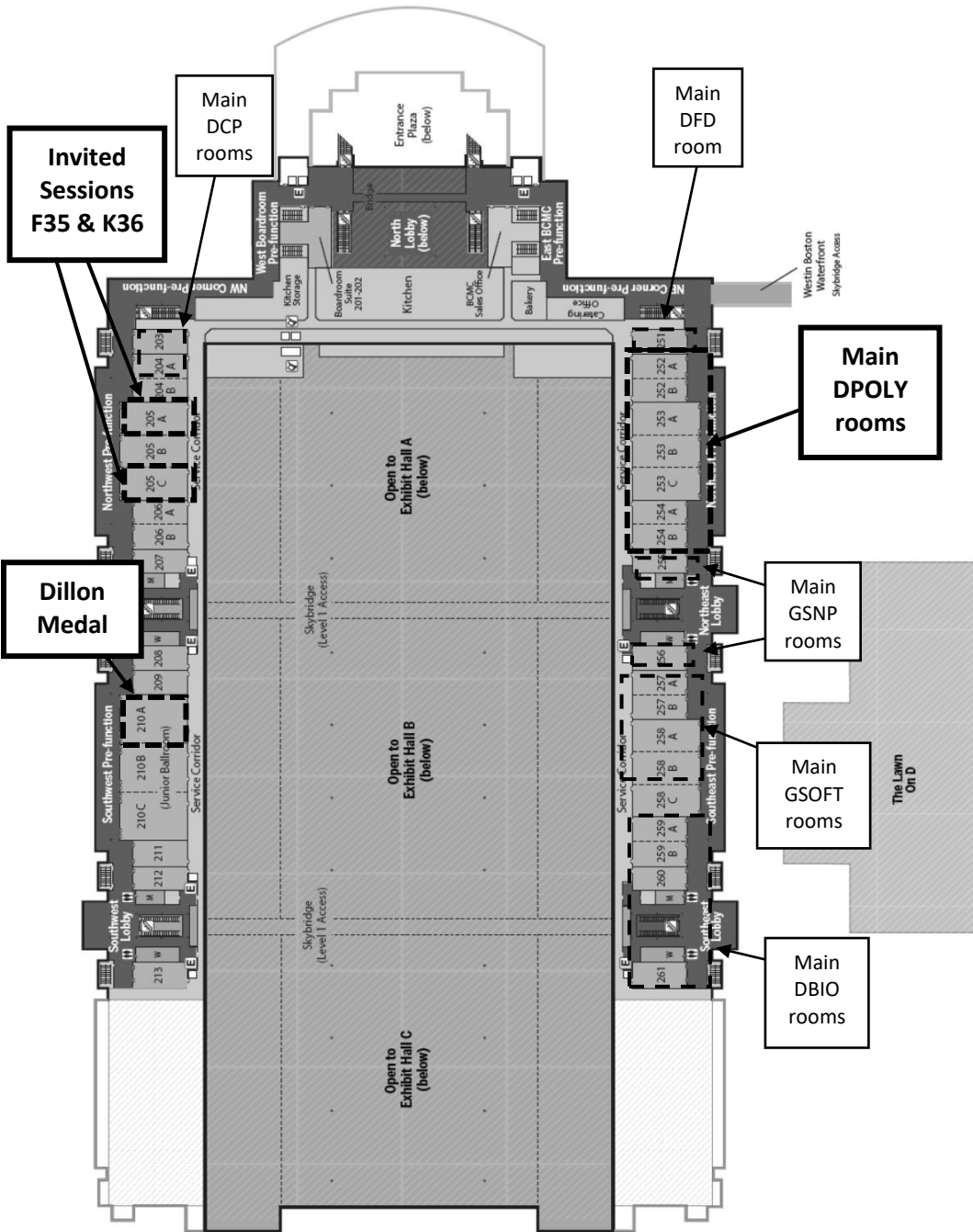
2019 APS March Meeting DPOLY Program Chair
Associate Professor of Chemical and Biomedical Engineering
University of South Florida

Convention Center Map Exhibit Level

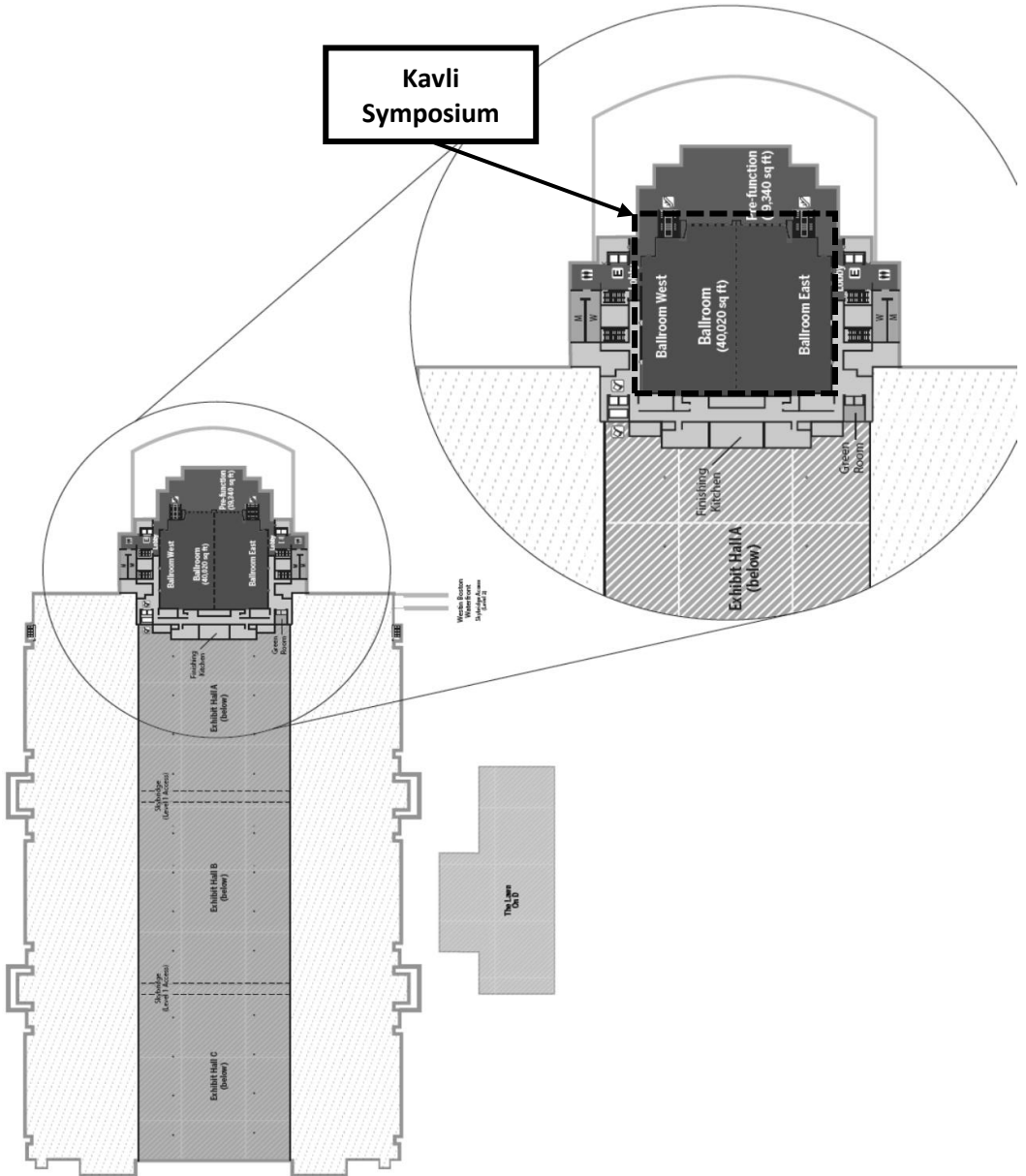


**DPOLY
Poster
Session**

Convention Center Map Meeting Level 2



Convention Center Map
Ballroom Level 3



Epitome

Saturday, March 2nd

DPOLY SHORT COURSE: X-ray and Neutron Scattering for Polymer Science, 1:00 PM – 6:00 PM, BCEC150

Sunday, March 3rd

DPOLY SHORT COURSE: X-ray and Neutron Scattering for Polymer Science, 8:15 AM – 5:30 PM, BCEC150

DPOLY RECEPTION: Rosa Mexicano, 155 Seaport Blvd, Boston, MA 02210

Monday, March 4th

Session A: Monday, 8:00 AM – 11:00 AM

	Session Title	Room	Page
A25	Deformation, Flow and Relaxation of Melt and Glassy Polymers (DPOLY)	160A	22
A49	Focus Session: Additive Manufacturing of Soft Materials: Novel Characterization and Processing Strategies (DPOLY GSOFT DFD GSNP)	252A	23
A50	Focus Session: Chirality in Polymers and Soft Matter I: From Molecular to Hierarchical Scales (DPOLY GSOFT DBIO)	252B	24
A51	Invited Session: Big Data, Polymers, and Soft Matter: New Developments in Machine Learning, Data Mining and High-Throughput Studies (DPOLY GSOFT)	253A	25
A52	Focus Session: Advanced Morphological Characterization of Polymers I: Imaging (DPOLY)	253B	26
A54	Focus Session: Smart and Responsive Polymers and Soft Materials I: Micro-Length Scale Phenomena (DPOLY GSOFT DBIO)	254A	27
A55	Focus Session: Broadband Dielectric Spectroscopy of Polymers and Soft Matter (DPOLY GSOFT)	254B	28

Session B: Monday, 11:15 AM – 2:15 PM

B25	Biopolymers and Sustainable Polymers (DPOLY)	160A	30
3B49	Focus Session: Advanced Deposition Methods for Polymers and Soft Materials (DPOLY GSOFT)	252A	31
B50	Focus Session: UKPPG/DPOLY POLYMER LECTURE EXCHANGE: Advances in Film Formation and Chain Dynamics (DPOLY)	252B	32
B51	Invited Session: Advanced Scattering Techniques to Inform the Design of Polymeric Systems (DPOLY)	253A	33
B52	Focus Session: Polyelectrolyte Complexation I: Coacervates and More	253B	34
B54	Focus Session: Extreme Deformation I: Cavitation and Yielding (DPOLY GSOFT DFD DBIO)	254A	35
B55	Focus Session: Big Data in Polymer and Soft Matter Physics (DPOLY GSOFT DCOMP)	254B	36

Epitome

Session C: Monday, 2:30 PM – 5:30 PM

C22	Focus Session: Building the Bridge to Exascale: Applications and Opportunities for Materials, Chemistry, and Biology III (DCOMP DBIO DPOLY DCMP)	157C	38
C25	Polymer Solutions and Blends (DPOLY)	160A	39
C49	Focus Session: Advanced Morphological Characterization of Polymer II: X-ray and Neutron Scattering (DPOLY GSOF)	252A	40
C50	Focus Session: Optically and Photonically Active Polymers (DPOLY GSOF DMP)	252B	41
C51	Invited Session: Recent Developments in Nonequilibrium Dynamics and Rheology of Entangled Polymer Liquids (DPOLY)	253A	42
C52	Focus Session: Polyelectrolyte Complexation II: Phase Behavior and Solutions Dynamics (DPOLY DBIO)	253B	43
C54	Focus Session: Smart and Responsive Polymers and Soft Materials II: Molecular Length Scale Phenomena (DPOLY GSOF DBIO)	254A	44
C55	Focus Session: Advancing Polymer and Biopolymer Physics through Simulation and Theory I: Biopolymers (DPOLY DCOMP DBIO GSNP)	254B	45

Tuesday, March 5th

Session E: Tuesday, 8:00 AM – 11:00 AM

Note: The Polymer Physics Prize Talk runs unopposed in DPOLY-led sessions from 8:00 AM – 8:36 AM; talks in non-prize DPOLY-led sessions begin at 8:36 AM.

E30	Focus Session: Polymer Networks, Gels, and Elastomers I: Dynamics (DPOLY)	162B	46
E49	Focus Session: Polymer Nanocomposites I: Matrix-Free Nanoparticle Systems (DPOLY)	252A	47
E50	Chirality in Polymers and Soft Matter II: Liquid Crystals and Liquid Crystalline Polymers (DPOLY GSOF DBIO)	252B	48
E51	POLYMER PHYSICS PRIZE SYMPOSIUM	253A	49
E54	Focus Session: Dielectric Relaxation and Charge Transport of Soft Materials (DPOLY GSOF)	254A	50
E65	Focus Session: Physics of Genome Organization I (DBIO DPOLY GSNP)	260	51

Epitome

Session F: Tuesday, 11:15 AM – 2:15 PM

F30	Focus Session: Extreme Deformation II: Rate and Size Effects in Glasses, Networks, and Fibers (DPOLY GSOFT DFD DBIO)	162B	52
F35	Invited Session: Polymer Physics to Address the Dual Energy Challenge at Global Industrial Scale (DPOLY FIAP)	205A	53
F49	Focus Session: Advanced Morphological Characterization of Polymer III: Anomalous Soft X-ray Scattering (DPOLY)	252A	54
F50	Focus Session: Chirality in Polymers and Soft Matter III: Networks, Lyotropics and Colloids (DPOLY GSOFT DBIO)	252B	55
F52	PADDEN AWARD SYMPOSIUM (begins at 11:39)	253B	56
F54	Focus Session: Confined Polymer Glasses I: Modeling, Aging, and Local Connectivity (DPOLY GSOFT GSNP)	254A	57
F55	Focus Session: Advancing Polymer and Biopolymer Physics through Simulation and Theory I: Biopolymers (DPOLY DCOMP DBIO GSNP)	254B	58
F59	Focus Session: Rheology of Gels I (GSOFT DPOLY DBIO)	257B	59

Session H: Tuesday, 2:30 PM – 5:30 PM

Note: The Dillon Medal Prize Talk runs unopposed in DPOLY-led sessions from 2:30 PM – 3:06 PM; talks in non-prize DPOLY-led sessions begin at 3:06 PM.

H30	Focus Session: Organization and Dynamics of Functional Liquid Crystals, Polymers, and Biological Assemblies I (GSOFT DPOLY DBIO)	162B	60
H42	DILLON MEDAL SYMPOSIUM	210A	61
H49	Focus Session: 3D Printing of Functional Soft Materials and Devices (DPOLY GSOFT DFD GSNP)	252A	62
H50	Focus Session: Advances in Optical Microscopy and Photopolymerization (DPOLY GSOFT DMP)	252B	63
H51	Invited Session: Biomaterials: Structure, Function, Design III (DBIO, DPOLY)	253A	64
H54	Focus Session: Tribology of Polymers and Soft Materials I: Time-Dependence and Wear (DPOLY GSOFT DFD GSNP)	254A	65
H59	Focus Session: Rheology of Gels II (GSOFT DPOLY DBIO)	257B	66

Tuesday, 5:45 PM – 6:45 PM

	DPOLY BUSINESS MEETING	253A	67
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Tuesday, 6:45 PM – 7:45 PM

	NSF Question and Answer Session on Polymers	253A	67
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Epitome

Wednesday, March 6th

Session K: Wednesday, 8:00 AM – 11:00 AM

K30	Focus Session: Organization and Dynamics of Functional Liquid Crystals, Polymers, and Biological Assemblies II (GSOFT DPOLY DBIO)	162B	68
K36	Invited Session: Recent Progress in Polymer Crystallization (DPOLY)	205C	69
K49	Polymer Networks, Gels, and Elastomers II: Charges & Applications (DPOLY)	252A	70
K50	Focus Session: Organic Electronics I: Organic Photovoltaics and Photophysics (DPOLY DMP)	252B	71
K52	Polymer Nanocomposites II: Block Copolymers and More (DPOLY)	253B	72
K53	Invited Session: Fracture and Adhesion of Soft Materials (GSOFT DPOLY)	253C	73
K54	Focus Session: Confined Polymer Glasses II: Dynamics, Surface Effects, and Architecture (DPOLY GSOFT GSNP)	254A	74
K55	Focus Session: Advancing Polymer and Biopolymer Physics through Simulation and Theory III (DPOLY DCOMP DBIO GSNP)	254B	75
K57	Focus Session: The Extreme Mechanics of Balloons (GSNP DPOLY GSOFT)	256	76
K65	Phase Separation in Biological Systems (DBIO DPOLY GSNP GSOFT)	260	77

Session L: Wednesday, 11:15 AM – 2:15 PM

L70	DPOLY POSTER SESSION	Exhibit Hall A	78
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Session P: Wednesday, 2:30 PM – 5:30 PM

P00	KAVLI SYMPOSIUM (Claudia Felser, Philip Kim, Mark Ediger, Sharon Glotzer, Cliff Brangwynne)	Ballroom	89
P30	Focus Session: Polymer Networks, Gels, and Elastomers III: Architecture (DPOLY)	162B	90
P49	Focus Session: Tribology of Polymers and Soft Materials II: Friction and Slip (DPOLY GSOFT DFD GSNP)	252A	91
P50	Focus Session: Organic Electronics II: Structure and Morphology (DPOLY DMP)	252B	92
P52	Focus Session: Polymer Nanocomposites III: Polymer Blends and Solutions (DPOLY)	253B	93
P54	Focus Session: Tuning Polymer Sequence and Architecture (DPOLY DBIO)	254A	94
P55	Focus Session: Polymer Crystallization I: Structure and Morphology (DPOLY)	254B	95

Epitome

Thursday, March 7th

Session R: Thursday, 8:00 AM – 11:00 AM

R49	Focus Session: Polymer and Polyelectrolyte Rheology I: Molecular Sequence and Architecture (DPOLY DBIO DFD GSNP)	252A	96
R50	Focus Session: Ion Transport Mechanisms in Poly(ionic liquids) and Polymer Electrolytes (DPOLY)	252B	97
R52	Focus Session: Polymer Nanocomposites IV: Networks, Elastomers, and Gels (DPOLY)	253B	98
R54	Focus Session: Confined Polymer Glasses III: Elasticity, Nanoparticles, and Brushes (DPOLY GSOF T GSNP)	254A	99
R55	Focus Session: Polymer Crystallization II: Packing Assembly, Chip Calorimetry and Simulations (DPOLY)	254B	100
R58	Focus Session: Soft Interface Mechanics I (GSOF T DPOLY GSNP DBIO)	257A	101
R63	Focus Session: Physics of Proteins and Nucleic Acids I: Structures, Dynamics, Interactions, and Energetics (DBIO DPOLY)	259A	102

Session S: Thursday, 11:15 AM – 2:15 PM

S49	Focus Session: Polymers in Reactive Conditions (DPOLY)	252A	103
S50	Focus Session: Organic Electronics III: Organic Transistors and Sensors (DPOLY DMP)	252B	104
S51	Invited Session: Dynamics and Rheology of Polyelectrolytes and Biopolymers (DPOLY)	253A	105
S52	Focus Session: Block Copolymer Thin Films I: Theory and Simulation (DPOLY)	253B	106
S54	Focus Session: Polymer Nanocomposites V: Thermodynamics and Dynamics (DPOLY)	254A	107
S55	Focus Session: Polymers and Biopolymers in Very Strongly OConfined Environments I: Structure and dynamics of packaged polymers (DPOLY DBIO GSNP)	254B	108
S56	Focus Session: Interactions of Elastic Structures with Fluids and Granular Matter I (GSNP DPOLY)	255	109
S58	Soft Interface Mechanics II (GSOF T DPOLY GSNP DBIO)	257A	110
S65	Focus Session: Physics of Genome Organization II	260	111

Epitome

Session V: Thursday, 2:30 PM – 5:30 PM

V25	Polymer-Mediated Structural Transitions in Soft Materials (DPOLY)	160A	112
V50	Focus Session: Ion Transport Mechanisms in Ionic Liquid/Polymer Hybrids (DPOLY)	252B	113
V51	Invited Session: Protein Liquid-Liquid Phase Separation	253A	114
V52	Focus Session: Block Copolymer Thin Films II: Experiment and Application (DPOLY)	253B	115
V54	Focus Session: Sequence and Charge Driven Bio- and Bio-inspired Macromolecular Assembly (DPOLY DBIO)	254A	116
V55	Focus Session: Polymer Crystallization III: Copolymer Crystallization, Intercrystalline Topology and Mechanical Properties (DPOLY)	254B	114
V58	Focus Session: Hyperuniformity and Optimal Tessellations: Structure, Formation and Properties (GSOFT DPOLY DBIO DMP)	257A	118

Friday, March 8th

Session X: Friday, 8:00 AM – 11:00 AM

X49	Charged and Ion-Containing Polymers (DPOLY)	252A	119
X50	Focus Session: Organic Electronics IV: Doping and Electronics (DPOLY DMP)	252B	120
X51	Invited Session: Using Polymer Sequence to Control Material Properties (DPOLY)	253A	121
X52	Focus Session: Polymer and Polyelectrolyte Rheology II: Large Deformations (DPOLY DBIO DFD GSNP)	253B	122
X54	Focus Session: Polymers and Biopolymers in Very Strongly Confined Environments II: Polymers in Nanochannels and Nanopores (DPOLY DBIO GSNP)	254A	123

Session Y: Friday, 11:15 AM – 2:15 PM

Y58	Focus Session: Soft materials in Disordered Environments (GSOFT DPOLY DBIO GSNP)	257A	124
Y64	Focus Session: Physics of Proteins and Nucleic Acids II: Structures, Dynamics, Interactions, and Energetics (DBIO DPOLY)	259B	125

Program Grid

Monday, March 4th

Session Room Topic Chair	A25 160A Deformation <i>Riggleman</i>	A49 252A Additive <i>Seppala</i>	A50 252B Chirality <i>Kotov</i>	A51 253A Big Data <i>Audus</i>	A52 253B Morphology <i>Gu</i>	A54 254A Smart <i>Davis</i>	A55 254B Dielectric <i>Napolitano</i>
8:00	Caruthers	Rafailovich	Nystrom	Liu	Thomas	Yang	Schoenhals
8:12	Liu	Johnson	Morozova		Jiang	Grasinger	
8:24	Zheng	Trigg	Cameron		Burke	Waters	
8:36	Zhang	Koerner	Grason	Zubarev	Kuei	Liang	Mapesa
8:48	Razavi		Zhang		Mei	Sanoja	White
9:00	Bennin		Michaels		Rizzo	Kuenstler	Zhu
9:12	Ginzburg	Shmueli	Zhang	Whitmer	Huber	Creton	Wilcox
9:24	Savoie	Seppala	Yang		Chiu		Szymoniak
9:36	Baker	Fang	Yu		Wu		Tress
9:48	Zhou	Kotula	Paloni	Olivetti	Jinnai	Rajapaksha	Capaccioli
10:00	Heili	McIlroy	Cao			Bae	Jasiurkowska-Delaporte
10:12	Schieber	Shofner	Ruan			Sepulveda-Medina	Woodward
10:24	Park	Levenhagen	Ho	Ferguson	McGlasson	Hashemnejad	Mukherjee
10:36	Nishitsuji	Turkoz			Kim	Blanc	Vela
10:48	Ma	Hejmady			Yu	Carrillo	Medvedev

Session Room Topic Chair	B25 160A Biopolymers <i>Klotz</i>	B49 252A Deposition <i>Gupta</i>	B50 252B UKPPG <i>Boudouris</i>	B51 253A Scattering <i>Stein</i>	B52 253B Complexation <i>Audus</i>	B54 254A Extreme <i>Chan</i>	B55 254B Big Data <i>Whitmer</i>
11:15	Kim	Karandikar	Martin-Fabiani	Herzig	Qin	Tiwari	Morita
11:27	Lee	Li			Kayitmazer	Tzoumaka	Clarke
11:39	Atkinson	Wang			Prabhu	Milner	Jha
11:51	Charlesworth	Gleason	Ellison	Bucknall	Ong	Franck	Nowak
12:03	Coughlin		Statt		Marciel		Kamal
12:15	Ertem		Shabani		Shen		Xie
12:27	Henderson	Lepro	Toth	Dadmun	Rubinstein	Athanassiadis	Luber
12:39	Matsuno	Gharahcheshmeh	Dudenas			Mikhail	
12:51	Grossutti	Zhang	Watanabe			Robbins	
1:03	Baylis	Priestley	Wang	Ashkar	Ting	Ye	Tsai
1:15	Cho		Milner		Sadman	Barney	Venkatram
1:27	Sensale		Liang		Ogur	Dougan	Spellings
1:39	Hamedi	Raegen	Bobbili	Maranas	Mitra	Raayai	Altman
1:51	Matsui	Wang	Li		Scott	Aime	Beyerle
2:03	Ramachandran	Stiff-Roberts	Martin		Yuan	Ramachandran	Wei

Program Grid

Session	C22	C25	C49	C50	C51	C52	C54	C55
Room	157C	160A	252A	252B	253A	253B	254A	254B
Topic	Exascale	Solutions	Morphology	Photonics	Entangled	Complexation	Smart	Modeling
Chair	<i>Deslippe</i>	<i>Meng</i>	<i>Collins</i>	<i>Qiang</i>	<i>Wang</i>	<i>Srivastava</i>	<i>Green</i>	<i>Onufriev</i>
2:30	Kim	Kharel	Bates	Mandal	Khomami	Bagchi	Davis	Mirny
2:42	Koval	Jung	Martin	Walker		Lytle	Kumar	
2:54	Perilla	Early	Sethi	Nnaji		Vieregg	Jiang	
3:06	Reeve	Wang	Lee	Schroeder	Huang	Audus	Lee	Papale
3:18	Perez	Sharratt	Hirosawa			Heo	Nap	Amitai
3:30	Glaser	Garcia	Cohen			Wu	Xu	Gvildys
3:42	Schleife	Aoki	Porter	Park	Schweizer	Aponte-Rivera	Marques	Pandey
3:54		Patel		Xu		Liu	Albright	Dahal
4:06		O'Connell		Cersonsky		Kim	Ciarella	Taylor
4:18	Noda	Dutta	He	Wan	Wang	Larson	Evans	Mühle
4:30	Pandey	Tree	Rinehart	Dolan			Kim	Zumbro
4:42	Belak	Chang	Jansto	Abbaszadeh			Ryder	Potoyan
4:54	Bulatov	Mantha	Kim	Kilchoer	Germann	Delgado	Pentzer	Ehlen
5:06	Goswami	Lindsay	Kim	Iadlovska		Kim		Nagel
5:18	Lu	Donovan	Correia	Kowalski		Arinstein		Drossis

Tuesday, March 5th

Session	E30	E49	E50	E51	E54	E65
Room	162B	252A	252B	253A	254A	260
Topic	Networks	Nano	Chirality	Polymer Prize	Dielectric	Genome
Chair	<i>Kieffer</i>	<i>Buitrago</i>	<i>Srinivasarao</i>	<i>Glotzer</i>	<i>Schoenhals</i>	<i>Morozov</i>
8:00				Larson		Bulyk
8:12						
8:24						
8:36	Hayward	LaNasa	Xia	McKenna	Fukao	Rube
8:48		Jhalaria	Shi		Fukao	
9:00		Ethier	Shadpour		Wang	
9:12	Perahia	Archer	Murachver	Fielding	Margossian	Naughton
9:24	Mohottalalage		Palacio-Betancur		Reuter	Joh
9:36	Meedin		Ogolla		Fong	Laghmach
9:48	Kosgallana	Tibbits	McInerney	Fredrickson	Rahman	Williams
10:00	Zhang	Senses	Kwok		Hou	Kannan
10:12	Mai	Bhadauriya	Feng		Hou	Zhang
10:24	Kim	Cheng	Blaber	Shanbhag	Richert	Huang
10:36	Rasid	Bilchak	Zhang			Bailey
10:48	Zhang	Leaf	Hoy			Agarwal

Program Grid

Session	F30	F34	F49	F50	F52	F54	F55	F59
Room	162B	205A	252A	252B	253B	254A	254B	257B
Topic	Extreme	Energy	Morphology	Chirality	Padden	Confined	Modeling	Gels
Chair	<i>Crosby</i>	<i>Bosse</i>	<i>Wang</i>	<i>Grason</i>	<i>Frischknecht</i>	<i>Katsumata</i>	<i>Yingling</i>	<i>Conrad</i>
11:15	Hyon	Goulthorpe	Freychet	Schroeder-Turk		Simmons	Grest	Ramos
11:27	Chan		McAfee			Lipson	Rathee	
11:39	Bowering		Litofsky		Zhou	Zuo	Nguyen	
11:51	Soles	Read	Collins	Zhang	Morris	Roth	Chen	Cheng
12:03	Fang			Ungar	Lytle		Zhang	Immink
12:15	Han			Padmanabhan	Loo		Wen	Minami
12:27	Nguyen	Dommelen	Thelen	Reddy	Ko	McGuire	Merkel	Cho
12:39			Sunday	Srinivasarao	Kim	Lewis	Buche	Harden
12:51			Murcia	Iannacchione	Gu	Jin	Khare	Park
1:03	Rattan	Pasquali	Jiang	Hall	Gartner	Thees	Sayko	Suman
1:15	Cai		Wei	Joshi	Gadelrab	Wang	Nikolov	Berman
1:27	Henry		Shah	Kotov	Deagen	Schweizer	Mukherji	Zhang
1:39	Fortais	Loo	Xie	Xie	Chen	Lappala	Grosberg	Shivers
1:51	Negi		Zhang	Zeng		Uranagase		Jeong
2:03			Muthaiah	Shahjamali		Woods		

Session	H30	H42	H49	H50	H51	H54	H59
Room	162B	210A	252A	252B	253A	254A	257B
Topic	LiqCryst	Dillon	3D Printing	Optical	Biomat	Tribology	Gels
Chair	<i>Leal</i>	<i>Ediger</i>	<i>Seppala</i>	<i>Wang</i>	<i>Gilbert</i>	<i>Khan</i>	<i>Conrad</i>
2:30	Osuji	Fakhraai			Politi		Long
2:42	Shechter						
2:54	Beck						
3:06	Segalman	Ruffine	Paranthaman	Ullal	Glotzer	Yu	Jensen
3:18		Zhang	Gutierrez-Fernandez			Sato	Corder
3:30		Gray	Ekbote			Jackson	Kadulkar
3:42	Steer	Tian	Angelini	Qiang	de la Cruz	Garcia	Goodrich
3:54	Gyawali	Baschnagel		Shebek		Matsukawa	Gomes-Rodrigues
4:06	Go	Douglas		Long		Endoh	Swan
4:18	Nilsson	Riggleman	Li	Kyeremah	Moradian-Oldak	Burris	
4:30	Hao	Jayaraman	Smallwood-Rooney	Mondal			
4:42	Zhang	Clarke	Lei	Hergert			Howard
4:54	Wei	Laaser	Gong	Glugla	McKittrick	delavoipière	Lin
5:06	Zhuang	Dalnoki-Veress	Gong	Zeng		Cuccia	Kumar
5:18	Banerjee	Lodge	Lee	Morim		Shinbrot	Parg

Program Grid

Wednesday, March 6th

Sess. Rm. Topic Chair	K30 162B LiqCrys Beck	K36 205C Cryst Miyoshi	K49 252A Networks Zanjani	K50 252B Electronic Von Hauff	K52 253B Nano Akcora	K53 253C Adhesion Chopin	K54 254A Confined Floudas	K55 254B Modeling Phelan	K57 256 Balloons Brun	K65 BioPhase
8:00	Raviv	Lotz	Li	Bera	Iyiola	Fineberg	McKenzie	Wood	Paulsen	Girard
8:12			Allahyarov	Lu	Beaucage		Torkelson	Mueller		Morley
8:24			Watanabe	Khan	Evans		Floudas	Sinelnikova		Radja
8:36	Mahanthappa	Li	Cheng	Miura	Liu	Suo	Napolitano	Wang	Cebron	Weber
8:48	Rueben		Rajput	Hayashi	Ma			Meng	Tovkach	Ji
9:00	Quevillon		Kozawa	Ndjawa	Kwon			Tanis	Oratis	Thurston
9:12	Chaturvedi	Sommer	Triandafilidi	Kohlstedt	Gao	Hui	Wei	Simmons	Jones	Lee
9:24	Allahyarov		Kojio	Huang	Balwani		Han		Melancon	Jawerth
9:36	Lee		Clark	Lee	Zerin		Giuntoli		Hanna	David
9:48	Morrison	Kumaki	Tayo	Sommer	Tarannum	Trepat	Fan	Ammu	De	Weiner
10:00	Jimenez		He		Ge		Storey	Bochkov	O'Kiely	Gomez-Bera
10:12	Filippov		Barry		Kulshreshtha		Chrissopoulou	Wang	Siefert	Fomina
10:24	Liu	Alamo	Gupta	Ferron	Weiblen	Ciccotti	Kirevliyasi	O'Connor	Marthelot	Lin
10:36	Little		Zhang	Dulal	Barrau		Morimitsu	Hopkins	Russo	Yang
10:48	Lee		Ghosh	Allen	Khan		Turner	Panchal	Gaillard	Lee

Program Grid

Poster Session: L70: 11:15AM – 2:30PM, Exhibit Hall A

2	POSTER WITHDRAWN	42	Schibli	82	Huang	122	Liang
3	Tanigaki	43	Dechnarong	83	Huang	123	Zhao
4	Grocke	44	McGlasson	84	Soh	124	Govinna
5	Ma	45	Helms	85	Pressly	125	Sharma
6	Ohta	46	Lam	86	Justino	126	Wang
7	Heiber	47	Vogtt	87	Aoyagi	127	Nikoubashman
8	Savoie	48	Chang	88	Hiles	128	Stoke
9	Maldonado-Rivera	49	Hong	89	Chu	129	CHEN
10	Hinckley	50	Irska	90	Uehara	130	Terao
11	Jeon	51	Kinsey	91	Sayko	131	Razavi
12	Burnett	52	Feng	92	Bochkov	132	Wang
13	Wheatle	53	Bukowski	93	Sethuraman	133	Tu
14	Jones	54	Kato	94	Skolnick	134	Zheng
15	Rajput	55	He	95	Scrimgeour	135	Jin
16	Bandegi	56	Kim	96	Read	136	Schmidt
17	Yan	57	Yu	97	Lopez	137	Lee-Foss
18	Paren	58	Michman	98	Ali	138	Mittal
19	Coote	59	Aviv	99	Dinic	139	S
20	Lee	60	Evans	100	Terauchi	140	Aryal
21	Samanta	61	Paloni	101	Jacobs	141	Morris
22	Nakatani	62	Kim	102	Mai	142	KIM
23	Gupta	63	Kim	103	Khewle	143	Kang
24	Thedford	64	Evans	104	Evans	144	Ku
25	Qian	65	Behzadinasab	105	Evans	145	Catalini
26	Nishibori	66	Sheoran	106	Zboray	146	Haldar
27	Kim	67	Guan	107	Fu	147	Kopanati
28	Shang	68	Liu	108	Nemani	148	Lo-ez
29	Narayanan	69	Owens	109	Senanayake	149	Qiu
30	Ma	70	Horn	110	Mishra	150	Dahanayake
31	Weiblen	71	Song	111	Penner	151	Zong
32	Randazzo	72	MUN	112	Gee	152	Wei
33	Ding	73	Miyoshi	113	Niebuur	153	Maguire
34	Reig	74	Bannerjee	114	Chen	154	Kawelah
35	Wang	75	Rosa	115	SEO	155	Lee
36	Pinna	76	Liu	116	Streletzky	156	Sookezian
37	Gong	77	Nie	117	LIANG	157	Langenstein
38	Dusoe	78	Dolynchuk	118	Lawal	158	Trivedi
39	Bailey	79	Srivastava	119	Rhodes	159	Kim
40	Kwon	80	SASAKI	120	Ruan	160	Zhang
41	Beaucage	81	Nagasaki	121	Yiu	161	Jiang

Program Grid

Session	P00	P30	P49	P50	P52	P54	P55
Room	Ballroom	162B	252A	252B	253B	254A	254B
Topic	Kavli	Networks	Tribology	Electronics	Nano	Sequence	Crystal
Chair	<i>Canfield</i>	<i>Behling</i>	<i>Jackson</i>	<i>DeLongchamp</i>	<i>Ferrier</i>	<i>Sing</i>	<i>Alamo</i>
2:30	Felser	Chintapalli	Martini	Biacchi	Akcora	Drayer	Thurn-Albrecht
2:42		Zanjani		Bittle		Ketkar	
2:54		Vogt		Yu		Vigil	
3:06	Kim	Kloxin	Grzelka	Sorli	Izor	Jangareddy	Cheng
3:18			Kawaguchi	Lee	Chen	Ghosh	Fernandez-Ballester
3:30			Farias	Wood	Koga	Ahn	Klein
3:42	Ediger	Mishra	Park	Diao	Slim	Chilkoti	Roy
3:54		Nemani	Murdoch		Oh		Staub
4:06		Cazzell	Niven		Lang		Bliesner
4:18	Glotzer	Jin	Hickey	Dolynchuk	Gao	Yu	Hallinan
4:30		Baksh	Peng	Choi	Khani	Mahalik	Liu
4:42		Gregorich	Kim	Zhang	Paiva	Lequieu	Krauskopf
4:54	Brangwynne	Olmsted	Dunn	Ribeiro	Streit	Fei	Jimenez
5:06		Li	Cross	Danielsen	Kou	Vigil	Sasaki
5:18		Ciarella	Poma	Michaels	Dormidontova	Wade	Sharma

Thursday, March 7th

Session	R49	R50	R52	R54	R55	R58	R63
Room	252A	252B	253B	254A	254B	257A	259A
Topic	Rheology	Ion	Nano	Confined	Crystal	Interface	Proteins
Chair	<i>Srivastava</i>	<i>Akcora</i>	<i>Bae</i>	<i>Tsui</i>	<i>Alamo</i>	<i>Jensen</i>	<i>Zhou</i>
8:00	Qavi	Keith	Ahuja	Wang	Müller	Dalvi	King
8:12	Salipante	Zhao	Romero	Lee		Molinari	
8:24	Rauscher	Wang	Golebiowski	Kim		Kolinski	
8:36	Soh	Michenfelder-Schauser	He	Keten	Miyoshi	Pandey	Dutta
8:48	Boas	Kinsey	Jiang		DeLongchamp	Chen	Deng
9:00	Zhang	Liu	Grove		Danke	Smith-Mannschott	Ravasio
9:12	Vlassopoulos	Anastasiadis	Saalwaechter	Emamy	Zhang	Thaller	Perego
9:24	Shin	Mei		cang	Zhuravlev	O'Bryan	Ganguly
9:36	Wijesinghe	Liu		Begam	Kearns	Vella	Ma
9:48	Walker	Yan	Beaucage	Hoagland	Zhang	Xu	McGough
10:00		Glynos	Chen	Li	Andreev		Charkhesht
10:12		Park	Lioi	Bay	Hu		Gasic
10:24	Galvani	Yuan	Rishi	Wang	Wang	Hauszman	liu
10:36	Jiang		Zhang	Yiu	Matsuba	Wang	Robertson
10:48	Zheng		Chen	Jacobs	Iyer	Chan	Campitelli

Program Grid

Session Room	S49 252A	S50 252B	S51 253A	S52 253B	S54 254A	S55 254B	S56 255	S58 257A	S65 260
Topic	Reactive	Electronics	Rheology	Block	Nano	Strongly Confined	Elastic	Interface	Genome
Chair	Goldman	Gu	Sharma	Arges	Hickey	Dell	Holmes	McGorty	Morozov
11:15	Dattelbaum	Chang	Watanabe	Wessels	Koh	Odman	Kolb	Benazieb	Kinney
11:27		Wenderott		Li	Bailey	Kwon		Hsiao	
11:39		Kim		Senanayake	Xia	Liu		Mariappan	
11:51	Grivickas	Jurchescu	Cabral	Kumar	Lindsay	Dahl	Schunter	Rahman	Moller
12:03	Kroonblawd			Huang	Kumar		Rambach	Druecke	Varga
12:15	Zhao			Xia	Cheng		Dominguez	Dharmavaram	Liu
12:27	Firestone	Vladimirov	Muthukumar	Hur	Buitrago	Zhang	Jiang	Shah	Hu
12:39	Tikekar	Heiber			Chan	Klotz	Eydani	Stuij	Goloborodko
12:51	Sherck	Rawlings			Winey	Capaldi	Ilton	Kumar	Banigan
1:03	Yao	Kaphle	Cardinaels	Park	Koski	Heedy	Jung	Adera	Jung
1:15	Kangovi	Oh		Thapar		Slater	Sharifazadeh	WITHDRAWN	Nuebler
1:27	Salerno	Kim		Qiang		Haan	Breid	Rofouie	Nazockdast
1:39	Lewicki	Hsu	Del Gado	Duan	Zhou	Park	Velankar	Giso	Brahmachari
1:51		Emam		Tang	Yang	Qiao		García-Aguilar	Onufriev
2:03		Ham		Xie	Gogia	Drachman		Plummer	Dahlke

Session Room	V25 160A	V50 252B	V51 253A	V52 253B	V54 254A	V55 254B	V58 257A
Topic	Mediated	Ion	Protein	Block	Sequence	Crystal	Tessellation
Chair	Bhattacharjee	Hall	Zou	Albert	Sing	Alamo	Grason
2:30	Wagner	Dong	Zhou	Segal-Peretz	Chan	Adhikari	Brujic
2:42		Dong				Cho	
2:54		Paren				Furmanski	
3:06	Yan	Sangoro	Mittal	Doerk	Madinya	Rosa	Torquato
3:18	Yang			Michman	Lin	Ratzsch	
3:30	Tsuei			Liu	Samanta	Yuan	
3:42	Neilsen	Seo	Fawzi	Cheng	Sinha	Auriemma	Hilgenfeldt
3:54	Chervanyov	Chen		Oh	Sethuraman		Dale
4:06	Lian	Cao		Jo	Pochan		Kim
4:18	Diaz	Kim	Salvatella	Salatto	Obermeyer	Marxsen	Kim
4:30	Shetty	Viswanathan		Choi		Jiang	Royall
4:42	Jia	Wheatle		Shin		Konishi	Wilken
4:54	Zhang	Shen	Wang	Kim	McCarty	Jun	Diamant
5:06	Paturej	Galluzzo		Kim	Patterson	Yucheng	Jayaraman
5:18	Moreau	Jung		Trivedi	Sen	Govinna	Ma

Program Grid

Friday, March 9th

Session Room Topic Chair	X49 252A Charged Jia	X50 252B Electronics Jurchescu	X51 253A Sequence Hall	X52 253B Rheology Sharma	X54 254A Strongly Confined Jou
8:00	Albehajian	Moule	Jayaraman	Hsu	Seth
8:12	Piedrahita			Jordan	Liu
8:24	Kong			Lopez-Barron	Bhandari
8:36	Bennington	Thomas	Spakowitz	Dinic	Dorfman
8:48	Xie	DiTusa		Young	
9:00	Grundy	Park		Jimenez	
9:12	Arges	Ghosh	Perry	McKinley	Jou
9:24	Russell	Boudouris			Luan
9:36	Bollinger	Yang			Dell
9:48	Aryal	Zhang	Lutz	Martinez	Ring
10:00	Nakamura	Engmann		Chen	Hore
10:12	Shock	Shin		Lopez	Suvlu
10:24	Su	Mei	Green	Setaro	Polson
10:36	Ferreira	Fardian-Melamed		Ali	Pressly
10:48	Chen	Thakur		Reyes-Martinez	Chen

Session Room Topic Chair	Y58 257A Disordered Cho	Y64 259B Proteins Xie
11:15	Bijeljic	Gilson
11:27		
11:39		
11:51	Pahlavan	Zou
12:03	Lu	
12:15	Moghaddam	
12:27	Li	Mahmoud inobar
12:39	Shin	Amin
12:51	Xu	Yalcin
1:03	Venkatesh	Mei
1:15	Walkama	Fujisaki
1:27	Browne	Guo
1:39	Bagheri	Liu
1:51	Bandara	Liu
2:03	Lushi	

Session A25: Deformation, Flow and Relaxation of Melt and Glassy Polymers

Sponsoring Units: DPOLY

Chair: Robert Riggelman, University of Pennsylvania

Room: BCEC 160A

8:00AM - 8:12AM	A25.00001: Dynamic Mechanical Spectrum of an Epoxy Polymer <i>James M Caruthers, Yelin Ni, Grigori Medvedev</i>
8:12AM - 8:24AM	A25.00002: Different temperature dependence of nonlinear rheological responses in melt stretching <i>Jianning Liu, Shiqing Wang</i>
8:24AM - 8:36AM	A25.00003: Brittle-Ductile Transition of a polymer glass in the presence of a crack <i>Yexin Zheng, Mesfin Tsige, Shiqing Wang</i>
8:36AM - 8:48AM	A25.00004: The relationship between unstable localized vibrational modes and dynamical heterogeneity in glass formers <i>Wengang Zhang, Jack Douglas, Francis Starr</i>
8:48AM - 9:00AM	A25.00005: Making glassy semicrystalline polylactic acid ductile <i>Masoud Razavi, Shiqing Wang</i>
9:00AM - 9:12AM	A25.00006: Comparing Segmental Dynamics in Polymer Glasses during Deformation: PLA and PMMA <i>Trevor Bennin, Joshua V Ricci, Mark Ediger</i>
9:12AM - 9:24AM	A25.00007: A Simple Mean-Field Description of the Viscosity of Glass-Forming Polymers <i>Valeriy Ginzburg</i>
9:24AM - 9:36AM	A25.00008: Correspondence Between the Configurational Enthalpy Model and the Relaxation Dynamics of Simulated Amorphous Polymers above T _g <i>Brett Savoie, Grigori Medvedev, James M Caruthers</i>
9:36AM - 9:48AM	A25.00009: Chain-length dependent relaxation dynamics in glass-forming polymers <i>Daniel Baker, Robin Masurel, Matthew Reynolds, Peter Olmsted, Johan Mattsson</i>
9:48AM - 10:00AM	A25.00010: Dynamics of Viscoelastic Filaments based on Onsager Principle <i>Jijia Zhou, Masao Doi</i>
10:00AM - 10:12AM	A25.00011: Visco-Elastic Property Reconstitution in Chain-Like Polymers <i>Manon Heili, John Kieffer</i>
10:12AM - 10:24AM	A25.00012: Tube models are not compatible with the slip-link model for entangled star polymers <i>Jay Schieber, Konstantin Taletskiy</i>
10:24AM - 10:36AM	A25.00013: Thermal and viscoelastic properties of selectively hydrogenated poly(1,1-diphenylethylene-alt-butadiene) <i>Sungmin Park, Gagan Kangovi, Sangwoo Lee</i>
10:36AM - 10:48AM	A25.00014: The Density Fluctuations of Polycarbonate under Deformation by Time-resolved small angle X-ray Scattering <i>Shotaro Nishitsuji, Hiroshi Ito, Masaru Ishikawa, Takashi Inoue, Mikihito Takenaka</i>
10:48AM - 11:00AM	A25.00015: Accelerated and depressed aging of PS blocks under 3D nanoconfinement in diblock copolymers <i>Mingchao Ma, Yunlong Guo</i>

Session A49: Focus Session: Additive Manufacturing of Soft Materials: Novel Characterization and Processing Strategies

Sponsoring Units: DPOLY GSOFTE DFD GSNP

Chair: Jon Seppala, National Institute of Standards and Technology

Room: BCEC 252A

8:00AM - 8:12AM	A49.00001: In-situ X-ray and thermal imaging of 3D printed PLA <i>Miriam Rafailovich, Yuval Shmueli, Jialong Jiang, Yuchen Zhou, Guangcui Yuan, Sushil K Satija, Sungsik Lee, Taejin Kim, Gad Marom, Dilip Gersappe</i>
8:12AM - 8:24AM	A49.00002: XPCS in operando Monitoring of Dynamic Recovery in 3D Printed Thermoset Nanocomposites <i>Kyle Johnson, Lutz Wiegart, Andrew Abbott, Hilmar Koerner</i>
8:24AM - 8:36AM	A49.00003: Processing, Morphology, and Crosslink Network in Model Liquid Crystalline Thermosets for Additive Manufacturing <i>Edward Trigg, Hilmar Koerner</i>
8:36AM - 9:12AM	A49.00004: Feedstock development and in-operando experiments for 3D printing of polymer matrix composites for demanding defense applications <i>Invited Speaker: Hilmar Koerner</i>
9:12AM - 9:24AM	A49.00005: In-situ X-ray and thermal characterization of nanocomposites in FDM 3D printing <i>Yuval Shmueli, Sungsik Lee, Taejin Kim, Gad Marom, Dilip Gersappe, Miriam Rafailovich</i>
9:24AM - 9:36AM	A49.00006: Molecular weight dependence of weld formation in material extrusion additive manufacturing <i>Jon Seppala</i>
9:36AM - 9:48AM	A49.00007: Geometrical and Mechanical Characterization of Interlayer Bonding Quality in Fused Filament Fabrication <i>Lichen Fang, Yishu Yan, Ojaswi Agarwal, Kevin Hemker, Sung Kang</i>
9:48AM - 10:00AM	A49.00008: Effect of processing on semicrystalline morphology in the additive manufacturing of poly(lactic acid) <i>Anthony Kotula, Jonathan Seppala, Claire McIlroy</i>
10:00AM - 10:12AM	A49.00009: Flow-Enhanced Crystallisation in Fused Filament Fabrication <i>Claire McIlroy, Anthony Kotula, Jonathan Seppala, Richard Stephen Graham</i>
10:12AM - 10:24AM	A49.00010: Implications of Crystallization on the Performance of Polyphenylene Sulfide with Material Extrusion Additive Manufacturing <i>Meisha Shofner, Emily Fitzharris, David Rosen</i>
10:24AM - 10:36AM	A49.00011: Facilitating Improved Isotropy in Fused Deposition Modeling Utilizing UV Initiated Reactive Processing <i>Neiko Levenhagen, Mark Dadmun</i>
10:36AM - 10:48AM	A49.00012: Axisymmetric Simulation of Viscoelastic Filament Thinning and Laser-Induced Forward Transfer with the Oldroyd-B Model <i>Emre Turkoz, Luc Deike, Craig Arnold</i>
10:48AM - 11:00AM	A49.00013: Laser sintering of polymer particle pairs studied by in-situ visualization <i>Prakhyat Hejmady, Ruth Cardinaels, Lambert van Breemen, Patrick D Anderson</i>

Session A50: Focus Session: Chirality in Polymers and Soft Matter I: From Molecular to Hierarchical Scales

Sponsoring Units: DPOLY GSOFT DBIO

Chair: Nicholas Kotov, University of Michigan

Room: BCEC 252B

8:00AM - 8:12AM	A50.00001: Confinement-induced liquid crystalline transitions in amyloid fibril tactoids <i>Gustav Nystrom, Mario Arcari, Raffaele Mezzenga</i>
8:12AM - 8:24AM	A50.00002: Effect of chain flexibility on methylcellulose fibril formation <i>Svetlana Morozova, Peter Schmidt, S. Piril Ertem, Theresa M. Reineke, Frank Bates, Timothy Lodge</i>
8:24AM - 8:36AM	A50.00003: Phase field collagen fibrils: modelling both axial and radial structure of collagen fibrils <i>Samuel Cameron, Andrew Rutenberg, Laurent Kreplak</i>
8:36AM - 8:48AM	A50.00004: Twisted by fate, or screwing up purpose: self-limiting fibers from achiral vs. chiral filament assembly <i>Gregory Grason</i>
8:48AM - 9:00AM	A50.00005: From Molecules to Helical Ribbons - Emergence of Elasticity <i>Minming Zhang, Doron Grossman, Dganit Danino, Eran Sharon</i>
9:00AM - 9:12AM	A50.00006: Mechanical basis for the morphology of fibrillar aggregates <i>Thomas Michaels, L Mahadevan</i>
9:12AM - 9:24AM	A50.00007: Phase Behavior of Frustrated ABC2 Miktoarm Star Triblock Copolymer <i>QI ZHANG, Wei-hua Li</i>
9:24AM - 9:36AM	A50.00008: Amplification of vibrational circular dichroism in chiral block copolymers driven by self-assembly <i>Kai-Chieh Yang, Rong-Ming Ho</i>
9:36AM - 9:48AM	A50.00009: Effects of Polymer Helical Chain Shape on Block Copolymer Self-Assembly <i>Beihang Yu, Scott Danielsen, Anastasia Patterson, Emily C Davidson, Glenn Fredrickson, Rachel Segalman</i>
9:48AM - 10:00AM	A50.00010: Use of Coiled-Coil Domains to Direct the Self-Assembly of Protein-Polymer Conjugates <i>Justin Paloni, Bradley David Olsen</i>
10:00AM - 10:12AM	A50.00011: Aligning stem orientation: confined chiral and epitaxial growth of the α -phase crystals of isotactic polypropylene <i>Yan Cao, Xingming Zeng, Hiroshi Jinnai, Shuailin Zhang</i>
10:12AM - 10:24AM	A50.00012: Chirality Enabled Liquid Crystalline Physical Gels with High Modulus but Low Driving Voltage <i>Huan Ruan, Haiyan Peng, Xiaolin Xie</i>
10:24AM - 11:00AM	A50.00013: Universal Effects of Chirality on the Self-Assembly of Chiral Block Copolymers and Polymers <i>Invited Speaker: Rong-Ming Ho</i>

Monday, March 4th, 2019

A

8:00AM – 11:00AM

Session A51: Invited Session: Big Data, Polymers, and Soft Matter: New Developments in Machine Learning, Data Mining and High-Throughput Studies

Sponsoring Units: DPOLY

Chair: Debra Audus, National Institute of Standards and Technology

Room: BCEC 253A

8:00AM - 8:36AM	A51.00001: Machined-learned softness as a structural order parameter for understanding glassy systems <i>Invited Speaker: Andrea Liu</i>
8:36AM - 9:12AM	A51.00002: Accelerated Discovery in Polymer Materials Domain: Knowledge Extraction and Representation <i>Invited Speaker: Dmitry Zubarev</i>
9:12AM - 9:48AM	A51.00003: Exploring Free Energy Landscapes with Neural Networks <i>Invited Speaker: Jonathan Whitmer</i>
9:48AM - 10:24AM	A51.00004: Text and Data Mining for Material Synthesis <i>Invited Speaker: Elsa Olivetti</i>
10:24AM - 11:00AM	A51.00005: Data-driven learning of collective variables to understand and accelerate biomolecular folding <i>Invited Speaker: Andrew L Ferguson</i>

Session A52: Focus Session: Advanced Morphological Characterization of Polymers I: Imaging

Sponsoring Units: DPOLY

Chair: Xiaodan Gu, University of Southern Mississippi

Room: BCEC 253B

8:00AM - 8:12AM	A52.00001: Topological Defects in Tubular Network Block Copolymers <i>Edwin Thomas, Hua Guo, Xueyan Feng</i>
8:12AM - 8:24AM	A52.00002: Imaging and Engineering Polypeptoid Nanosheets with Atomic Scale Precision <i>Xi Jiang, Sunting Xuan, Ryan Spencer, David Prendergast, Ronald Zuckermann, Nitash Balsara</i>
8:24AM - 8:36AM	A52.00003: Anatomical studies of ordered block copolymer bicontinuous networks via slice-and-view SEM reconstruction <i>Christopher Burke, Xueyan Feng, Ishan Prasad, Edwin Thomas, Gregory Grason</i>
8:36AM - 8:48AM	A52.00004: Minimizing beam damage with antioxidants to enable high resolution imaging of conjugated polymers in the electron microscope <i>Brooke Kuei, Chengyu Song, Jim Ciston, Enrique D Gomez</i>
8:48AM - 9:00AM	A52.00005: Three-dimensional morphological analysis of polymer blends through combined ToF-SIMS/AFM <i>Hao Mei, Adeline Mah, Travis Laws, Wei Li, Tanguy Terlier, Rajeev Kumar, Gila E Stein, Rafael Verduzco</i>
9:00AM - 9:12AM	A52.00006: STM Characterization of Metallic Graphene Nanoribbons <i>Daniel J Rizzo, Gregory Veber, Jingwei Jiang, Christopher Bronner, Ting Chen, Steven G. Louie, Felix R Fischer, Michael F Crommie</i>
9:12AM - 9:24AM	A52.00007: nano-FTIR nanoscopy based identification of polymers at the 10nm length scale <i>Andreas Huber, Stefan Mastel, Tobias Gokus, Alexander Govyadinov</i>
9:24AM - 9:36AM	A52.00008: Morphological Characterization of Well-Ordered Nanonetwork Materials via Real- and Reciprocal- Space Imaging <i>POTING CHIU, YuCheng Chien, Rong-Ming Ho</i>
9:36AM - 9:48AM	A52.00009: Universal Scaling of Phase Diagrams of Polymer Solutions <i>Chi Wu</i>
9:48AM - 10:24AM	A52.00010: Recent developments of morphological characterization in nano-composite materials by electron microscopy <i>Invited Speaker: Hiroshi Jinnai</i>
10:24AM - 10:36AM	A52.00011: Construction of 3D Models From USAXS on Aggregate Structures <i>Alex McGlasson, Andrew J Mulderig, Greg Beaucauge, Kabir Rishi, Vikram K Kuppa</i>
10:36AM - 10:48AM	A52.00012: Self-Assembled Morphologies of Poly(styrene- <i>b</i> -1,4-butadiene) Confined within Cone-Shaped Templates <i>Youngkeol Kim, Takeshi Higuchi, Sungyoul Hwang, Anchang Shi, Baohui Li, Hiroshi Jinnai, Kookheon Char</i>
10:48AM - 11:00AM	A52.00013: The distinctive microstructures in bitumen and their indication of bitumen's phase stability <i>Xiaokong Yu, Nancy Burnham, Sergio Granados-Focil, Mingjiang Tao</i>

Session A54: Focus Session: Smart and Responsive Polymers and Soft Materials I: Micro-Length Scale Phenomena

Sponsoring Units: DPOLY GSOFTE DBIO

Chair: Chelsea Davis, Purdue University

Room: BCEC 254A

8:00AM - 8:12AM	A54.00001: Mechanochromic Polycarbonate: Seeing Plasticity with Color <i>Steven Yang, Yuval Vidavsky, Meredith Silberstein</i>
8:12AM - 8:24AM	A54.00002: A statistical mechanical model for the electrostriction of polymers <i>Matthew Grasinger, Kaushik Dayal</i>
8:24AM - 8:36AM	A54.00003: Simulating Polymeric Microstructures With Encoded Pre-Determined Deformability <i>James Waters, Joanna Aizenberg, Anna Christina Balazs</i>
8:36AM - 8:48AM	A54.00004: Rational Design of Strain-Adaptive Elastomers through Polymer Architectures <i>Heyi Liang, Mohammad Vatankhah-Varnosfaderani, Sergei Sheiko, Andrey Dobrynin</i>
8:48AM - 9:00AM	A54.00005: Detecting Bond Breakage and Fracture in Tough Hydrogels Using Mechanoluminescence <i>Gabriel Sanoja, Rint Sijbesma, Costantino Creton</i>
9:00AM - 9:12AM	A54.00006: Light-Actuated Liquid Crystal Elastomer Waveguides <i>Alexa Kuenstler, Ryan Hayward</i>
9:12AM - 9:48AM	A54.00007: Detection of Molecular Fracture in Elastomers with Mechanophores <i>Invited Speaker: Costantino Creton</i>
9:48AM - 10:00AM	A54.00008: Electric field induced bending of Ionic polymer electrolyte membrane <i>Chathuranga Prageeth Hemantha Rajapaksha, Chenrun Feng, Camilo Piedrahita, Jinwei Cao, Thein Kyu, Antal Istvan Jakli</i>
10:00AM - 10:12AM	A54.00009: Programmable Assembly of Responsive Capillary Multipoles <i>Jinhye Bae, Nakul P Bende, Arthur A Evans, Junhee Na, Christian Santangelo, Ryan Hayward</i>
10:12AM - 10:24AM	A54.00010: Structure Dependent Ice Inhibition in Physically Crosslinked Hydrogels by Crystallization of Hydrophobic Crosslinks <i>Pablo Sepulveda-Medina, Chao Wang, Bryan Vogt</i>
10:24AM - 10:36AM	A54.00011: Rheological Signature of a Thermally-Gelling Nanoemulsion <i>Meysam Hashemnejad, Abu Zayed Md Badruddoza, Brady Zarket, Patrick Doyle</i>
10:36AM - 10:48AM	A54.00012: Oscillating chemo-mechanical Belousov-Zhabotinsky (BZ) hydrogels <i>Baptiste Blanc, Ning Zhou, Eric Liu, S.Ali Aghvami, Bing Xu, Hyunmin Yi, Seth Fraden</i>
10:48AM - 11:00AM	A54.00013: The Effects of Mesogen Spacer and Linker on the Actuation of Liquid Crystal Elastomers <i>Jan-Michael Carrillo, Bobby G Sumpter, Suk-kyun Ahn</i>

Session A55: Focus Session: Broadband Dielectric Spectroscopy of Polymers and Soft Matter

Sponsoring Units: DPOLY GSOFT

Chair: Simone Napolitano, Universite libre de Bruxelles

Room: BCEC 254B

- 8:00AM - 8:36AM A55.00001: Broadband dielectric spectroscopy on miscible polymer blends in the bulk and in nanometer thick films - Comparison of the different confinement situations
Invited Speaker: Andreas Schoenhals
- 8:36AM - 8:48AM A55.00002: Thin supported polymer films: Modified mobility at the interfaces
Emmanuel Mapesa, Nobahar Shahidi, Emmanouil Doxastakis, Joshua Sangoro
- 8:48AM - 9:00AM A55.00003: The Cooperative Free Volume Rate Model: Applications to Pressure Dependent Dynamics and Dynamics under Confinement
Ronald White, Jane E Lipson
- 9:00AM - 9:12AM A55.00004: Dielectric Phenomena in Polymers and Multilayered Dielectric Films
Lei Zhu
- 9:12AM - 9:24AM A55.00005: Deciphering Relaxation Spectra of Amorphous Polymers through Dielectric Spectroscopy of an Epoxy
Daniel Wilcox, Grigori Medvedev, Yelin Ni, Akash Patil, Brett Savoie, Bryan Boudouris, James M Caruthers
- 9:24AM - 9:36AM A55.00006: Rigid Amorphous Phase in Polymer Nanocomposites as Revealed by Dielectric Relaxation Spectroscopy and Fast Scanning Calorimetry
Paulina Szymoniak, Andreas Schoenhals
- 9:36AM - 9:48AM A55.00007: Network dynamics in hydrogen-bonding telechelic polymers: associate lifetime, structural relaxation and phase separation
Martin Tress, Kunyue Xing, Peng-Fei Cao, Shiwang Cheng, Tomonori Saito, Vladimir N Novikov, Alexei P Sokolov
- 9:48AM - 10:00AM A55.00008: Dynamics of freeze-dried proteins embedded in organic glasses revealed by broadband dielectric spectroscopy
Simone Capaccioli, Maria Pachetti, Gaia Ciampalini, Kia L. Ngai, Elpidio Tombari, Alessandro Paciaroni
- 10:00AM - 10:12AM A55.00009: Hard versus soft confinement effects on molecular dynamics of 4-hexyl-4'-isothiocyanatobiphenyl liquid crystals
Malgorzata Jasiurkowska-Delaporte, Tomasz Rozwadowski, Anna Baranowska-Korczyk, Ewa Ewa Juszynska-Galazka, Maria Massalska-Arodz
- 10:12AM - 10:24AM A55.00010: On the Fragility of Hydroxypropyl Methylcellulose as Measured via Broadband Dielectric Spectroscopy
William Woodward, Michael Lesniak, Tirtha Chatterjee, Kevin O'Donnell, Robert Sammler, Travis McIntire, Yongfu Li, Mark Rickard, Dave Meunier
- 10:24AM - 10:36AM A55.00011: Role of α and β relaxations in Collapsing Dynamics of a Polymer Chain in Supercooled Glass-forming Liquid
Mrinmoy Mukherjee, Jagannath Mondal, Smarajit Karmakar
- 10:36AM - 10:48AM A55.00012: Insights into the role of dynamic heterogeneity in reorientational and translational dynamic measurements from simulations in the isoconfigurational ensemble
Daniel Mauricio Diaz Vela, David Simmons
- 10:48AM - 11:00AM A55.00013: Configurational Enthalpy Model for Describing Temperature and Pressure Dependence of the Relaxation Time of Amorphous Polymers above T_g
Grigori Medvedev, James M Caruthers

Monday, March 4th, 2019

A

8:00AM – 11:00AM

Session A30: Focus Session: Fracture in Soft Materials (GSOFT GSNP)

Room: BCEC 162B

Invited Speaker: Matt Pharr (8:00 AM)

Session A57: Focus Session: Physics of Liquids I (GSNP GSOFT)

Room: BCEC 256

Invited Speaker: Roberto Car (8:00 AM)

Session A22: Focus Session: Building the Bridge to Exascale: Applications and Opportunities for Materials, Chemistry, and Biology I (DCOMP DMP DCMP DCP)

Room: BCEC 157C

Invited Speaker: Laura Ratcliff (9:12 AM)

Session B25: Biopolymers and Sustainable Polymers

Sponsoring Units: DPOLY

Chair: Alexander Klotz, Massachusetts Institute of Technology

Room: BCEC 160A

11:15AM - 11:27AM	B25.00001: Fabrication of Nano/micro-fiber Materials from Rigid Rod Peptide Chains via Electrospinning and Their Mechanical Properties <i>Kyunghee Kim, Christopher Kloxin, Jeffery G Saven, Darrin Pochan</i>
11:27AM - 11:39AM	B25.00002: Self-Assembly of poly(D-glucose carbonate) Amphiphilic Block copolymers in Solution <i>Jee Young Lee, Karen L. Wooley, Arthi Jayaraman, Darrin Pochan</i>
11:39AM - 11:51AM	B25.00003: Structure of Hydrophobically Modified Phytoglycogen Nanoparticles Using Small Angle Neutron Scattering <i>John Atkinson, Jonathan Nickels, Michelle Michalski, Adrian Schwan, John Katsaras, John Dutcher</i>
11:51AM - 12:03PM	B25.00004: Binding of Proteins to Phytoglycogen Nanoparticles, a Novel, Sustainable, Soft Colloid <i>Kathleen Charlesworth, Aidan Maxwell, John Dutcher</i>
12:03PM - 12:15PM	B25.00005: Influence of poly(N-isopropylacrylamide) grafting density on the temperature dependent fibril formation of methylcellulose <i>McKenzie Coughlin, Svetlana Morozova, Peter Schmidt, S. Piril Ertem, Theresa M. Reineke, Frank Bates, Timothy Lodge</i>
12:15PM - 12:27PM	B25.00006: Block copolymers derived from methylcellulose <i>S. Piril Ertem, Svetlana Morozova, Peter Schmidt, McKenzie Coughlin, Theresa M. Reineke, Frank Bates, Timothy Lodge</i>
12:27PM - 12:39PM	B25.00007: Structure Formation in Dense Gels of Cellulose and Ionic Liquid <i>Doug Henderson, Xin Zhang, Yimin Mao, Robert M Briber, Howard Wang</i>
12:39PM - 12:51PM	B25.00008: Tensile properties for solid films of deoxyribonucleic acid containing hydrated ionic liquids <i>Hisao Matsuno, Yuma Morimitsu, Noboru Ohta, Hiroshi Sekiguchi, Atsushi Takahara, Keiji Tanaka</i>
12:51PM - 1:03PM	B25.00009: Correlation of Mechanical and Hydration Properties of Soft Phytoglycogen Nanoparticles <i>Michael Grossutti, John Dutcher</i>
1:03PM - 1:15PM	B25.00010: Topography and Mechanical Properties of Phytoglycogen Nanoparticles <i>Benjamin Baylis, John Dutcher</i>
1:15PM - 1:27PM	B25.00011: Pressure Effects on Self-assembly in Charged Block Copolymer Systems <i>Junhan Cho</i>
1:27PM - 1:39PM	B25.00012: Non-Equilibrium Ionic Charging and Discharging During Molecular Translocation Through Nanopores: A Non-Equilibrium Capacitive Spectral Assay for Single Molecules <i>Sebastian Sensale, Zhangli Peng, Hsueh-Chia Chang</i>
1:39PM - 1:51PM	B25.00013: Ionization and electrophoretic migration of the crosslinking byproducts in low-density polyethylene <i>Hossein Hamedi, Roger Craig Walker II., Cesar A Nieves, William Henry Hunter Woodward, Ramakrishnan Rajagopalan, Eugene Furman, Michael T. Canagan</i>
1:51PM - 2:03PM	B25.00014: 1/f Noise in Solid-state Nanopore: Generation Mechanism and Prevention Methods <i>Kazuma Matsui, Yusuke Goto, Rena Akahori, Michiru Fujioka, Takeshi Ishida, Takahide Yokoi, Itaru Yanagi, Ken-ichi Takeda</i>
2:03PM - 2:15PM	B25.00015: Elucidating the microstructural basis for the lasting radial strength of poly (L-lactide) bioresorbable vascular scaffolds during hydrolysis <i>Karthik Ramachandran, Tiziana Di Luccio, Artemis Ailianou, Mary Beth Kossuth, James Paul Oberhauser, Julie A Kornfield</i>

Session B49: Focus Session: Advanced Deposition Methods for Polymers and Soft Materials

Sponsoring Units: DPOLY GSOFIT

Chair: Malancha Gupta, University of Southern California

Room: BCEC 252A

11:15AM - 11:27AM	B49.00001: Initiated Chemical Vapor Deposition onto Moving Liquid Surfaces <i>Prathamesh Karandikar, Mark M De Luna, Malancha Gupta</i>
11:27AM - 11:39AM	B49.00002: Initiated Chemical Vapor Deposition of Copolymer Based Electrolytes for 3D Microbatteries <i>Wenhao Li, Laura Bradley, James J Watkins</i>
11:39AM - 11:51AM	B49.00003: Scale Inhibition by Coating the Internal Wall of the Heat-Exchanger Tube via a Photo-Initiated CVD Process <i>Minghui Wang, Junjie Zhao, Priya Moni, Mofoluwaso Jebutu, Karen Gleason</i>
11:51AM - 12:27PM	B49.00004: Vapor Deposited Polymers: from Fundamentals to Commercialization <i>Invited Speaker: Karen Gleason</i>
12:27PM - 12:39PM	B49.00005: iCVD Solid Nanoadhesives for Precision Assembly at Near Room Temperature <i>Xavier Lepro, John Simon Miller, Gavin Winter, Salmaan Baxamusa</i>
12:39PM - 12:51PM	B49.00006: Using volatile liquid oxidant in PEDOT synthesis by oxidative Chemical Vapor Deposition (oCVD) <i>Meysam Heydari Gharahcheshmeh, Karen Gleason</i>
12:51PM - 1:03PM	B49.00007: Selective spin-on deposition of polymers on heterogeneous surfaces <i>Yuanyi Zhang, Colton D'Ambra, Craig Hawker, Rachel Segalman, Christopher M Bates</i>
1:03PM - 1:39PM	B49.00008: Morphology and Thermal Properties of Semi-Crystalline Polymer Films by Slow Deposition <i>Invited Speaker: Rodney Priestley</i>
1:39PM - 1:51PM	B49.00009: Thin films of ultramonodisperse polystyrene polymers <i>Adam Raegen, James Forrest</i>
1:51PM - 2:03PM	B49.00010: Confined Polymer Crystallization in Vapor-Deposited PE/PMMA Blend Films <i>Yucheng Wang, Rodney Priestley</i>
2:03PM - 2:15PM	B49.00011: Emulsion Target Process-Structure-Property Relationships in Resonant Infrared Matrix-Assisted Pulsed Laser Evaporation (RIR-MAPLE) for Selective Deposition of Crystalline Phases in Polymer Thin Films <i>Adrienne Stiff-Roberts, Spencer Ferguson, Cassandra Williams, Buang Zhang</i>

Session B50: UKPPG/DPOLY Polymer Lecture Exchange: Advances in Film Formation and Chain Dynamics

Sponsoring Units: DPOLY

Chair: Bryan Boudouris, Purdue University

Room: BCEC 252B

11:15AM - 11:51AM	B50.00001: Drying Blends of Polymer Colloids: How to Harness Physics to Control Film Formation <i>Invited Speaker: Ignacio Martin-Fabiani</i>
11:51AM - 12:03PM	B50.00002: Programming surface energy driven Marangoni convection to pattern polymer films <i>Christopher Ellison</i>
12:03PM - 12:15PM	B50.00003: Influence of Hydrodynamic Interactions on Stratification in Drying Mixtures <i>Antonia Statt, Michael Howard, Athanassios Panagiotopoulos</i>
12:15PM - 12:27PM	B50.00004: Strategies to improve the unconfined melt electrospinning process via incorporation of ionically conductive particles <i>Elnaz Shabani, Chengxi Li, Rebecca J Komer, Laura Clarke, Jason R Bochinski, Russell E Gorga</i>
12:27PM - 12:39PM	B50.00005: Creating thin film compositional polymer libraries using electrospray deposition <i>Kristof Toth, Gregory Doerk, Kevin G. Yager, Chinedum Osuji</i>
12:39PM - 12:51PM	B50.00006: Understanding the Deformation of Polymer Thin Films Under Hydration <i>Peter Dudenas, Adam Z Weber, Ahmet Kusoglu</i>
12:51PM - 1:03PM	B50.00007: AFM Observation of the Movements of Single Linear Chains in a Precursor Film of a Spreading Polymer Blend Melt <i>Yasuhiro Watanabe, Jiro Kumaki</i>
1:03PM - 1:15PM	B50.00008: Lattice Self-Consistent Field Calculations of Ring Polymer Brushes <i>Qiang Wang, Wenjuan Qiu, Baohui Li</i>
1:15PM - 1:27PM	B50.00009: Comprehensive scaling theory for entanglement in melts and solutions of flexible and stiff polymer chains <i>Scott Milner</i>
1:27PM - 1:39PM	B50.00010: Effect of Polymer Architectures on the Entanglement of Combs and Bottlebrushes <i>Heyi Liang, Benjamin J. Morgan, Guojun Xie, Michael Martinez, Krzysztof Matyjaszewski, Sergei Sheiko, Andrey Dobrynin</i>
1:39PM - 1:51PM	B50.00011: Entanglement in semiflexible polymer melts and solutions from simulations <i>Sai Vineeth Bobbili, Scott Milner</i>
1:51PM - 2:03PM	B50.00012: Polymer Structures and Their Glass Transition Temperatures: An Intriguing Relationship <i>Tianyu Li, Huiqun Wang, Jimmy W Mays, Kunlun Hong</i>
2:03PM - 2:15PM	B50.00013: Electric Field-Induced Critical Point Shift in a Binary Dielectric Polymer Blend <i>Jonathan Martin, Kris T Delaney, Glenn Fredrickson</i>

Session B51: Invited Session: Advanced Scattering Techniques to Inform the Design of Polymeric Systems

Sponsoring Units: DPOLY

Chair: Gila Stein, Univ of Tennessee, Knoxville

Room: BCEC 253A

11:15AM - 11:51AM	B51.00001: Exploiting the process of thin film printing for structure manipulation tracked by grazing incidence scattering <i>Invited Speaker: Eva M. Herzig</i>
11:51AM - 12:27PM	B51.00002: Packaging Plastics - Structure-Property Relationships <i>Invited Speaker: David G Bucknall</i>
12:27PM - 1:03PM	B51.00003: Correlating Thermodynamic Assembly to Functional and Structural Performance of Polymeric Systems by Comprehensive Analysis of Neutron Scattering <i>Invited Speaker: Mark Dadmun</i>
1:03PM - 1:39PM	B51.00004: Interfacial structure and dynamics in nanoparticle-polymer composites <i>Invited Speaker: Rana Ashkar</i>
1:39PM - 2:15PM	B51.00005: Polymer electrolytes for battery technology <i>Invited Speaker: Janna Maranas</i>

Session B52: Focus Session: Polyelectrolyte Complexation I: Coacervates and More

Sponsoring Units: DPOLY DBIO

Chair: Debra Audus, National Institute of Standards and Technology

Room: BCEC 253B

11:15AM - 11:27AM	B52.00001: Complexation of homologous polyions with variable polarity <i>Jian Qin, Sean Friedowitz, Junzhe Lou, Yan Xia</i>
11:27AM - 11:39AM	B52.00002: Non-stoichiometric Coacervation between Hyaluronic Acid and Chitosan <i>Basak Kayitmazer, Alaaddin Faruk Koksal, Elif Kilic Iyilik, Ozge Karabiyik Acar, Gamze Kose</i>
11:39AM - 11:51AM	B52.00003: Lower critical solution temperature in polyelectrolyte complex coacervates <i>Vivek Prabhu, Samim Ali, Markus Bleuel</i>
11:51AM - 12:03PM	B52.00004: Coacervate-driven self-assembly with Transfer Matrix Theory and Self-Consistent Field Theory <i>Gary Min Chiang Ong, Charles Sing</i>
12:03PM - 12:15PM	B52.00005: Structure and rheology of polyelectrolytes in length-mismatched coacervates <i>Amanda Marciel, Matthew Tirrell</i>
12:15PM - 12:27PM	B52.00006: Electrostatic Correlations: From Debye-Huckel Ionic Atmospheres to Counterion Condensation <i>Kevin Shen, Zhen-Gang Wang</i>
12:27PM - 1:03PM	B52.00007: Structure and Dynamics of Coacervates Formed by Oppositely Charged Polyelectrolytes <i>Invited Speaker: Michael Rubinstein</i>
1:03PM - 1:15PM	B52.00008: Complexation, Structure, and Rheology of Designer Polyelectrolytes <i>Jeffrey Ting, Siqi Meng, Lu Li, Hao Wu, Amanda Marciel, Matthew Tirrell</i>
1:15PM - 1:27PM	B52.00009: Guanidinium can Break and Form Strongly Associating Ion-Complexes <i>Kazi Sadman, Qifeng Wang, Kenneth R Shull</i>
	B52.00010: Thermodynamic Characterization of Complex Coacervates of Oppositely Charged Biopolymers <i>Fatma Akcay Ogur, Fatma Ahu Akin, Nayra Kavafyan, Busra Gun, Basak Kayitmazer</i>
1:39PM - 1:51PM	B52.00011: The free energy profile of complexation of two oppositely charged polyelectrolyte chains <i>Soumik Mitra, Arindam Kundagrami</i>
1:51PM - 2:03PM	B52.00012: Confined Impingement Jet Mixing of Charged Polymers for Functional Structured Colloids and Encapsulation <i>Douglas Scott, Robert K Prud'homme, Rodney Priestley</i>
2:03PM - 2:15PM	B52.00013: Gradient Nanoporous Poly(ionic liquid) Complex Membrane as Soft Actuators <i>Jiayin Yuan</i>

Session B54: Focus Session: Extreme Deformation I: Cavitation and Yielding

Sponsoring Units: DPOLY GSOFD DFD DBIO

Chair: Edwin Chan, National Institute of Standards and Technology

Room: BCEC 254A

11:15AM - 11:27AM	B54.00001: Laser-induced Cavitation Dynamics of Polydimethylsiloxane with Varying Cross-Linking Density and Molecular Weight <i>Sacchita Tiwari, Yue Zheng, Amir Kazemi-Moridani, Kelly McLeod, Ipek Sacligil, Christopher Barney, Alfred Crosby, Gregory Tew, Shengqiang Cai, Jae-Hwang Lee</i>
11:27AM - 11:39AM	B54.00002: Modeling high-strain-rate microcavitation in soft materials: the role of material response <i>Anastasia Tzoumaka, David Henann</i>
11:39AM - 11:51AM	B54.00003: Crack Geometry Dependence on Kinetic Energy and Loading Rate in High-Speed Cavitation <i>Matthew Milner, Shelby Hutchens</i>
11:51AM - 12:27PM	B54.00004: Inertial Microcavitation in Soft Matter <i>Invited Speaker: Christian Franck</i>
12:27PM - 12:39PM	B54.00005: The Sound of Light: Using optical breakdown to drive extreme mechanical excitations <i>Athanasios Athanassiadis</i>
12:39PM - 12:51PM	B54.00006: Molecular Dynamics Simulation of Polymeric Systems Under Shock Deformation <i>John P Mikhail, Gregory C Rutledge</i>
12:51PM - 1:03PM	B54.00007: Rheological properties of small-molecule liquids in elastohydrodynamic lubrication <i>Mark Owen Robbins, Vikram Jadhao</i>
1:03PM - 1:15PM	B54.00008: A Molecular View: the Mechanical Behavior of Polymer Networks <i>Ziyu Ye, Robert Riggelman</i>
1:15PM - 1:27PM	B54.00009: Expansion Instabilities of Tube-Like Defects in Polymer Gels Subjected to Hydrostatic Pressure <i>Christopher Barney, Yue Zheng, Shengqiang Cai, Alfred Crosby</i>
1:27PM - 1:39PM	B54.00010: Cavitation to Study Brain Mechanics and Tissue Interface Strength <i>Carey Dougan, Yue Zheng, Christopher Barney, Suelyneth Galarza, Shengqiang Cai, Alfred Crosby, Shelly Peyton</i>
1:39PM - 1:51PM	B54.00011: Volume-controlled Cavity Expansion for Probing of Local Elastic Properties in Soft Materials <i>Shabnam Raayai, Zhantao Chen, Tal Cohen</i>
1:51PM - 2:03PM	B54.00012: The yielding transition of soft colloids <i>Stefano Aime, Domenico Truzzolillo, Laurence Ramos, Luca Cipelletti</i>
2:03PM - 2:15PM	B54.00013: Plasticity effects in thin film wrinkling: Wrinkling behavior of plastic films bonded to elastomers with large strain mismatch <i>Rahul Gopalan Ramachandran, Junyu Yang, Sameer Damle, Spandan Maiti, Sachin Velankar</i>

Session B55: Focus Session: Big Data in Polymer and Soft Matter Physics

Sponsoring Units: DPOLY GSOFD DCOMP

Chair: Jonathan Whitmer, University of Notre Dame

Room: BCEC 254B

11:15AM - 11:27AM	B55.00001: Descriptor of both domain structures and bridge chain network in a thermoplastic elastomer using graph <i>Hiroshi Morita, Ayano Miyamoto</i>
11:27AM - 11:39AM	B55.00002: Machine Learning for Modelling Microstructure Evolution in Polymer Mixtures <i>Nigel Clarke</i>
11:39AM - 11:51AM	B55.00003: Impact of Dataset Uncertainties on Machine Learning Model predictions: The Example of Polymer Glass Transition Temperatures <i>Anurag Jha, Anand Chandrasekaran, Chiho Kim, Ramamurthy Ramprasad</i>
11:51AM - 12:03PM	B55.00004: Molecular dynamics and machine learning assisted design of conjugated polymers for improved ionic conductivity <i>Christian Nowak, Mayank Misra, Fernando A Escobedo</i>
12:03PM - 12:15PM	B55.00005: A charge density prediction model for organic molecules using Deep Neural Networks <i>Deepak Kamal, Anand Chandrasekaran, Ramamurthy Ramprasad</i>
12:15PM - 12:27PM	B55.00006: Bayesian Optimization for Designing Polymer Electrolytes with a Higher Lithium-ion Conductivity <i>Tian Xie, Yanming Wang, Arthur France-Lanord, Yang Shao-Horn, Jeffrey C Grossman</i>
12:27PM - 1:03PM	B55.00007: Effectively Exploring Parameter Space: Design of Experiments and Machine Learning-assisted Organic Solar Cell Efficiency Optimization <i>Invited Speaker: Erik Luber</i>
1:03PM - 1:15PM	B55.00008: Using Particle Swarm Optimization and SCFT to agnostically identify the stable and low-lying metastable competitive morphologies of block copolymers. <i>Carol Tsai, Kris T Delaney, Glenn Fredrickson</i>
1:15PM - 1:27PM	B55.00009: Prediction of suitable solvents and non-solvents for polymers using machine learning techniques <i>Shruti Venkatram, Chiho Kim, Anand Chandrasekaran, Ramamurthy Ramprasad</i>
1:27PM - 1:39PM	B55.00010: Applying Machine Learning to Structural Analysis using Pythia <i>Matthew Spellings, Julia Dshemuchadse, Sharon Glotzer</i>
1:39PM - 1:51PM	B55.00011: End-to-End Characterization of Colloidal Particles through Holographic Microscopy and Deep Convolutional Neural Networks <i>Lauren Altman, David Grier, Mark D Hannel II</i>
1:51PM - 2:03PM	B55.00012: An Anisotropic Langevin Equation for Protein Dynamics <i>Eric Beyerle, Marina Giuseppina Guenza</i>
2:03PM - 2:15PM	B55.00013: Machine-learning solver for modified diffusion equations <i>Qianshi Wei, Ying Jiang, Jeff Z. Y. Chen</i>

Monday, March 4th, 2019

B

11:15PM – 2:15PM

Session B21: Focus Session: Exploring Free Energy Landscapes in Biology and Materials Science I

(DCOMP DBIO DMP GSOFT)

Room: BCEC 157B

Invited Speaker: Cecilia Clementi (11:15 AM)

Session B30: Liquid Crystals I (GSOFT)

Room: BCEC 162B

Session B31: Invited Session: Advances in Hierarchical Systems: Theory and Experiments I (DCP)

Room: BCEC 203

Invited Speakers: Joachim Sauer (11:15) , Michele Ostraat (11:51), Sankar Nair (12:27), Sanat Kumar (1:03), Nicholas Brunelli (1:39)

Session B57: Focus Session: Physics of Liquids II (GSNP GSOFT)

Room: BCEC 256

Invited Speaker: Francesco Sciortino (11:15 AM)

Session B64: Biopolymers I (DNA, RNA, Biocompatible, Gels) (DBIO)

Room: BCEC 259B

Session C22: Focus Session: Building the Bridge to Exascale: Applications and Opportunities for Materials, Chemistry, and Biology III

Sponsoring Units: DCOMP DBIO DPOLY DCMP

Chair: Jack Deslippe, Lawrence Berkeley Natl Lab

Room: BCEC 157C

2:30PM - 2:42PM	C22.00001: OpenAtom: massively-parallel simulations for molecular and electronic dynamics <i>Minjung Kim, Subhasish Mandal, Eric Mikida, Kavitha Chandrasekar, Qi Li, Eric Bohm, Nikhil Jain, Laxmikant Kale, Glenn Martyna, Sohrab Ismail-Beigi</i>
2:42PM - 2:54PM	C22.00002: Automated Discovery of Chemical Mechanisms using Reactive Molecular Dynamics <i>James Koval, Ahmed Ismail</i>
2:54PM - 3:06PM	C22.00003: MOLECULAR DYNAMICS SIMULATIONS OF AN ENTIRE HIV VIRION <i>Juan Perilla, Tyler Reddy</i>
3:06PM - 3:18PM	C22.00004: Co-design in molecular dynamics for exascale <i>Sam Reeve, James Belak</i>
3:18PM - 3:30PM	C22.00005: Extending the accuracy, size, and duration of atomistic simulations on exascale hardware <i>Danny Perez, Arthur F. Voter, Anders Niklasson, Christian Negre, Marc Cawkwell, Blas Pedro Uberuaga, Steven James Plimpton, Aidan Thompson, Mitchell A Wood, Mary Alice Cusentino, Brian Wirth, Li Yang</i>
3:30PM - 3:42PM	C22.00006: Large-Scale Simulations of Protein Self-Assembly <i>Jens Glaser, Sharon Glotzer</i>
3:42PM - 4:18PM	C22.00007: First-principles simulations of electronic excitations and real-time dynamics on high-performance super computers <i>Invited Speaker: Andre Schleife</i>
4:18PM - 4:30PM	C22.00008: Massively-parallel time-dependent density functional theory calculations for optical near-field excitations in silicon <i>Masashi Noda, Kenji Iida, Maiku Yamaguchi, Kazuya Ishimura, Takashi Yatsui, Katsuyuki Nobusada, Kazuhiro Yabana</i>
4:30PM - 4:42PM	C22.00009: Combined Next-Generation Neutron Vibrational Spectroscopy and High-Accuracy Massively Parallel DFT Calculations Benchmark Electronic Descriptions of Complex Organic Molecular Systems <i>Anup Pandey, Ada Sedova, Luke Daemen, Yongqiang Cheng, Anibal J. Ramirez-Cuesta</i>
4:42PM - 4:54PM	C22.00010: ExaAM: Additive manufacturing process modeling at the fidelity of the microstructure <i>James Belak, John turner</i>
4:54PM - 5:06PM	C22.00011: Cross-scale atomistic simulations of crystal plasticity <i>Vasily Bulatov</i>
5:06PM - 5:18PM	C22.00012: Beyond Petascale: HPC and Polymeric Materials Design <i>Monojoy Goswami</i>
5:18PM - 5:30PM	C22.00013: Towards Exascale Quantum Transport Calculations <i>Wenchang Lu, Emil Briggs, Jerry Bernholc</i>

Session C25: Polymer Solutions and Blends

Sponsoring Units: DPOLY

Chair: Dong Meng, Mississippi State University

Room: BCEC 160A

2:30PM - 2:42PM	C25.00001: How tunable are the coil dimensions of polymers in ionic liquids? <i>Aakriti Kharel, Timothy Lodge</i>
2:42PM - 2:54PM	C25.00002: Phase behavior of polymer/ionic liquids mixture: a molecular dynamics study <i>Hyuntae Jung, Arun Yethiraj</i>
2:54PM - 3:06PM	C25.00003: Kinetics of Block Copolymer Micelle Fragmentation in Ionic Liquids <i>Julia Early, Timothy Lodge</i>
3:06PM - 3:18PM	C25.00004: Effect of Solvent Selectivity on Chain Exchange Kinetics in Block Copolymer Micelles <i>En Wang, Dan Zhao, Timothy Lodge, Frank Bates</i>
3:18PM - 3:30PM	C25.00005: Probing Polymer Solution Conformation along Microparticle Formation Pathways with SANS <i>William Sharratt, Marco Adamo, Joao Cabral</i>
3:30PM - 3:42PM	C25.00006: Arrested Mobility Effects on the Spinodal Decomposition of Ternary Polymer Solutions <i>Jan Ulric Garcia, Douglas R. Tree, Kris T Delaney, Glenn Fredrickson</i>
3:42PM - 3:54PM	C25.00007: SANS study of the thermodynamics and demixing of highly interacting PaMSAN/dPMMA blends <i>Yutaka Aoki, William Sharratt, Haoyu Wang, Sarah Rogers, Robert Dalglish, Julia Higgins, Joao Cabral</i>
3:54PM - 4:06PM	C25.00008: Single molecule studies of comb polymer dynamics in semi-dilute solutions <i>Shivani Patel, Charles Schroeder</i>
4:06PM - 4:18PM	C25.00009: Thermodynamics and conformation of PPPO in mixed solvents: towards nanoporous polymeric gas sensors <i>Roisin O'Connell, Joao Cabral, Julia Higgins, Alexandra Porter</i>
4:18PM - 4:30PM	C25.00010: Conformations of bottlebrush polymers in dilute solution <i>Sarit Dutta, Mathew Wade, Dylan Walsh, Damien Guironnet, Simon Rogers, Charles Sing</i>
4:30PM - 4:42PM	C25.00011: Diffusion Driven Nonsolvent Induced Phase Separation <i>Douglas R. Tree, Lucas Francisco Dos Santos, Caden B Wilson, Timothy R Scott, Jan Ulric Garcia, Glenn Fredrickson</i>
4:42PM - 4:54PM	C25.00012: Effects of Side-Chain Deuteration of Poly(N-isopropylacrylamide) on the Thermal Transition Behaviors in Water <i>Dongsook Chang, Kunlun Hong</i>
4:54PM - 5:06PM	C25.00013: Increasing block copolymer dispersity leads to more uniform micelles <i>Sriteja Mantha, Shuanhu Qi, Matthias Barz, Friederike Schmid</i>
5:06PM - 5:18PM	C25.00014: Particle Packings in Bidisperse Diblock Copolymer Blends <i>Aaron Lindsay, Ronald Lewis, Bongjoon Lee, Micah J. Howard, Timothy Lodge, Frank Bates</i>
5:18PM - 5:30PM	C25.00015: Investigating the Properties and Phase Behavior of Ionic Liquid and Polymer Blends <i>Caitlin Donovan, Oscar Morales, Malgorzata Chwatko, Aaron A Burkey, Alysha Helenic, Seungmin Oh, Joan Brennecke, Nathaniel A Lynd</i>

Session C49: Focus Session: Advanced Morphological Characterization of Polymer II: X-ray and Neutron Scattering

Sponsoring Units: DPOLY

Chair: Brian Collins, Washington State University

Room: BCEC 252A

2:30PM - 2:42PM	C49.00001: Role of Chain Length in the Formation of Frank-Kasper Phases in Diblock Copolymers <i>Frank Bates, Ronald Lewis III, Akash Arora, Haley Beech, Bongjoon Lee, Aaron Lindsay, Timothy Lodge, Kevin D Dorfman</i>
2:42PM - 2:54PM	C49.00002: PRISM Theory as an Accessible Model for Neutron and X-ray Scattering Experiments of Liquid-Like Polymer Systems <i>Tyler Martin, Ronald Jones</i>
2:54PM - 3:06PM	C49.00003: Phase Behavior of Hybrid Inorganic-Organic Diblock Copolymer Electrolytes <i>Gurmukh Sethi, Irune Villaluenga, Nitash Balsara</i>
3:06PM - 3:18PM	C49.00004: In Situ Study of ABC Triblock Terpolymer Self-Assembly under Solvent Vapor Annealing <i>Sangho Lee, Li-Chen Cheng, Kevin G. Yager, Muhammad Mumtaz, Karim Aissou, Caroline Anne Ross</i>
3:18PM - 3:30PM	C49.00005: In-situ Observation of Non-solvent-induced Phase Separation of Cellulose Cuprammonium Solution by Small-Angle X-ray Scattering. <i>Kazu Hirose, Tatsuhiro Iwama, Maiko Yamagata, Naoki Sakamoto, Ayumi Kurohara, Yoshiyuki Shiomi, Toru Morita</i>
3:30PM - 3:42PM	C49.00006: The Multi-Layered Structure of Novel Cellulose-Coated Oil-in-Water Emulsions Revealed by Contrast Variation Neutron Scattering <i>Yachin Cohen, Sofia Napso, Dmitry Rein, Zhendong Fu, Aurel Radulescu</i>
3:42PM - 4:18PM	C49.00007: Probing chemical pathways in polyamide reverse osmosis membranes <i>Invited Speaker: Alexandra Porter</i>
4:18PM - 4:30PM	C49.00008: Enzyme Immobilization in Mesoporous Metal-Organic Frameworks by SANS <i>Lilin He, Xiaoliang Wang, Shuo Qian, Shengqian Ma</i>
4:30PM - 4:42PM	C49.00009: The Influence of Ionic Liquids on the Nanostructure of Polyimide based Aerogels <i>Samantha J. Rinehart, Baochau N. Nguyen, Rocco P. Viggiano, Mary Ann B. Meador, Mark Dadmun</i>
4:42PM - 4:54PM	C49.00010: Effect of Electrostatic Interactions Between Nafion and Functionalized Nanoparticles on Ionomer Morphology and Nanoparticle Dispersion <i>Allison Jansto, Apoorva Balwani, Tyler Martin, Ronald Jones, Eric Davis</i>
4:54PM - 5:06PM	C49.00011: Exchange Dynamics of Fluoroalkyl Block Copolymers in Selective Solvents <i>Seyoung Kim, Yunshik Cho, Jee Hyun Kim, SooHyung Choi, Kookheon Char</i>
5:06PM - 5:18PM	C49.00012: Phase behavior of poly(9-(4-vinylbenzyl)adenine)-block-polystyrene copolymers <i>Eunseol Kim, Avnish Kumar Mishra, Chungryong Choi, Mooseong Kim, Seungyoo Park, Soyeong Park, Seonghyeon Ahn, Jin Kim</i>
5:18PM - 5:30PM	C49.00013: Order-order transition in gyroid forming block copolymer in thin films. <i>Cindy Gomes Correia, Karim Aissou, Georges Hadziioannou, Christophe Navarro, Guillaume Fleury</i>

Session C50: Focus Session: Optically and Photonically Active Polymers

Sponsoring Units: DPOLY GSOFT DMP

Chair: Zhe Qiang, Northwestern University

Room: BCEC 252B

2:30PM - 2:42PM	C50.00001: Micro- and Nanoporous Polymer Coatings: A Diverse and Promising Platform for Optical and Thermal Regulation <i>Jyotirmoy Mandal, Yuan Yang, Nanfang Yu</i>
2:42PM - 2:54PM	C50.00002: Automated Platform for Investigating Aligned Carbon Nanotube Films <i>Josh Walker, Jeffrey Fagan, Henry Wladkowski, Thomas A Searles, Angela Hight Walker, William Rice</i>
2:54PM - 3:06PM	C50.00003: Cold Plasma Effects on the Optical Properties of Salmon DNA Thin-films <i>Moses Nnaji, Ben Jang, Heungman Park</i>
3:06PM - 3:42PM	C50.00004: Optically active self-assembled pi-conjugated peptides <i>Invited Speaker: Charles Schroeder</i>
3:42PM - 3:54PM	C50.00005: Effect of Polymer Spacer Length in FRET-Based Fluorescent Donor-Acceptor Sensing System <i>Chan Ho Park, Bumjoon Kim</i>
3:54PM - 4:06PM	C50.00006: Nanostructured Polymer Films Exhibiting Solvent-Responsive Photonic Band Gaps <i>Yifan Xu, Jacob A LaNasa, Robert Hickey</i>
4:06PM - 4:18PM	C50.00007: Can we design a reconfigurable photonic crystal in the visible light range? <i>Rose Cersonsky, Julia Dshemuchadse, James A Antonaglia, Greg Van Anders, Sharon Glotzer</i>
4:18PM - 4:30PM	C50.00008: Photonic band gaps in self-assembled colloidal crystals <i>Duanduan Wan, Sharon Glotzer</i>
4:30PM - 4:42PM	C50.00009: The Importance of Being Inhomogeneous: Simulation Approaches for Liquid Crystal Optical Metasurfaces in the Visible <i>James Dolan, Haogang Cai, Lily Delalande, Xiao Li, Juan De Pablo, Daniel Lopez, Paul F Nealey</i>
4:42PM - 4:54PM	C50.00010: Liquid crystal based photonic topological insulators <i>Hamed Abbaszadeh, Michel Fruchart, Vincenzo Vitelli, Wim Van Saarloos</i>
4:54PM - 5:06PM	C50.00011: Mapping the Handedness of Gyroid Optical Metamaterial Domains <i>Cédric Kilchoer, Narjes Abdollahi, Karolina Korzeb, James Dolan, Yibei Gu, Joerg Werner, Ulrich Wiesner, Ilja Gunkel, Ullrich Steiner, Bodo D Wilts</i>
5:06PM - 5:18PM	C50.00012: Electrically tunable structural colors of cholesterics with oblique helicoidal director <i>Olena Iadlovska, Graham R Maxwell, Mateusz Mrukiewicz, Greta Babakhanova, Sergij V Shiyankovskii, O D Lavrentovich</i>
5:18PM - 5:30PM	C50.00013: Switchable on-demand Pancharatnam-Berry phase modulation in polymer-stabilized cholesteric liquid crystals <i>Benjamin Kowalski, Timothy J White, Matthew S Mills</i>

Session C51: Invited Session: Recent Developments in Nonequilibrium Dynamics and Rheology of Entangled Polymer Liquids

Sponsoring Units: DPOLY

Chair: Shiqing Wang, Univ of Akron

Room: BCEC 253A

2:30PM - 3:06PM	C51.00001: Molecular Rheology of Entangled Polymeric Fluids: New Discoveries and Remaining Challenges <i>Invited Speaker: Bamin Khomami</i>
3:06PM - 3:42PM	C51.00002: Rheological behavior of entangled polymer melts and solutions in fast extensional flow <i>Invited Speaker: Qian Huang</i>
3:42PM - 4:18PM	C51.00003: Forced-Based Microscopic Theories of the Equilibrium Dynamics and Nonlinear Rheology of Entangled Rod and Chain Polymer Liquids <i>Invited Speaker: Kenneth Schweizer</i>
4:18PM - 4:54PM	C51.00004: Fingerprinting Molecular Relaxation in Deformed Polymers <i>Invited Speaker: Yangyang Wang</i>
4:54PM - 5:30PM	C51.00005: Shear banding in semidilute polymeric solutions: Experiments and modeling <i>Invited Speaker: Natalie Germann</i>

Session C52: Focus Session: Polyelectrolyte Complexation II: Phase Behavior and Solutions**Dynamics**

Sponsoring Units: DPOLY DBIO

Chair: Samanvaya Srivastava, University of California, Los Angeles

Room: BCEC 253B

2:30PM - 2:42PM	C52.00001: Polyelectrolyte solution confined between oppositely charged dielectric surfaces <i>DEBARSHEE BAGCHI, Trung Nguyen, Monica Olvera De La Cruz</i>
2:42PM - 2:54PM	C52.00002: Incorporating Molecular Structure into a Transfer Matrix Theory of Complex Coacervation <i>Tyler Lytle, Charles Sing</i>
2:54PM - 3:06PM	C52.00003: Structure-Property Relationships for Oligonucleotide Polyelectrolyte Complex Micelles <i>Jeffrey Viereg, Michael Lueckheide, Alex Marras, Matthew Tirrell</i>
3:06PM - 3:18PM	C52.00004: Probing the size of coacervate core micelles <i>Debra Audus, Brady Garringer, Hayley Boigenzahn</i>
3:18PM - 3:30PM	C52.00005: Salt-concentration-dependent structure of Complex Coacervate Core Micelles <i>Taeyoung Heo, SooHyung Choi</i>
3:30PM - 3:42PM	C52.00006: Structural Evolution and Formation Kinetics of Polyelectrolyte Complex Micelles <i>Hao Wu, Jeffrey Ting, Matthew Tirrell</i>
3:42PM - 3:54PM	C52.00007: Dynamics of liquid coacervates formed by oppositely charged polyelectrolytes <i>Christian Aponte-Rivera, Michael Rubinstein</i>
3:54PM - 4:06PM	C52.00008: Polymer chemistry and effect on the linear viscoelasticity on polyelectrolyte complexes <i>Yalin Liu, Cristiam F. Santa Chalarca, Rebecca A. Olson, Richard N. Carmean, Todd Emrick, Brent Sumerlin, Sarah Perry</i>
4:06PM - 4:18PM	C52.00009: Ionic-group-dependent phase behavior of polyelectrolyte coacervates <i>Sojeong Kim, SooHyung Choi, Won Bo Lee</i>
4:18PM - 4:54PM	C52.00010: Phase behavior and transport in solutions of oppositely charged polyelectrolytes <i>Invited Speaker: Ronald Larson</i>
4:54PM - 5:06PM	C52.00011: Teaching a New Dog Old Tricks: Phase Inversion in Polyelectrolytes <i>David Delgado, Kazi Sadman, Qifeng Wang, Kenneth R Shull</i>
5:06PM - 5:18PM	C52.00012: Stretchable Ionic Double Layer at the Interface Between Crosslinked Networks of Ionic Liquids <i>Hyeong Jun Kim, Baohong Chen, Zhigang Suo, Ryan Hayward</i>
5:18PM - 5:30PM	C52.00013: Complexation and network formation in a suspension of oppositely charged cellulose nanocrystals and poly(allylamine) <i>Arkadii Arinstein, Patrick Martin, Gleb Vasilyev, Mor Boaz, Guang Chu, Eyal Zussman</i>

Session C54: Focus Session: Smart and Responsive Polymers and Soft Materials II: Molecular Length Scale Phenomena

Sponsoring Units: DPOLY GSOFT DBIO

Chair: Matthew Green, Arizona State University

Room: BCEC 254A

2:30PM - 2:42PM	C54.00001: Mechanophore activation in a crosslinked polymer matrix via instrumented indentation <i>Chelsea Davis, Mitchell L Rencheck, Jeremiah Woodcock, Muzhou Wang, Ryan Beams, Stephan Stranick, Aaron Forster, Jeffrey Gilman</i>
2:42PM - 2:54PM	C54.00002: Tryptophan based co-polymer as Fluorescence Turn-Off sensor for explosive detection <i>Vishal Kumar, Soumitra Satapathi</i>
2:54PM - 3:06PM	C54.00003: Tough and Photoluminescent Diblock Copolymer Elastomers via Lanthanide Coordination <i>Feng Jiang, Xin Zhang, Doug Henderson, Wonseok Hwang, Robert M Briber, Howard Wang</i>
3:06PM - 3:18PM	C54.00004: Temperature and pH Dual-Responsive Shape-Transforming Block Copolymer Particles with Tunable Optical Property <i>Junhyuk Lee, Bumjoon Kim</i>
3:18PM - 3:30PM	C54.00005: Effect of calcium ions on the interactions of end-tethered weak polyelectrolytes <i>Rikkert Nap, Igal G Szleifer</i>
3:30PM - 3:42PM	C54.00006: In situ regeneration of oil absorbent via wettability switch of conjugated polymer surfaces <i>Jian Xu, Wei Xu, Yinlun Yuan, Guohao Gao, Eui-Hyeok Yang</i>
3:42PM - 3:54PM	C54.00007: Design principle of multi-responsive smart copolymers <i>Carlos M Marques, Debashish Mukherji, Kurt Kremer</i>
3:54PM - 4:06PM	C54.00008: Controlling Swelling Behavior of Upper Critical Solution Temperature Micelle Containing Layer-by-Layer Films <i>Victoria Albright, Aliaksei Aliakseyeu, Viktor Selin, John F Ankner, Svetlana A Sukhishvili</i>
4:06PM - 4:18PM	C54.00009: Mobility and self-healing in star-polymer vitrimers <i>Simone Ciarella, Wouter Ellenbroek</i>
4:18PM - 4:30PM	C54.00010: Molecular Design of Precise Network Polymerized Ionic Liquids for Improved Understanding of Soft Actuators <i>Christopher Evans, Chengtian Shen, Qiuje Zhao</i>
4:30PM - 4:42PM	C54.00011: Chemically Actuated Liquid Crystal-Based Polymer Printer <i>Young Ki Kim, Daniel B. Wright, Pranati Mondkar, Nathan C. Gianneschi, Nicholas L. Abbott</i>
4:42PM - 4:54PM	C54.00012: THz Vibrations of Metal-Organic Frameworks: Thermal and Mechanical Stability <i>Matthew Ryder</i>
4:54PM - 5:30PM	C54.00013: Smart and responsive flexible foams via 3D printing of polymer composites <i>Invited Speaker: Emily Pentzer</i>

Session C55: Focus Session: Advancing Polymer and Biopolymer Physics through Simulation and Theory I: Biopolymers

Sponsoring Units: DPOLY DCOMP DBIO GSNP

Chair: Alexey Onufriev, Virginia Tech

Room: BCEC 254B

- 2:30PM - C55.00001: Chromosome organization by loop extrusion and phase separation
3:06PM *Invited Speaker: Leonid Mirny*
- 3:06PM - C55.00002: Modeling interphase chromosomes: Microrheology
3:18PM *Andrea Papale, Angelo Rosa*
- 3:18PM - C55.00003: Diffusion of nuclear proteins and its link to 3d chromatin organization
3:30PM *Assaf Amitai*
- 3:30PM - C55.00004: All-Atom Molecular Dynamics simulations of the interaction between viral capsid proteins and single-stranded RNA molecules.
3:42PM *Zachary Gvildys, Robijn Bruinsma*
- 3:42PM - C55.00005: Pinning a protein (AQP1) structure by the interacting matrix elements
3:54PM *Ras Pandey, Pornthep Sompornpisut*
- 3:54PM - C55.00006: Protein crystallizing assembly via free and grafted linkers
4:06PM *Yuba Dahal, Monica Olvera De La Cruz*
- 4:06PM - C55.00007: Atomistic and Coarse-grained Simulations of Thermoresponsive Biopolymers
4:18PM *Phillip Taylor, Prhashanna Ammu, Arthi Jayaraman*
- 4:18PM - C55.00008: Brownian Dynamics Simulation of Single Biomolecules: Contact Formation and Hydrodynamic Radius
4:30PM *Steffen Mühle*
- 4:30PM - C55.00009: Investigation into multivalently binding polymers
4:42PM *Emiko Zumbro, Alfredo Alexander-Katz*
- 4:42PM - C55.00010: Disorder mediated oligomerization of chromosome translocation proteins of DISC1 gene.
4:54PM *Davit Potoyan*
- 4:54PM - C55.00011: Characterizing the counterionic cloud of DNA-functionalized nanoparticles with molecular dynamics simulations
5:06PM *Ali Ehlen, Kurinji Krishnamoorthy, Sumit Kewalramani, Michael J Bedzyk, Monica Olvera De La Cruz*
- 5:06PM - C55.00012: Exploring the Structure and Dynamics of Carbohydrate Nanoparticles using Molecular Dynamics Simulations
5:18PM *Andrew Nagel, Mohammad Hassan Khatami, Hendrick W de Haan*
- 5:18PM - C55.00013: Investigating the Structure of Phytoglycogen using Coarse-Grained Simulations
5:30PM *Nicole Drassis, Hendrick W de Haan*

Session C21: Focus Session: Exploring Free Energy Landscapes in Biology and Materials Science II (DCOMP DBIO DMP GSOFT)

Room: BCEC 157B

Invited Speaker: Pratyush Tiwary

Session C30: Liquid Crystals II (GSOFT)

Room: BCEC 162B

Session C59: Rheology and Flow of Soft Matter I (GSOFT GSNP)

Room: BCEC 257B

Session C64: Biopolymers II (DNA, RNA, Biocompatible, Gels) (DBIO)

Room: BCEC 259B

Session E30: Focus Session: Polymer Networks, Gels, and Elastomers I: Dynamics

Sponsoring Units: DPOLY

Chair: John Kieffer, University of Michigan Ryan Toomey, University of South Florida

Room: BCEC 162B

8:00AM - 8:36AM	E30.00001: Polymer Physics Prize Talk Break
8:36AM - 9:12AM	E30.00002: Soft ionic diodes formed at the interface of ionic liquid networks <i>Invited Speaker: Ryan Hayward</i>
9:12AM - 9:24AM	E30.00003: Neutron Spin Echo Insight into Dynamic Networks Formed by Ionomers <i>Dvora Perahia, Sidath Wijesinghe, Manjula Senanayake, Supun S. Mohottalalage, Chathurika Kosgallana, Piotr Adam Zolnierczuk</i>
9:24AM - 9:36AM	E30.00004: Solvent Polarity Effects on Segmental Dynamics in Ionic Polymer Networks: Quasi Elastic Neutron Scattering Study <i>Supun Samindra Mohottalalage, Sidath Wijesinghe, Manjula Senanayake, Chathurika Kosgallana, Naresh Osti, Dvora Perahia</i>
9:36AM - 9:48AM	E30.00005: Dynamics of Ionomer Networks Studies by Pulse Field Gradient (PFG) NMR <i>Shalika D. K. Meedin, Manjula Senanayake, Supun S. Mohottalalage, Chathurika Kosgallana, Dvora Perahia</i>
9:48AM - 10:00AM	E30.00006: Solvent Effects on the Structure of Sulfonated Polystyrene Networks <i>Chathurika Kosgallana, Sidath Wijesinghe, Manjula Senanayake, Supun S. Mohottalalage, Lilin He, Dvora Perahia</i>
10:00AM - 10:12AM	E30.00007: Dissipative Particle Dynamics Computational Modeling of Structurally Tailored and Engineered Macromolecular (STEM) Gels <i>Tao Zhang, Santidan Biswas, Anna Christina Balazs</i>
10:12AM - 10:24AM	E30.00008: Internal Fracture in Tough Double Network Hydrogels Revealed by Various Modes of Stretching <i>Thanh-Tam Mai, Takahiro Matsuda, Tasuku Nakajima, Jian Ping Gong, Kenji Urayama</i>
10:24AM - 10:36AM	E30.00009: Design and Control of Finite Conformational Changes in Mechanical Networks <i>Jason Kim, Danielle Bassett</i>
10:36AM - 10:48AM	E30.00010: Quantifying force-induced bond dissociation in metal-coordinate gels under steady shear flow <i>Irina Mahmud Rasid, Bradley David Olsen, Niels Holten-Andersen</i>
10:48AM - 11:00AM	E30.00011: The Dynamics of Bulk Polymers with Metal-ligand Coordination Crosslinking <i>Joy Zhang, Yuval Vidavsky, Meredith Silberstein</i>

Session E49: Focus Session: Polymer Nanocomposites I: Matrix-Free Nanoparticle Systems

Sponsoring Units: DPOLY

Chair: Francisco Buitrago, University of Pennsylvania

Room: BCEC 252A

8:00AM - 8:36AM	E49.00001: E49 POLYMER PHYSICS PRIZE BREAK
8:36AM - 8:48AM	E49.00002: Single-Component Semi-Crystalline Nanocomposite Materials <i>Jacob LaNasa, Robert Hickey</i>
8:48AM - 9:00AM	E49.00003: Multiscale dynamics in matrix-free polymer grafted nanoparticle systems <i>Mayank Jhalaria, Eileen N Buenning, yu cang, Yucheng Huang, Madhusudan Tygai, Victoria Garcia-Sakai, Reiner Zorn, George Fytas, Brian C Benicewicz, Sanat Kumar</i>
9:00AM - 9:12AM	E49.00004: Mechanical Properties and Crazing Behavior in Model Polymer-Grafted Nanoparticle Thin Films <i>Jeffrey Ethier, Lisa Hall</i>
9:12AM - 9:48AM	E49.00005: Microscopic origins of caging and hyperdiffusive relaxations in hairy nanoparticle fluids <i>Invited Speaker: Lynden Archer</i>
9:48AM - 10:00AM	E49.00006: Polymer-Grafted Nanoparticle (PGN) Assemblies: Supramolecular Dynamic Bonds for Enhanced Toughness <i>Andrew Tibbits, Ali Jawaid, Jason Streit, Lawrence Drummy, Richard Vaia</i>
10:00AM - 10:12AM	E49.00007: Structure and dynamics of architecturally engineered all-polymer nanocomposites <i>Erkan Senses, Madhusudan Tygai, Antonio Faraone</i>
10:12AM - 10:24AM	E49.00008: Entropy-Enthalpy Compensation (EEC) Behavior in Relaxation of Nanoparticle-Brush Filled Imprinted Polymer Films <i>Sonal Bhadauriya, Xiaoteng Wang, Christopher M Stafford, Jack Douglas, Alamgir Karim</i>
10:24AM - 10:36AM	E49.00009: Deformation Mechanism of Mechanochromic Polymer Nanocomposites Fabricated by Self-Assembly of Colloidal Particles <i>Chao-Hung Cheng, Shuhei Nozaki, Shiori Masuda, Nattanee Dechnarong, Kazutaka Kamitani, Tomoyasu Hirai, Ken Kojio, Atsushi Takahara</i>
10:36AM - 10:48AM	E49.00010: Polymer-grafted Nanoparticle Membranes with Exceptional Gas Separation Performance <i>Connor Bilchak, Sanat Kumar, Christopher James Durning, Yucheng Huang, Brian C Benicewicz, Jacques Jestin</i>
10:48AM - 11:00AM	E49.00011: Understanding gas separation enhancement in polymer-grafted spheres <i>Michael Leaf, Sanat Kumar, Christopher James Durning</i>

Session E50: Chirality in Polymers and Soft Matter II: Liquid Crystals and Liquid Crystalline Polymers

Sponsoring Units: DPOLY GSOFTE DBIO

Chair: Mohan Srinivasarao, Georgia Institute of Technology

Room: BCEC 252B

8:00AM - 8:36AM	E50.00001: E50 POLYMER PHYSICS PRIZE BREAK
8:36AM - 8:48AM	E50.00002: Programming Emergent Chiral and Polar Symmetries with Saddle-Splay Elasticity <i>Yu Xia, Andrew DeBenedictis, Doug J Cleaver, Tim Atherton, Shu Yang</i>
8:48AM - 9:00AM	E50.00003: Twist-bend-like phases and elastic response of model bent-core liquid crystals <i>Jiale Shi, Hythem Sidky, Jonathan Whitmer</i>
9:00AM - 9:12AM	E50.00004: Chiral helical nanofilament and nanocylinder phases and a new type of polymorphism in liquid crystals <i>Sasan Shadpour, Ahlam Nemati, Lin Li, Samantha Wakerlin, Julie Vanegas, Mirosław Salamonczyk, Chenhui Zhu, Antal Istvan Jakli, Torsten Hegmann</i>
9:12AM - 9:24AM	E50.00005: Indication of a Twist-Grain-Boundary-Twist-Bend Phase of flexible bent-shape chiral dimers. <i>Matthew Murachver, Ahlam Nemati, Carson Bullock, Zachary Sabata, Haumed Rahmani, Tetiana Vorobiova, Mirosław Salamonczyk, Alain Izadnegahdar, Seyyed Salili, Victoria Norman, Chenhui Zhu, Torsten Hegmann, Samuel N Sprunt, James Gleeson, Antal Istvan Jakli</i>
9:24AM - 9:36AM	E50.00006: Nano-confinement of chiral liquid crystals gives rise to exotic blue phases <i>Viviana Palacio-Betancur, Julio C. Armas-Pérez, Juan P Hernandez-Ortiz, Juan De Pablo</i>
9:36AM - 9:48AM	E50.00007: Temperature Dependence of the Pitch in Chiral Lyotropic Chromonic Liquid Crystals <i>Timothy Ogolla, Robert Paley, Peter Collings</i>
9:48AM - 10:00AM	E50.00008: Inducing chirality in homeotropic nematics via confinement geometry <i>James McInerney, Perry W Ellis, Alberto Fernandez-Nieves, D. Zeb Rocklin, Elisabetta Matsumoto</i>
10:00AM - 10:12AM	E50.00009: Mesogen-free Liquid Crystalline Poly(ethylene oxide) with Sulfonyl Side Chains: Effects of Tacticity and Alkyl Side Chain Length <i>Man Hin Kwok, Bryan T Seymour, Bin Zhao, Lei Zhu</i>
10:12AM - 10:24AM	E50.00010: Ionic Liquid Crystalline Elastomers Actuated by Low Electric Field <i>Chenrun Feng, C.P.Hemantha Rajapaksha, Camilo Piedrahita, Jinwei Cao, Antal Istvan Jakli, Thein Kyu</i>
10:24AM - 10:36AM	E50.00011: Backfolding Transitions in a Liquid Crystalline Polymer Brush <i>Steven Blaber, Nasser Abukhdeir, Mark W Matsen</i>
10:36AM - 10:48AM	E50.00012: Tension-induced nematic phase separation in homopolymer melts <i>Wenlin Zhang, Ronald Larson</i>
10:48AM - 11:00AM	E50.00013: Entanglement in the isotropic-nematic crossover regime: does Edwards' primitive path picture still apply? <i>Robert Hoy, Martin Kröger</i>

Session E51: Polymer Physics Prize Symposium

Sponsoring Units: DPOLY

Chair: Sharon Glotzer, University of Michigan

Room: BCEC 253A

8:00AM - 8:36AM	E51.00001: Polymer Physics Prize Talk: Getting the kinks out: extensional flow in polymer solutions, melts, and glasses <i>Invited Speaker: Ronald Larson</i>
8:36AM - 9:12AM	E51.00002: Accessing the Unexplored Regions of the Glassy State to Test Paradigms of the Glass Transition <i>Invited Speaker: Gregory McKenna</i>
9:12AM - 9:48AM	E51.00003: Edge fracture in polymeric fluids <i>Invited Speaker: Suzanne Fielding</i>
9:48AM - 10:24AM	E51.00004: Statistical Field Theory of Inhomogeneous Polarizable Soft Matter <i>Invited Speaker: Glenn Fredrickson</i>
10:24AM - 11:00AM	E51.00005: Fast but Inaccurate or Slow but Accurate: The Dilemma of Tubes and Slip Links <i>Invited Speaker: Sachin Shanbhag</i>

Session E54: Focus Session: Dielectric Relaxation and Charge Transport of Soft Materials

Sponsoring Units: DPOLY GSOFT

Chair: Andreas Schoenhals

Room: BCEC 254A

8:00AM - 8:36AM	E54.00001: E54 POLYMER PHYSICS PRIZE BREAK
8:36AM - 8:48AM	E54.00002: Morphology and Conductivity in Sulfonated Polyphenylenes <i>Amalie Frischknecht, Eric Sorte, Benjamin Paren, Cy Fujimoto, Lauren J Abbott, Karen Winey, Todd Alam</i>
8:48AM - 9:00AM	E54.00003: Phase Transition and Dynamics in Imidazolium-Based Ionic Liquid Crystals through a Metastable States <i>Koji Fukao, Toshiharu Yamane, Jun Yoshioka</i>
9:00AM - 9:12AM	E54.00004: Revealing the fine features of charge transport mechanism in ionic glass-forming liquids by dielectric spectroscopy <i>Yangyang Wang</i>
9:12AM - 9:24AM	E54.00005: Dielectric Relaxation and Conductivity in Polyelectrolyte Systems <i>Khatcher O. Margossian, Murugappan Muthukumar</i>
9:24AM - 9:36AM	E54.00006: Dielectric Spectroscopy on Choline Chloride based Deep Eutectic Solvents <i>Daniel Reuter, Peter Lunkenheimer, Alois Loidl</i>
9:36AM - 9:48AM	E54.00007: Molecular Dynamics Simulations of Ion Transport in High Transference Number Polyelectrolytes for Li-Ion Batteries <i>Kara Fong, Julian Self, Kyle Diederichsen, Kristin Persson, Bryan McCloskey</i>
9:48AM - 10:00AM	E54.00008: Temperature dependent vibrational modes of Ammonium Nitrate in terahertz regime <i>Abdur Rahman, Towfiq Ahmed, David S. Moore, Abul K Azad</i>
10:00AM - 10:12AM	E54.00009: Low-frequency dielectric response of a periodic array of charged spheres in an electrolyte solution <i>Chang-Yu Hou, Jiang Qian, Denise Freed</i>
10:12AM - 10:24AM	E54.00010: Low-frequency dielectric response of charged oblate spheroidal particles immersed in an electrolyte <i>Chang-Yu Hou, Denise Freed, Pabitra N Sen</i>
10:24AM - 11:00AM	E54.00011: Dielectric Study of Soft Materials at High Electric Fields <i>Invited Speaker: Ranko Richert</i>

Session E65: Physics of Genome Organization I

Sponsoring Units: DBIO DPOLY GSNP

Chair: Alexandre Morozov, Rutgers Univ

Room: BCEC 260

8:00AM - 8:36AM	E65.00001: Complexity in transcription factor – DNA recognition <i>Invited Speaker: Martha Bulyk</i>
8:36AM - 9:12AM	E65.00002: Quantifying sequence readout by transcription factors through principled analysis of high-throughput SELEX data <i>Invited Speaker: Hans Rube</i>
9:12AM - 9:24AM	E65.00003: Heterodimer Transcription Factors as Novel Gene Regulators <i>Kyle Naughton, James Boedicker</i>
9:24AM - 9:36AM	E65.00004: Gene clustering drives co-regulation of disparate biological pathways in eukaryotes <i>Richard Joh, Michael Lawrence, Martin Aryee, Mo Motamedi</i>
9:36AM - 9:48AM	E65.00005: Liquid-liquid phase separation driven organization of nuclear chromatin domains <i>Rabia Laghmach, Davit Potoyan</i>
9:48AM - 10:00AM	E65.00006: Polymer Models of <i>S. pombe</i> Chromatin <i>Peter Williams, Simon G Mochrie, Megan King, Corey Shane O'Hern</i>
10:00AM - 10:12AM	E65.00007: Heterogeneity in Nucleosome Spacings Governs Chromatin Elasticity <i>Deepti Kannan, Bruno Beltran, Quinn MacPherson, Andrew Spakowitz</i>
10:12AM - 10:24AM	E65.00008: Spatial proximity coordinates histone modification and expression of multiple genes <i>Jingyu Zhang, Yan Zhang, Ivet Bahar, Jianhua Xing</i>
10:24AM - 10:36AM	E65.00009: Interphase chromatin as a self-returning random walk: Can DNA fold into liquid trees? <i>Kai Huang, Vadim Backman, Igal G Szleifer</i>
10:36AM - 10:48AM	E65.00010: Investigating dynamic chromatin states in a model cell organism <i>Mary Lou Bailey, Jessica F Williams, Megan King, Simon G Mochrie</i>
10:48AM - 11:00AM	E65.00011: Bacterial chromosome organization: few special cross-links, cell confinement, and molecular crowders play the pivotal roles. <i>Tejal Agarwal, Manjunath G. P., Farhat Habib, Apratim Chatterji</i>

Session E21: Advances in Computational Methods for Statistical Physics and Their Applications I**Focus** (DCOMP DCMP GSNP)

Room: BCEC 157B

Invited Speaker: Danny Perez (8:00 AM)

Session F30: Focus Session: Extreme Deformation II: Rate and Size Effects in Glasses, Networks, and Fibers

Sponsoring Units: DPOLY GSOFT DFD DBIO

Chair: Alfred Crosby, University of Massachusetts Amherst

Room: BCEC 162B

11:15AM - 11:27AM	F30.00001: Deformation of Matrix-Free, Glassy Single Component Polymer NanoComposite at Extreme High Strain Rates <i>Jinho Hyon, Edwin Thomas, Jason Streit, Richard Vaia</i>
11:27AM - 11:39AM	F30.00002: High Rate Fracture Behavior of Polycarbonate Films via Supersonic Microprojectile Impact Testing <i>Edwin Chan, Wanting Xie, Christopher Soles, Jae-Hwang Lee</i>
11:39AM - 11:51AM	F30.00003: Strain Rate Effects During Ultra-High Strain Rate Penetration of Polymeric Materials <i>M. Hunter Bowering, W. F. Heard, Thomas E. Lacy, Jr, Charles U. Pittman, Jr., Santanu Kundu</i>
11:51AM - 12:03PM	F30.00004: The Role of Fast Polymer Dynamics on the Mechanical Toughness of Polymeric Materials <i>Christopher Soles, Kanae Ito, Adam B Burns, Kevin A. Masser, Joseph L. Lenhart, Madhu Sudan Tyagi</i>
12:03PM - 12:15PM	F30.00005: A Quasi-mimetics Approach for Uncovering Starch-based Hybrid Materials <i>Yin Fang, Yuanwen Jiang, Endao Han, Yiliang Lin, Xianghui Xiao, Jin Wang, Heinrich M Jaeger, Bozhi Tian</i>
12:15PM - 12:27PM	F30.00006: Starch embedded hydrogels: Linking macroscopic mechanical properties with microscopic particle configurations <i>Endao Han, Yin Fang, Xianghui Xiao, Jin Wang, Bozhi Tian, Heinrich M Jaeger</i>
12:27PM - 1:03PM	F30.00007: The Thermoviscoelastic Behavior of a Main-Chain Liquid Crystal Elastomer <i>Invited Speaker: Thao Nguyen</i>
1:03PM - 1:15PM	F30.00008: Puncture of Polymer Gels at Small Size Scales <i>Shruti Rattan, Alfred Crosby</i>
1:15PM - 1:27PM	F30.00009: Size-dependent viscoelasticity of electrospun polymer nanofibers <i>Shengqiang Cai</i>
1:27PM - 1:39PM	F30.00010: The Complex Role of Crystalline Structure in the Mechanical Properties of UHMWPE Fibers <i>Christopher Henry, Giuseppe R Palmese, Nicolas J Alvarez</i>
1:39PM - 1:51PM	F30.00011: Energy Storage and Release in Twisted, Buckled, and Helical Fibers <i>Adam Fortais, Kari Dalnoki-Veress</i>
1:51PM - 2:03PM	F30.00012: Fiber networks with inter-fiber adhesion: role of adhesion in extreme network mechanics <i>Vineet Negi, Ahmed Sengab, Catalin Picu</i>

Session F34: Invited Session: Polymer Physics to Address the Dual Energy Challenge at Global Industrial Scale

Sponsoring Units: DPOLY FIAP

Chair: August Bosse, Exxon Mobil Corporation

Room: BCEC 205A

11:15AM - 11:51AM	F34.00001: A New Carbon Ontology: Hydrocarbons as Benign Material Resource for Civilizational-Scale Building <i>Invited Speaker: Mark Goulthorpe</i>
11:51AM - 12:27PM	F34.00002: Tools for polymer design: predicting rheology from molecular weight distribution and branching topology <i>Invited Speaker: Daniel Read</i>
12:27PM - 1:03PM	F34.00003: Micromechanics of oriented semi-crystalline polymers: from structure to properties <i>Invited Speaker: Hans Van Dommelen</i>
1:03PM - 1:39PM	F34.00004: A better future for fossil hydrocarbons and carbon nanomaterials <i>Invited Speaker: Matteo Pasquali</i>
1:39PM - 2:15PM	F34.00005: Quantifying tie-chain fraction and its impact on charge transport in model conjugated polymers <i>Invited Speaker: Lynn Loo</i>

Session F49: Focus Session: Advanced Morphological Characterization of Polymer III: Anomalous Soft X-ray Scattering

Sponsoring Units: DPOLY

Chair: Cheng Wang, Lawrence Berkeley Natl Lab

Room: BCEC 252A

11:15AM - 11:27AM	F49.00001: Critical-Dimension Grazing-Incidence Small Angle X-Ray Scattering: Applications using Soft, Tender and Hard X-Rays <i>Guillaume Freychet, Dinesh Kumar, Isvar Cordova, Ronald J Pandolfi, Patrick Naulleau, Cheng Wang, Alexander Hexemer</i>
11:27AM - 11:39AM	F49.00002: Label-free measurement of core-shell Pluronic F127 Micelle nanostructure determined using in-situ Resonant Soft x-ray Scattering <i>Terry McAfee, Isvar Cordova, Thomas Ferron, Cheng Wang, Brian Collins</i>
11:39AM - 11:51AM	F49.00003: Correlating anisotropy in polarized resonant soft X-ray scattering of block copolymer active layers with organic photovoltaic device performance <i>Joshua Litofsky, Enrique D Gomez</i>
11:51AM - 12:27PM	F49.00004: Advanced characterization of molecular nanostructures and interfaces with resonant X-ray scattering <i>Invited Speaker: Brian Collins</i>
12:27PM - 12:39PM	F49.00005: Probing Molecular Orientation using Polarized Resonant Soft X-ray Reflectivity <i>Jacob Thelen, Camille Bishop, Daniel Sunday, Eliot H Gann, Mark Ediger, Dean DeLongchamp</i>
12:39PM - 12:51PM	F49.00006: Effects of Confinement on the Structure of Bottlebrush Polymers in Thin Films <i>Daniel Sunday, Alice Chang, Moshe Dolejsi, Paul F Nealey, Robert H Grubbs, R. Joseph Kline</i>
12:51PM - 1:03PM	F49.00007: Improving Optical Models of Polarized R-SoXS for Quantitative Measurement of Molecular Orientation within Polymer Nanostructures <i>Victor Murcia, Brian Collins</i>
1:03PM - 1:15PM	F49.00008: Characterization of ion distribution around the surface of micelles under high salt conditions using small angle neutron scattering and resonant soft x-ray scattering <i>Hanqiu Jiang, Greg Beaucage, Karsten Vogt</i>
1:15PM - 1:27PM	F49.00009: Resonant Soft X-ray Scattering Study of Mixed Polymer Brush Self-Assembly <i>Wei Wei, Arunee Lakkham, Paul G Evans, Padma Gopalan</i>
1:27PM - 1:39PM	F49.00010: Elucidating microphase separation in perfluoropolyether triblock copolymers using scattering techniques <i>Deep Shah, Kevin Olson, Xiuhong Li, Bruce Allen Garetz, Sue Mecham, Joseph M. DeSimone, Nitash Balsara</i>
1:39PM - 1:51PM	F49.00011: Stability of Complex Spherical Packing Phases in Low-Molecular-Weight Diblock Copolymers <i>Jiayu Xie, Chi To Lai, Anchang Shi</i>
1:51PM - 2:03PM	F49.00012: Effect of Free-Volume Holes on Dynamic Mechanical Properties of Epoxy Resins for Carbon-Fiber-Reinforced Polymers Studied by Positron Annihilation <i>Hongjun Zhang, Selvakuma Sellaiyan, T. Kakizaki, Akira Uedono, Y. Taniguchi, K. Hayashi</i>
2:03PM - 2:15PM	F49.00013: Effect of temperature on thermal conductivity of aligned amorphous polyethylene - Molecular Dynamics study <i>Rajmohan Muthaiah, Jivtesh Garg</i>

Session F50: Focus Session: Chirality in Polymers and Soft Matter III: Networks, Lyotropics and Colloids

Sponsoring Units: DPOLY GSOFTE DBIO

Chair: Gregory Grason, University of Massachusetts Amherst

Room: BCEC 252B

11:15AM - 11:51AM	F50.00001: Emergence of large-scale chirality in photonic crystals in insects and butterflies <i>Invited Speaker: Gerd Schroeder-Turk</i>
11:51AM - 12:03PM	F50.00002: Chiral Gyroidal Thin Films from Block Copolymer Self-Assembly as Structural Directing Templates for Fabrication of Mesostructured Crystalline Inorganic Materials <i>Qi Zhang, Fei Yu, Ulrich Wiesner</i>
12:03PM - 12:15PM	F50.00003: New Spontaneously Chiral 3D Network Structures in Thermotropic Liquid Crystals <i>Goran Ungar, Huanjun Lu, Yaxin Li, Xiang-bing Zeng</i>
12:15PM - 12:27PM	F50.00004: Self-assembly of chiral networks in achiral block copolymer systems using coarse-grained simulations <i>Poornima Padmanabhan, Natalie Buchanan, Krysia Browka</i>
12:27PM - 12:39PM	F50.00005: Chirality from segments to domain shapes in ordered block copolymer networks <i>Abhiram Reddy, Ishan Prasad, Gregory Grason</i>
12:39PM - 12:51PM	F50.00006: Lyotropic Liquid Crystals: The Emergence of Chiral Structures <i>Mohan Srinivasarao, Kathik Nayani, Jung Ok Park, Jinxin Fu, Rui Chang</i>
12:51PM - 1:03PM	F50.00007: A different kind of Lyotropic Liquid Crystalline Phase: The case of Orange-II and gamma-Cyclodextrin <i>Germano Iannacchione, Jung Ok Park, Mohan Srinivasarao</i>
1:03PM - 1:15PM	F50.00008: Microdomain morphology, curvature and twist in colloidal membranes of bidisperse rod mixtures <i>Douglas Hall, Joia Miller, Joanna Robaszewski, Michael F Hagan, Zvonimir Dogic, Gregory Grason</i>
1:15PM - 1:27PM	F50.00009: Microphase Separation and Stability of Chiral Rafts in Colloidal Membranes <i>Chaitanya Joshi, Joia Miller, Arvind Baskaran, Gregory Grason, Zvonimir Dogic, Michael F Hagan, Aparna Baskaran</i>
1:27PM - 1:39PM	F50.00010: Light-Matter Interactions of Chiral Inorganic Nanomaterials <i>Nicholas Kotov</i>
1:39PM - 1:51PM	F50.00011: Exploiting shape to control percolation of grain boundaries in packings of ellipsoids on curved surfaces <i>Zhaoyu Xie, Tim Atherton</i>
1:51PM - 2:03PM	F50.00012: Formation of Twisted Bundles from Small Regular Arrays of Polymer Nanopillars <i>Cheng Zeng, Isaac Bruss, Mohammad Shahjamali, Edwin Memet, Vinathan N Manoharan</i>
2:03PM - 2:15PM	F50.00013: Chiral Self-Assembly of Flexible High Aspect Ratio Nanopillars <i>Mohammad Shahjamali</i>

Session F52: Padden Award Symposium

Sponsoring Units: DPOLY

Chair: Amalie Frischknecht, Sandia National Laboratories

Room: BCEC 253B

11:15AM - 11:39AM	F52.00001: 24 MINUTE DELAYED START TIME
11:39AM - 11:51AM	F52.00002: Dynamic Heterogeneity in Entangled Linear and Ring Polymers: Single Molecule Studies Reveal Surprises due to Molecular Architecture <i>Yuecheng Zhou, Charles Schroeder</i>
11:51AM - 12:03PM	F52.00003: Leveraging conductivity-enhancing pathways in homopolymer-blended block polymer electrolytes <i>Melody Morris, Ryan Nieuwendaal, Joseph Dura, Thomas H Epps</i>
12:03PM - 12:15PM	F52.00004: Designing Coacervate-forming Systems Using Charge Sequence <i>Tyler Lytle, Charles Sing</i>
12:15PM - 12:27PM	F52.00005: Interaction parameters governing self-assembly of ion-containing block copolymers <i>Whitney Loo, Nitash Balsara</i>
12:27PM - 12:39PM	F52.00006: Spontaneous degrafting of polyelectrolyte brushes from solid substrates <i>Yeongun Ko, Jan Genzer</i>
12:39PM - 12:51PM	F52.00007: Crystallization Modes of Poly(3-dodecylthiophene)-based Block Copolymers Depend on Regioregularity <i>Jin-Seong Kim, Jonathan P Coote, Junghun Han, Gila E Stein, Bumjoon Kim</i>
12:51PM - 1:03PM	F52.00008: Quantitative assessment of tie chains for charge transport in conjugated polymers <i>Kaichen Gu, Chad Ray Snyder, Jonathan Onorato, Christine Luscombe, Lynn Loo</i>
1:03PM - 1:15PM	F52.00009: Solvent quality and polymer concentration effects in linear and cyclic polymer solutions <i>Thomas Gartner, Michael Hore, Arthi Jayaraman</i>
1:15PM - 1:27PM	F52.00010: Neural-Network Assisted Self-Consistent Field Theory for Block Copolymer Simulations <i>Karim Gadelrab, Alfredo Alexander-Katz</i>
1:27PM - 1:39PM	F52.00011: Interfacial and Wetting Considerations in High Throughput Nanoscale 3-D Transfer Molding <i>Michael Deagen, Edwin Chan, Linda Schadler, Chaitanya Ullal</i>
1:39PM - 1:51PM	F52.00012: Close-packed Structures of Block Copolymer Micelles Induced by the Size of Crystallites <i>Liwen Chen, Sangwoo Lee, Han Seung Lee</i>

Session F54: Focus Session: Confined Polymer Glasses I: Modeling, Aging, and Local Connectivity

Sponsoring Units: DPOLY GSOFT GSNP

Chair: Reika Katsumata, UC Santa Barbara

Room: BCEC 254A

11:15AM - 11:27AM	F54.00001: Relaxation-Function-Dependent Two-Barrier Model for Nanoconfinement Effects on the Glass Transition <i>David Simmons, Daniel Mauricio Diaz Vela</i>
11:27AM - 11:39AM	F54.00002: Modeling the Depth-dependent Dynamics of Confined Systems <i>Jane E Lipson, Ronald White</i>
11:39AM - 11:51AM	F54.00003: The Important Roles of Topological Constraints on Interfacial Effects of Nanoconfined Polymers <i>Biao Zuo, Rodney Priestley, Xinping Wang</i>
11:51AM - 12:27PM	F54.00004: Surprising Impact of Chain Connectivity in Altering Local Glass Transition Temperature Near Interfaces <i>Invited Speaker: Connie Roth</i>
12:27PM - 12:39PM	F54.00005: Comparison of Physical Aging and Local Glass Transition in Glassy-Rubbery Bilayer Films <i>Jennifer A McGuire, Michael Thees, Connie Roth</i>
12:39PM - 12:51PM	F54.00006: Role of hydrophilic support on the physical aging and stress development in thin polynorbornene films <i>Elizabeth Lewis, Christopher M Stafford, Bryan Vogt</i>
12:51PM - 1:03PM	F54.00007: Effect of Substrate on the Stability of Ultra-thin Vapor Deposited Molecular Glasses <i>Yi Jin, Yue Zhang, Connor Woods, Zahra Fakhraai</i>
1:03PM - 1:15PM	F54.00008: Role of Solvent Washing Conditions on the Creation of Adsorbed Layers from Melt Films <i>Michael Thees, Jennifer A McGuire, Xinru Huang, Connie Roth</i>
1:15PM - 1:27PM	F54.00009: Substrate Effect on T _g of Random Copolymers of 4-tert-butylstyrene and 4-acetoxystyrene <i>Tong Wang, Jinsong YAN, Hailin Yuan, Ho Yi Lam, Chao Lv, Binyang Du, Ophelia Tsui</i>
1:27PM - 1:39PM	F54.00010: Theory of interface-nucleated changes of dynamical constraints and their spatial transfer in glass-forming films <i>Kenneth Schweizer, Anh D. Phan</i>
1:39PM - 1:51PM	F54.00011: Heterogenous dynamics, connectivity and domain formation in polymer glasses: a fractal dimension analysis approach <i>Anna Lappala, Dominic Phillips, Jakob Jazbec, Turab Lookman, Karissa Sanbonmatsu</i>
1:51PM - 2:03PM	F54.00012: Novel calculation method for the work of adhesion of polymer-grafted surface <i>Masayuki Uranagase, Shuji Ogata</i>
2:03PM - 2:15PM	F54.00013: Slip Length in Deeply Supercooled Molecular Glass Formers <i>Connor Woods, Gui Gao, Patrick J Walsh, Robert Riggleman, Zahra Fakhraai</i>

Session F55: Focus Session: Advancing Polymer and Biopolymer Physics through Simulation and Theory II: Functional Polymers and Gels

Sponsoring Units: DPOLY DCOMP DBIO GSNP

Chair: Yaroslava Yingling, North Carolina State University

Room: BCEC 254B

11:15AM - 11:27AM	F55.00001: Effects of Ion Group Distribution on the Structure and Dynamics of Amorphous Ionomers <i>Gary Grest, Dipak Aryal, Dvora Perahia</i>
11:27AM - 11:39AM	F55.00002: Modeling Explicit-Ion Effects in Weak Polyelectrolyte Complexes <i>Vikramjit Rathee, Hythem Sidky, Ben J Sikora, Jonathan Whitmer</i>
11:39AM - 11:51AM	F55.00003: Polyelectrolytes under spatial and dielectric confinement <i>Trung Nguyen, Monica Olvera De La Cruz</i>
11:51AM - 12:03PM	F55.00004: Electronic Structure of Polymer Dielectrics: The Role of Chemical and Morphological Complexity <i>Lihua Chen, Rohit Batra, Raghavan Ranganathan, Gregory Sotzing, Yang Cao, Ramamurthy Ramprasad</i>
12:03PM - 12:15PM	F55.00005: Microscopic origin of the morphotropic-like phase boundary in P(VDF-TrFE) <i>Bing Zhang, Wenchang Lu, Yang Liu, Haibibu Aziguli, Wenhan Xu, Qing Wang, Jerry Bernholc</i>
12:15PM - 12:27PM	F55.00006: Molecular Modeling of Polyetherimides <i>Chengyuan Wen, Shengfeng Cheng</i>
12:27PM - 12:39PM	F55.00007: A unifying perspective on rigidity in under-constrained materials <i>Matthias Merkel, Karsten Baumgarten, Brian P Tighe, M. Lisa Manning</i>
12:39PM - 12:51PM	F55.00008: Quantum Chemistry Simulations for Dynamic Network Polymers <i>Michael Buche</i>
12:51PM - 1:03PM	F55.00009: Molecular Simulation Study of Orientational Dynamics in a Cross-linked Epoxy Network <i>Ketan S Khare, Frederick Phelan Jr.</i>
1:03PM - 1:15PM	F55.00010: Soft Nanoparticles as Adhesives for Gel-like Materials <i>Ryan Sayko, Zhen Cao, Heyi Liang, Andrey Dobrynin</i>
1:15PM - 1:27PM	F55.00011: Modeling mechanics of large colloidal microgel suspensions <i>Svetoslav V Nikolov, Alberto Fernandez-Nieves, Alexander Alexeev</i>
1:27PM - 1:39PM	F55.00012: Tuning microscopic interactions in dry (co-)polymer systems for improved thermal conductivity <i>Debashish Mukherji, Joerg Rottler</i>
1:39PM - 2:15PM	F55.00013: Advancing Polymer and Biopolymer Physics through Simulations and Theory: a few examples <i>Invited Speaker: Alexander Grosberg</i>

Session F59: Rheology of Gels I

Sponsoring Units: GSOFT DPOLY DBIO

Chair: Jacinta Conrad, University of Houston

Room: BCEC 257B

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| 11:15AM -
11:51AM | F59.00001: Failure precursors in colloidal and biopolymer gels
<i>Invited Speaker: Laurence Ramos</i> |
| 11:51AM -
12:03PM | F59.00002: Gelling Colloids Through Thermally-Triggered Surfactant Displacement
<i>Li-Chiun Cheng, Zachary Sherman, James W Swan, Patrick Doyle</i> |
| 12:03PM -
12:15PM | F59.00003: Path-dependent rheological and structural properties of binary gels from thermoresponsive soft particles
<i>Jasper N. Immink, Joakim Stenhammar, Peter Schurtenberger</i> |
| 12:15PM -
12:27PM | F59.00004: Rheology of Dense Suspensions of Thermoresponsive Microgel Mixtures Undergoing Colloidal Gelation
<i>SAORI MINAMI, TAKUMI WATANABE, DAISUKE SUZUKI, Kenji Urayama</i> |
| 12:27PM -
12:39PM | F59.00005: Tunable viscoelasticity of binary colloidal gels
<i>Jae Hyung Cho, Irmgard Bischofberger</i> |
| 12:39PM -
12:51PM | F59.00006: Enhanced gelation in binary mixtures of nanoparticles with tunable short-range attraction
<i>James Harden, Hongyu Guo, Martine Bertrand, Tyler Shendruk, Subramanian Ramakrishnan, Robert Leheny</i> |
| 12:51PM -
1:03PM | F59.00007: Rheology of Colloid Gels with Depletion and Bridging Attractions
<i>Na Park, Jacinta Conrad</i> |
| 1:03PM -
1:15PM | F59.00008: Analyzing Onset of Non-Linearity of a Fractal Colloidal Gel in the Neighborhood of Critical Point
<i>KHUSHBOO SUMAN, Yogesh M Joshi</i> |
| 1:15PM -
1:27PM | F59.00009: Singular dynamics in the failure of soft adhesive contacts
<i>Justin Berman, Katharine Jensen</i> |
| 1:27PM -
1:39PM | F59.00010: States of self stress in disordered solids: memory, heterogeneity, and yielding
<i>Shang Zhang, Vishwas Vasisht, Leyou Zhang, Emanuela Del Gado, Xiaoming Mao</i> |
| 1:39PM -
1:51PM | F59.00011: Scaling theory for mechanical critical behavior in fiber networks
<i>Jordan Shivers, Sadjad Arzash, Abhinav Sharma, Fred C. MacKintosh</i> |
| 1:51PM -
2:03PM | F59.00012: Structure and Dynamics of Hydrogen Bonds in the Deep Eutectic Solvent Choline Chloride/Urea: from Molecular Dynamics Simulation with Ab-Initio Polarizable Force Field
<i>Kyeong-Jun Jeong, Hyuntae Jung, Jesse McDaniel, Chang Yun Son, Arun Yethiraj</i> |

Session F29: Flow of Complex Fluids, Polymers, and Particles (DFD GSOFT GSNP)

Room: BCEC 162A

Session F65: Focus Session: Biomaterials: Structure, Function, Design II (DBIO)

Room: BCEC 260

Invited Speaker: Phillip Messersmith

Session H30: Organization and Dynamics of Functional Liquid Crystals, Polymers, and Biological Assemblies I

Sponsoring Units: GSOFT DPOLY DBIO

Chair: Cecilia Leal, University of Illinois at Urbana-Champaign

Room: BCEC 162B

2:30PM - 2:42PM	H30.00001: Assembling and organizing block copolymer nanostructures with the aid of liquid crystals <i>Chinedum Osuji, Youngwoo Choo, Manesh Gopinadhan, Masafumi Fukuto, Ruipeng Li, Dennis Ndaya, Reuben Bosire, Yekaterina Rokhlenko, Ken Kawamoto, Jeremiah Johnson, Rajeswari Kasi</i>
2:42PM - 2:54PM	H30.00002: Bipolar to Radial Drop Transitions in the Presence of Novel Surfactants <i>Jake Shechter, Benjamin Strain, Linda Oster, Jessica Sleanor, FNU Manisha, Uma Sridhar, Juan De Pablo, Sankaran Thayumanavan, Jennifer Ross</i>
2:54PM - 3:06PM	H30.00003: Physical insights on the self-assembly of myelin sheaths: what drives healthy lamellar stacks to disrupted inverted hexagonal phase <i>Roy Beck, Rona Shaharabani</i>
3:06PM - 3:42PM	H30.00004: Mechanics and Ion Transport in Dynamic Polymer Networks based on Metal-Ligand Coordination in Polymeric Ionic Liquids <i>Invited Speaker: Rachel Segalman</i>
3:42PM - 3:54PM	H30.00005: Orientation of hard semiconducting nanoparticles by soft lyotropic lipid constructs <i>Dylan Steer, Joseph C Flanagan, Marilyn Porras Gomez, Moonsub Shim, Cecilia Leal</i>
3:54PM - 4:06PM	H30.00006: Elementary smectic ordering of “gapped” DNA duplexes <i>Prabesh Gyawali, Rony Saha, Mirek Salamonczyk, James Gleeson, Antal Istvan Jakli, Hamza Balci, Samuel Sprunt</i>
4:06PM - 4:18PM	H30.00007: Lipid-driven Crystallization of Block Copolymers in Lipid-Polymer Alloys <i>Yoo Kyung Go, Cecilia Leal</i>
4:18PM - 4:30PM	H30.00008: Molecular Dynamics Simulations of Elastic Capsomeres Self Assembling into a Virus Capsid <i>Lauren Nilsson, Jayanath Chamindu Kadupitige, Martin Jarrold, Vikram Jadhao</i>
4:30PM - 4:42PM	H30.00009: Luminescent Liquid Crystals Based on Platinum(II) Complexes <i>xingtian Hao, Haiyan Peng, Xiaolin Xie</i>
4:42PM - 4:54PM	H30.00010: Effect of Lipid Headgroup on Polymer-Lipid Bilayer Association <i>Wenjia Zhang, Frank Bates, Timothy Lodge</i>
4:54PM - 5:06PM	H30.00011: Spontaneous and diverse morphological transitions of nematic liquid crystal oligomer micro-droplets <i>Wei-Shao Wei, Yu Xia, Sophie Ettinger, Shu Yang, A. G. Yodh</i>
5:06PM - 5:18PM	H30.00012: Design Diblock Copolymers for More Efficient Encapsulation <i>Bilin Zhuang, Minh Tuan Nguyen, Freda C.H. Lim</i>
5:18PM - 5:30PM	H30.00013: Deciphering and Engineering Reentrant Phase Transition of Intrinsically Disordered Proteins <i>Priya Banerjee</i>

Session H42: Dillon Medal Symposium

Sponsoring Units: DPOLY

Chair: Mark Ediger, University of Wisconsin - Madison

Room: BCEC 210A

2:30PM - 3:06PM	H42.00001: John H. Dillon Medal Talk: Probing Glass Physics Through Measurements of Polymer Dynamics in Thin films and in Strongly Confined Systems <i>Invited Speaker: Zahra Fakhraai</i>
3:06PM - 3:18PM	H42.00002: The glass transition in polydisperse polymers: contribution of mixing entropy <i>Valentin Ruffine, Adam Raegen, James Forrest</i>
3:18PM - 3:30PM	H42.00003: Investigation of deformation mechanism of impact polypropylene <i>Yue Zhang, Li Qian, Ying Lu, Yingying Sun, Yongfeng Men</i>
3:30PM - 3:42PM	H42.00004: Fragility and the Glass Transition of Geometrically Confined Polynorbornenes <i>Laura Gray, Rodney Priestley</i>
3:42PM - 3:54PM	H42.00005: Polymerization Thermodynamics under Nanoconfinement <i>Qian Tian, Haoyu Zhao, Sindee Simon</i>
3:54PM - 4:06PM	H42.00006: Shear modulus and shear-stress relaxation in simulated free-standing polymer films <i>Jorg Baschnagel, Geevarghese George, Ivan Kriuchevskiy, Hendrik Meyer, Joachim Wittmer</i>
4:06PM - 4:18PM	H42.00007: Mobility Gradients in Supported Glass-Forming Polymer Films Do Not Imply Gradients in Cooperative Motion <i>Jack Douglas, Wengang Zhang, Francis Starr</i>
4:18PM - 4:30PM	H42.00008: Dynamic Phase Transitions in Confined Polymer Glasses <i>Robert Riggleman, Robert Ivancic</i>
4:30PM - 4:42PM	H42.00009: Coarse-Grained Models for Predicting Structure and Thermodynamics in Polymer Systems with Specific and Directional Intermolecular Interactions <i>Arthi Jayaraman</i>
4:42PM - 4:54PM	H42.00010: Heterogeneous polymer degradation due to photothermal heating <i>Laura Clarke, Honglu Huang, Gabriel Firestone, Russell E Gorga, Jason Bochinski</i>
4:54PM - 5:06PM	H42.00011: Charge Density- and Hydrophobicity-Dependent Dynamics of Polyelectrolyte Complex Coacervates <i>Jennifer Laaser, Jun Huang</i>
5:06PM - 5:18PM	H42.00012: Rearrangement of 2D aggregates of droplets under compression: signatures of the energy landscape from crystal to glass <i>Kari Dalnoki-Veress, Jean-Christophe Ono-dit-Biot, Pierre Soulard, Solomon Barkley, Eric Weeks, Thomas Salez, Elie Raphael</i>
5:18PM - 5:30PM	H42.00013: Photo-Induced Order-Disorder Transitions in Block Copolymer Solutions <i>Timothy Lodge, Cecilia C Hall, Cecelia Rivera, Claire Seitzinger, Yuki Hirose</i>

Session H49: Focus Session: 3D Printing of Functional Soft Materials and Devices

Sponsoring Units: DPOLY GSOFT DFD GSNP

Chair: Jon Seppala, National Institute of Standards and Technology

Room: BCEC 252A

2:30PM - 3:06PM	H49.00001: Dillon Prize Talk break
3:06PM - 3:18PM	H49.00002: 3D Printing of NdFeB Nylon Polymer Bonded Magnets <i>Mariappan Parans Paranthaman</i>
3:18PM - 3:30PM	H49.00003: Quantitative mechanical and electrical assessment by local probe methods of inkjet-printed PEDOT:PSS thin films <i>Edgar Gutierrez-Fernandez, I.A. Gabaldon-Saucedo, M. C. Garcia-Gutierrez, A. Varea, A. Nogales, E. Rebollar, A. Vila, A. Cirera, Tiberio Ezquerra</i>
3:30PM - 3:42PM	H49.00004: Understanding the Effect of Block Copolymer Micelles on the Nanostructure and Rheological Response of Inks for Direct Ink Writing <i>Rishabh Ekbote, Deborah Liu, Daniel Krogstad</i>
3:42PM – 4:18PM	H49.00005: Leveraging Jammed Microgels to Shape Complex Fluids: One Method for 3D Printing with Cells, Gels, Elastomers, and Colloids <i>Invited Speaker: Thomas Angelini</i>
4:18PM - 4:30PM	H49.00006: Utilization of Polymer-Nanoparticle Composite in Micro-Stereolithography 3D Printing <i>Hongxia Li, Aikifa Raza, Afra Alketbi, TieJun Zhang</i>
4:30PM - 4:42PM	H49.00007: Morphology and Mechanical Properties of Stereolithography-Printed Polymer Networks <i>Anna Smallwood-Rooney, Rykelle Adley, Adam Merkle, Keith DeNivo, Sungmin Park, Chang Yeol Ryu</i>
4:42PM - 4:54PM	H49.00008: Self-Limiting Electrospray Deposition of Polymers and Polymer Composites <i>Lin Lei, Dylan A. Kovacevich, Christianna Kuznetsova, Jonathan Singer</i>
4:54PM - 5:06PM	H49.00009: 3D Printable Soft Elastomers <i>Zihao Gong, Shifeng Nian, Liheng Cai</i>
5:06PM - 5:18PM	H49.00010: Embedded 3D Printing with Acoustic Focusing <i>Leanne Friedrich, Matthew Begley</i>
5:18PM - 5:30PM	H49.00011: Room Temperature Extrusion 3D Printing of Polyether Ether Ketone Using a Stimuli-Responsive Binder <i>Chang-Uk Lee, Johanna Vandenbrande, Adam Goetz, Mark Ganter, Duane Storti, Andrew Boydston</i>

Session H50: Focus Session: Advances in Optical Microscopy and Photopolymerization

Sponsoring Units: DPOLY GSOFT DMP

Chair: Muzhou Wang, Northwestern University

Room: BCEC 252B

2:30PM - 3:06PM	H50.00001: Dillon Prize Talk break
3:06PM - 3:42PM	H50.00002: Imaging and Writing 3D Polymer Nanostructures with Visible Light <i>Invited Speaker: Chaitanya Ullal</i>
3:42PM - 3:54PM	H50.00003: A polymerizable photoswitchable fluorophore for super-resolution imaging of polymer self-assembly and dynamics <i>Zhe Qiang, Kevin Shebek, Irie Masahiro, Muzhou Wang</i>
3:54PM - 4:06PM	H50.00004: Heterogeneous photoswitching kinetics of diarylethenes and their effect on localization microscopy resolution <i>Kevin Shebek, Yuanwei Li, Muzhou Wang</i>
4:06PM - 4:18PM	H50.00005: Direct nanoscale patterning of in-plane-aligned polymer via split-tip NSOM <i>Brandon Long, Evan R Adamek, Hans David Hallen</i>
4:18PM - 4:30PM	H50.00006: Exploring Textures of a Nematic Liquid Crystal for Fourier Phase Contrast Microscopy <i>Charlotte Kyeremah, Jeffrey La, Devulapalli Rao, Mohamed Amine Gharbi, Chandra S Yelleswarapu</i>
4:30PM - 4:42PM	H50.00007: Tractor beams for colloidal particles are not self-accelerating modes <i>Argha Mondal, Yishuai Xu, Lewis A Wray, David Grier</i>
4:42PM - 4:54PM	H50.00008: High efficiency Fresnel lens design and fabrication in a two-stage photopolymer <i>John E Hergert, David J Glugla, Amy C Sullivan, Marvin D Alim, Robert R McLeod</i>
4:54PM - 5:06PM	H50.00009: Quantitative index metrology for 3D voxelated structures in photopolymer <i>David J Glugla, Izabella R Berman, Madeline B Chosy, Marvin D Alim, Amy C Sullivan, Robert R McLeod</i>
5:06PM - 5:18PM	H50.00010: Bio-inspired design of Mechanochromisms via surface engineering <i>Songshan Zeng, Rui Li, Dianyun Zhang, Luyi Sun</i>
5:18PM - 5:30PM	H50.00011: Reversible Self-Focusing in Light-Responsive Spiropyran Functionalized Gels <i>Derek Morim, Amos Meeks, Ankita Shastri, Andy Tran, Anna Shneidman, Fariha Mahmood, Joanna Aizenberg, Kalaichelvi Saravanamuttu</i>

Tuesday, March 5th, 2019

H

2:30PM – 5:30PM

Session H51: Invited Session: Biomaterials: Structure, Function, Design III

Sponsoring Units: DBIO DPOLY

Chair: Pupa Gilbert, University of Wisconsin - Madison

Room: BCEC 253A

2:30PM - 3:06PM H51.00001: Sea Urchin Biomineralization – Formation of Intricate Single Calcite Crystals via Amorphous Precursors

Invited Speaker: Yael Politi

3:06PM - 3:42PM H51.00002: Multistep Crystallization Pathways for Protein Crystals and Colloidal Assemblies

Invited Speaker: Sharon Glotzer

3:42PM - 4:18PM H51.00003: Design of Functional Protein Membranes

Invited Speaker: Monica Olvera de la Cruz

4:18PM - 4:54PM H51.00004: The Growth Mechanisms and Biomimetics of Tooth Enamel

Invited Speaker: Janet Moradian-Oldak

4:54PM - 5:30PM H51.00005: Engineering materials inspired by nature

Invited Speaker: Joanna McKittrick

Session H54: Focus Session: Tribology of Polymers and Soft Materials I: Time-Dependence and Wear

Sponsoring Units: DPOLY GSOFTE DFD GSNP

Chair: Saad Khan, North Carolina State Univ

Room: BCEC 254A

2:30PM - 3:06PM	H54.00001: Dillon Prize talk break
3:06PM - 3:18PM	H54.00002: Thermal-Induced Slippage of Soft Solid Films <i>Xuanji Yu, Fei Chen, Chi-Hang Lam, Ophelia Tsui</i>
3:18PM - 3:30PM	H54.00003: Slip-link Simulations under Fast Flows: Effect of the Stretch/Orientation-Induced Reduction of Friction <i>Takeshi Sato, Takashi Taniguchi</i>
3:30PM - 3:42PM	H54.00004: Model Friction Studies of Chemical Mechanical Planarization using a Pin-on-Disk Tribometer <i>Catheryn Jackson, David Mosley</i>
3:42PM - 3:54PM	H54.00005: Eliminating the challenges associated with physically oscillating contact instruments <i>Daniel Garcia, Thomas Angelini</i>
3:54PM - 4:06PM	H54.00006: Rate and State Dependent Friction Law Showing Convex Velocity Dependence and Vanishing Static Friction Force Derived from Microscopic Point of View. <i>Hiroshi Matsukawa</i>
4:06PM - 4:18PM	H54.00007: Structure-Based Design of Anti-Fouling Polymer Nanocoating <i>Maya Endoh, Daniel Salatto, Zhixing Huang, Mani K Sen, Yuma Morimitsu, Weiyi Li, Daisuke Kawaguchi, Keiji Tanaka, Yizhi Meng, David Thanassi, Tadanori Koga</i>
4:18PM - 4:54PM	H54.00008: Mechanisms of Ultra-Low Wear Polymeric Solid Lubricants <i>Invited Speaker: David Burris</i>
4:54PM - 5:06PM	H54.00009: Poroelastic sliding of thin grafted hydrogel layers <i>Jessica delavoipière, Yvette Tran, Bertrand Herteufeu, Emilie Verneuil, Chung Yuen Hui, Antoine Chateauminois</i>
5:06PM - 5:18PM	H54.00010: Time-dependent friction and polymer dynamics in hydrogel surface contacts <i>Nicholas L Cuccia, Suraj Pothineni, Justin Burton</i>
5:18PM - 5:30PM	H54.00011: Granular charging at a distance <i>Troy Shinbrot, Behrooz Ferdowsi, Sankaran Sundaresan, Nuno Araujo</i>

Session H59: Rheology of Gels II

Sponsoring Units: GSOFT DPOLY DBIO

Chair: Jacinta Conrad, University of Houston

Room: BCEC 257B

2:30PM - 3:06PM	H59.00001: Viscoelasticity of gels with dynamic bonds: molecular kinetics and macroscopic mechanics <i>Invited Speaker: Rong Long</i>
3:06PM - 3:18PM	H59.00002: Structural and Mechanical Self-healing of Physically Cross-linked Polymer Hydrogels <i>Grethe Vestergaard Jensen, Lutz Willner, Pavlik Lettinga, Reidar Lund</i>
3:18PM - 3:30PM	H59.00003: In-situ photopolymerization and gelation of ionic liquids <i>Ria Corder, Jason E. Bara, Saad Khan</i>
3:30PM - 3:42PM	H59.00004: Effect of morphology on ion transport in presence of surface conduction pathways, and rheology of model colloidal gels <i>Sanket Kadulkar, Debapriya Banerjee, Fardin Khabaz, Venkatraghavan Ganesan, Thomas M Truskett, Roger T Bonnecaze</i>
3:42PM - 3:54PM	H59.00005: Selectively enhanced diffusion through polymer gels <i>Carl Goodrich, Michael Phillip Brenner, Katharina Ribbeck</i>
3:54PM - 4:06PM	H59.00006: Rheology of aluminosilicate hydrogels <i>Donatien Gomes-Rodrigues, Nicolas Courtois, Jean-Baptiste Champenois, Arnaud Poulesquen</i>
4:06PM - 4:42PM	H59.00007: Rheology of Gels <i>Invited Speaker: James Swan</i>
4:42PM - 4:54PM	H59.00008: Phase behavior of equilibrium linker gels <i>Michael Howard, Ryan Jadrach, Beth Lindquist, Thomas Truskett</i>
4:54PM - 5:06PM	H59.00009: Effect of Surface Stiffness on the Interfacial Dynamics of Dense Microgel Liquids <i>Kehua Lin, Yingxi Elaine Zhu</i>
5:06PM - 5:18PM	H59.00010: Non-equilibrium deformation and relaxation of giant floppy vesicles in a precisely controlled extensional flow <i>Dinesh Kumar, Charles Schroeder</i>
5:18PM - 5:30PM	H59.00011: Dependence of Hydrogel-Glass Energy of Adhesion and Kinetics of Delamination on Hydrogel Concentration <i>Richard Parg, Erin Shelton, John Dutcher</i>

Session H64: Focus Session: Physics of the Cytoskeleton Across Scales III (DBIO GSOFT)

Room: BCEC 259B

Invited Speaker: Rae Robertson-Anderson (2:30 PM)

Tuesday, March 5th, 2019

H

2:30PM– 5:30PM

Tuesday, 5:45 PM – 6:45 PM

DPOLY BUSINESS MEETING

253A

Tuesday, 6:45 PM – 7:45 PM

NSF Question and Answer Session on Polymers

253A

Session K30: Focus Session: Organization and Dynamics of Functional Liquid Crystals, Polymers, and Biological Assemblies II

Sponsoring Units: GSOFD DPOLY DBIO

Chair: Roy Beck, Tel Aviv University

Room: BCEC 162B

8:00AM - 8:36AM	K30.00001: DYNAMIC SELF-ASSEMBLY OF VIRUS CAPSIDS <i>Invited Speaker: Uri Raviv</i>
8:36AM - 8:48AM	K30.00002: Counterion-dependent Dynamics of Nanoconfined Water in Lyotropic Liquid Crystalline Mesophases <i>Mahesh Mahanthappa</i>
8:48AM - 9:00AM	K30.00003: Phase transformations in lipids confined to colloidally stable nanoscale particles <i>Jacob Rueben, Hojun Kim, Cecilia Leal</i>
9:00AM - 9:12AM	K30.00004: Modeling the Properties of Liquid Crystal Electrolytes with Replica Exchange Molecular Dynamics <i>Michael Quevillon, Arsenii Panteleev, Jonathan Whitmer</i>
9:12AM - 9:24AM	K30.00005: Mechanisms to Twist-Bend and Splay-Bend Nematic Phases <i>Nandita Chaturvedi, Randall D Kamien</i>
9:24AM - 9:36AM	K30.00006: Length segregation in mixtures of spherocylinders induced by imposed topological defects <i>Elshad Allahyarov, Hartmut Loewen</i>
9:36AM - 9:48AM	K30.00007: Temperature-induced coordinated transformation of block copolymer micelles on fcc lattices to hcp structures <i>Sangwoo Lee, Liwen Chen</i>
9:48AM - 10:00AM	K30.00008: A mean field approach to determine the statistics of bundles of wormlike chains <i>Greg Morrison</i>
10:00AM - 10:12AM	K30.00009: Configurable Self-Assembly of Block Copolymers at the Liquid-Liquid Interface <i>Felipe Jimenez, Ha-Kyung Kwon, Monica Olvera De La Cruz</i>
10:12AM - 10:24AM	K30.00010: Block and gradient copoly(2-oxazoline) micelles: striking different on the inside <i>Sergey Filippov, Bart Verbraeken, Peter Konarev, Dmitri Svergun, Natalya S. Vishnevetskaya, Christine M. Papadakis, Sarah Rogers, Aurel Radulescu, Timothee Courtin, José C. Martins, Larisa Starovoytova, Potemkin Potemkin, Richard Hooogenboom</i>
10:24AM - 10:36AM	K30.00011: Ionic Phase-segregated Liquid Crystal/Polymer Electrolyte for Lithium-ion Transport <i>Jiacheng Liu, Sunil Upadhyay, Matthew Winkler, Yuting Xia, Jennifer Lyn Schaefer</i>
10:36AM - 10:48AM	K30.00012: Rotational Symmetry Breaking of Complex Polymeric Macromolecules <i>Justin Little, Robijn Bruinsma, Alexander Grosberg</i>
10:48AM - 11:00AM	K30.00013: Scalable Production of Internally-Structured and Surface-Active Polymer Colloids via Flash NanoPrecipitation <i>Victoria Lee, Robert K Prud'homme, Rodney Priestley</i>

Wednesday, March 6th, 2019

K

8:00AM– 11:00AM

Session K36: Invited Session: Recent Progress in Polymer Crystallization

Sponsoring Units: DPOLY

Chair: Toshikazu Miyoshi, The University of Akron

Room: BCEC 205C

8:00AM - 8:36AM	K36.00001: Reaching the structural intimacy of polymer crystals and spherulites. <i>Invited Speaker: Bernard Lotz</i>
8:36AM - 9:12AM	K36.00002: Shape-Symmetry Incommensurate Polymer Crystals <i>Invited Speaker: Christopher Li</i>
9:12AM - 9:48AM	K36.00003: The Role of Entanglements for Polymer Crystallization <i>Invited Speaker: Jens-Uwe Sommer</i>
9:48AM - 10:24AM	K36.00004: In Situ Real-Time Observation of Polymer Folded-Chain Crystallization by Atomic Force Microscopy at the Molecular Level <i>Invited Speaker: Jiro Kumaki</i>
10:24AM - 11:00AM	K36.00005: Crystallization of Precision Polyethylenes <i>Invited Speaker: Rufina Alamo</i>

Session K49: Polymer Networks, Gels, and Elastomers II: Charges & Applications

Sponsoring Units: DPOLY

Chair: Mehdi Zanjani, Miami University

Room: BCEC 252A

- 8:00AM - 8:12AM K49.00001: Impact of Antifoam on Rheological Properties of Polynorborene Membranes for Biobutanol Separation
Siyuan Li, Bryan Vogt
- 8:12AM - 8:24AM K49.00002: The effect of filler distribution in the enhancement of the energy storage in nanocomposites
Elshad Allahyarov, Lei Zhu, Guoqiang Zhang
- 8:24AM - 8:36AM K49.00003: Analyses of hierarchical structures in vulcanized SBR rubber by using contrast variation USANS and SANS
Yuki Watanabe, Mikihito Takenaka, Shotaro Nishitsuji, Satoshi Koizumi, Daisuke Yamaguchi
- 8:36AM - 8:48AM K49.00004: Assignment of the Polymerization Peak in Polystyrene Melt
He Cheng, taisen zuo, guisheng jiao, zehua han, junpeng zhao
- 8:48AM - 9:00AM K49.00005: Dynamics of Belousov Zhabotinsky Reaction Based Systems Via Nonlinear Stability Analyses
Vandana Rajput, Pratyush Dayal
- 9:00AM - 9:12AM K49.00006: Directional Motion of Sodium Polyacrylate Gels Initiated by Ca²⁺-Induced Contraction is coupled to an NaCl Gradient
Susan Kozawa, Loren Kreider, Anita Venkataswamy, Anne Walker, Gary Wnek
- 9:12AM - 9:24AM K49.00007: Multiscale investigation of polyelectrolyte gel-based electronic devices
Vasilii Triandafilidi, Joerg Rottler, Savvas Hatzikiriakos
- 9:24AM - 9:36AM K49.00008: Change in Hierarchical Structure of Segmented Polyurethane Elastomers under Mechanical Deformation
Ken Kojio, Chigusa Nagano, Shiori Masuda, Chao-Hung Cheng, Shuhei Nozaki, Kazutaka Kamitani, Atsushi Takahara
- 9:36AM - 9:48AM K49.00009: Thermal analysis of fully zwitterionic copolymers for safer electrochemical energy storage
Andrew Clark, Morgan E Taylor, Matthew J Panzer, Peggy Cebe
- 9:48AM - 10:00AM K49.00010: DFT studies of the structural, electronic, and electrochemical properties of copolymers containing ferrocene and imidazole
Benjamin Tayo, Eric Mullins
- 10:00AM - 10:12AM K49.00011: Viscoelastic Phase Separation as a Route towards Continuously Processed Organic Solar Cells
Jing He, Dilhan M Kalyon, Stephanie S Lee
- 10:12AM - 10:24AM K49.00012: (Near-) Ambient Pressure XPS for Studying Surface Reconstruction of Hydrated Polymers
Mikayla Barry, Emily C Davidson, Ethan J Crumlin, Rachel Segalman
- 10:24AM - 10:36AM K49.00013: Self-assembly of Functionalized Nanoparticles in Ordered Phases of Block Copolymers
Supriya Gupta, Paresh Chokshi
- 10:36AM - 10:48AM K49.00014: Effect of Synthetic Parameters on Molecular Architecture and Adhesive Performance for Acrylic Emulsion Copolymers
Sipei Zhang, Owen (Wen-Shiue) Young, Melinda Einsla, Josephine Eldredge, Vinita Yadav, Cynthia R. Leslie, Kebede Beshah, Alan Nakatani, Asghar Peera, William Griffith, Sarah R. Zolynski, Himal Ray, Cachae Pearson, Saswati Pujari, Sehban Ozair
- 10:48AM - 11:00AM K49.00015: Dramatic Mechanical Response of Polymer-metal Inclusions Based Metamaterials
RITUPARNA GHOSH, Sourav Das, Abha Misra

Session K50: Focus Session: Organic Electronics I: Organic Photovoltaics and Photophysics

Sponsoring Units: DPOLY DMP

Chair: Elizabeth Von Hauff

Room: BCEC 252B

8:00AM - 8:12AM	K50.00001: Trapped Photons Induced Ultra-high External Quantum Efficiency and Photoresponsivity with Millisecond Response in Hybrid Graphene/Metal-Organic Framework Broadband Wearable Photodetectors <i>KRISHNA PRASAD BERA</i>
8:12AM - 8:24AM	K50.00002: ULTRAFast ENERGY DISSIPATIONS AND QUANTUM EFFICIENCIES OF CONJUGATED POLYMERS BY SEGMENTAL STRESSES <i>Hsuan Lu, Chang Mou Yang, Tzung Min Weng</i>
8:24AM - 8:36AM	K50.00003: Quantum-Entangled Triplet-Triplet Excitons in Acene Dimers and their role in Singlet Fission <i>Souratosh Khan, Sumitendra Mazumdar</i>
8:36AM - 8:48AM	K50.00004: Comparative studies on fluorescent emission of organic semiconductors between optical and electrical pumping <i>Taiki Miura, Thangavel Kanagasakaran, Hidekazu Shimotani, Syun Onuki, Katsumi Tanigaki</i>
8:48AM - 9:00AM	K50.00005: Theoretical Study on Charge-Transfer Excitations of Buckycatcher-Fullerene Complexes <i>Miharu Hayashi, Tomomi Yasoshima, Azusa Muraoka</i>
9:00AM - 9:12AM	K50.00006: The impact of atomic substitution on the photophysics of contorted hexabenzocoronene derivatives <i>Guy Olivier Ngongang Ndjawa, Tia S. Lee, Nicholas Davy, Jeni Sorli, Greg Scholes, Lynn Loo</i>
9:12AM - 9:24AM	K50.00007: Coherence and Electron Transport in Pi-Stacked Acceptor-Donor-Acceptor Molecular Triads <i>Kevin Kohlstedt, Micaela Matta, Thomas Aldrich, Tobin Marks, George C Schatz</i>
9:24AM - 9:36AM	K50.00008: Alloy or Blend: Analysis of a Ternary Organic Photovoltaic <i>Xinjing Huang, Xiao Liu, Kan Ding, Stephen Ross Forrest</i>
9:36AM - 9:48AM	K50.00009: Design of Ethanol/Water Soluble Polymers/Fullerenes for Aqueous Processed Organic Solar Cells and Importance of Water Contents for Enhancement of Processability and Device Performance <i>Seungjin Lee, Changyeon Lee, Youngkwon Kim, Jonnhyeong Choi, Han Young Woo, Bumjoon Kim</i>
9:48AM - 10:24AM	K50.00010: Defective conjugated polymers for organic electronics <i>Invited Speaker: Michael Sommer</i>
10:24AM - 10:36AM	K50.00011: Reduced mixed phase interface causes increased charge transfer state separation in polymer solar cells <i>Thomas Ferron, Matthew C Waldrip, Michael Pope, Brian Collins</i>
10:36AM - 10:48AM	K50.00012: Title: Understanding Quasi-random Nanostructures of the Bulkheterojunctions(BHJ) in Organic Solar Cell Active Layers with Spectral Density Function (SDF) <i>Rabindra Dulal, Umar Farooq Ghumman, Akshay Iyer, Joydeep Munshi, Ganesh Balasubramanian, Wei Chen, TeYu Chien</i>
10:48AM - 11:00AM	K50.00013: Multiscale Modeling of Organic Photovoltaics <i>Thomas Allen, Peter Jacob Rossky</i>

Session K52: Polymer Nanocomposites II: Block Copolymers and More

Sponsoring Units: DPOLY

Chair: Pinar Akcora, Stevens Institute of Technology

Room: BCEC 253B

- 8:00AM - 8:12AM K52.00001: Effect of Interfacial Tethering on Segmental Dynamics in Selectively Deuterated Block Copolymers
Oluwabenga Iyiola, Kuntun Hong, Monojoy Goswami, Piotr Adam Zolnierczuk, Laura Stingaciu, William Thomas Heller, Kyoungmin Kim, Daniel Hallinan
- 8:12AM - 8:24AM K52.00002: Quantum Metamaterials from Block Copolymer Nanocomposites: Synthetic Pathways to Mesostuctured Carbonitride Superconductors
Peter Beauceage, Francis J Di Salvo, Sol Michael Gruner, Ulrich Wiesner
- 8:24AM - 8:36AM K52.00003: In Situ Grazing Transmission Small Angle X-Ray Scattering Study of Supramolecular Nanocomposites
Katherine Evans, Ting Xu
- 8:36AM - 8:48AM K52.00004: Nanoparticle Templating via Block Copolymer Self-Assembly
Deborah Liu, Daniel Krogstad
- 8:48AM - 9:00AM K52.00005: Entropy-driven assembly in multicomponent nanocomposite
Le Ma, Peter Ercius, Ting Xu
- 9:00AM - 9:12AM K52.00006: Electrically Conductive Block Copolymer Nanocomposites for Large-Scale Coating Applications
Junpyo Kwon, Katherine Evans, Robert Oliver Ritchie, Ting Xu
- 9:12AM - 9:24AM K52.00007: The effect of chemical structure on the morphology, ion transport, and modulus of hybrid inorganic-organic diblock copolymer electrolytes
Kevin Gao, Gurmukh Sethi, Saheli Chakraborty, Irune Villaluenga, Nitash Balsara
- 9:24AM - 9:36AM K52.00008: Ionomer Nanocomposites: The Interplay Between Structural Dynamics and Water Transport
Apoorva Balwani, Allison Jansto, Antonio Faraone, Eric Davis
- 9:36AM - 9:48AM K52.00009: Metal Organic Framework assisted ionic conductivity in solid polymer electrolyte for application in lithium-ion battery
Nagma Zerín, Janna Maranas, Xueyi Zhang
- 9:48AM - 10:00AM K52.00010: EFFECT OF FILLER CONTENT ON ENHANCEMENT OF THERMAL CONDUCTIVITY OF ALIGNED POLYMER GRAPHENE NANOCOMPOSITES
Fatema Tarannum, Jivtesh Garg
- 10:00AM - 10:12AM K52.00011: Molecular Simulations of the Motion of Polymer-Tethered Nanoparticles in Unentangled Polymer Melts
Ting Ge, Michael Rubinstein, Gary Grest
- 10:12AM - 10:24AM K52.00012: Impact of hydrogen bonding interactions on graft-matrix wetting and structure in polymer nanocomposites
Arjita Kulshreshtha, Arthi Jayaraman
- 10:24AM - 10:36AM K52.00013: Influence of Nanoparticle Surface Chemistry on Properties of Iron Oxide–Poly(ethylene oxide) Nanocomposites
Donovan Weiblen, Grace Gionta, Deniz Rende, Pinar Akcora, Rahmi Ozisik
- 10:36AM - 10:48AM K52.00014: Functional polymer nanocomposites : structural issues in relation to the piezoelectric response
Sophie Barrau, Adeline Marin, Juliette Defebvin, Joël Lyskawa, Patrice Woisel, Jean-Marc Lefebvre, Anthony Ferri, Antonio Da Costa, Rachel Desfeux
- 10:48AM - 11:00AM K52.00015: Optical Properties of Plasmonic Nanoparticles Polymer Nanocomposites
Assad Ullah Khan, Yichen Guo, Xi Chen, Guoliang Liu

Session K53: Invited Session: Fracture and Adhesion of Soft Materials

Sponsoring Units: GSOFD DPOLY

Chair: Julien Chopin

Room: BCEC 253C

8:00AM - 8:36AM	K53.00001: The Topology and Mechanics of the Formation of Fracture Surface Patterns <i>Invited Speaker: Jay Fineberg</i>
8:36AM - 9:12AM	K53.00002: Topological adhesion <i>Invited Speaker: Zhigang Suo</i>
9:12AM - 9:48AM	K53.00003: Fracture mechanics of self-healing hydrogels <i>Invited Speaker: Chung Yuen Hui</i>
9:48AM - 10:24AM	K53.00004: Active superelasticity in three-dimensional epithelia of controlled shape <i>Invited Speaker: Xavier Trepap</i>
10:24AM - 11:00AM	K53.00005: Towards a Unified Model of Soft Adhesives <i>Invited Speaker: Matteo Ciccotti</i>

Session K54: Focus Session: Confined Polymer Glasses II: Dynamics, Surface Effects, and Architecture

Sponsoring Units: DPOLY GSOFT GSNP

Chair: George Floudas, University of Ioannina

Room: BCEC 254A

8:00AM - 8:12AM	<p>K54.00001: β-NMR Studies of the Depth Dependence of Secondary Relaxations in Polystyrene Thin Films</p> <p><i>Iain McKenzie, Yu Chai, David Cortie, James Forrest, Derek Fujimoto, Victoria Karner, Robert F Kiefl, CDP Levy, W Andrew MacFarlane, Ryan McFadden, Gerald D Morris, Matthew Pearson, Adam Raegen, Shipei Zhu</i></p>
8:12AM - 8:24AM	<p>K54.00002: Reducing the Tg-Confinement Effect in Polystyrene Films by Use of Carbon Substrates and Changing the Direction of the Effect in Polystyrene-Carbon Model Nanocomposites</p> <p><i>John Torkelson, Lawrence Chen</i></p>
8:24AM - 8:36AM	<p>K54.00003: Polymer dynamics under 2D nanometer confinement</p> <p><i>George Floudas, Christos Politidis, Stelios Alexandris, Martin Steinhart</i></p>
8:36AM - 9:12AM	<p>K54.00004: Irreversible adsorption: new insights on molecular mobility, thermodynamics and interfacial interactions</p> <p><i>Invited Speaker: Simone Napolitano</i></p>
9:12AM - 9:24AM	<p>K54.00005: Confinement Effects on Dye Translational Diffusivity in Polystyrene Thin Films Depend on Polymer Molecular Weight: Connection to Fragility-Confinement Effects</p> <p><i>Tong Wei, Tian Lan, John Torkelson</i></p>
9:24AM - 9:36AM	<p>K54.00006: Comparing Refractive Index and Density Changes with Decreasing Film Thickness in Thin Supported Films Across Different Polymers</p> <p><i>Yixuan Han, Connie Roth</i></p>
9:36AM - 9:48AM	<p>K54.00007: Prediction of the Structural Relaxation Time from Vibrational Dynamics in Thin Films</p> <p><i>Andrea Giuntoli, Matteo Becchi, Dino Leporini</i></p>
9:48AM - 10:00AM	<p>K54.00008: How does star polymer architecture affect dynamical heterogeneity?</p> <p><i>Jinpeng Fan, Hamed Emamy, Alexandros Chremos, Jack Douglas, Francis Starr</i></p>
10:00AM - 10:12AM	<p>K54.00009: How does polymer architecture affect the fragility of ultra-thin films?</p> <p><i>Amber Storey, Wengang Zhang, Jack Douglas, Francis Starr</i></p>
10:12AM - 10:24AM	<p>K54.00010: Structure and Dynamics of Bio-Based Polymers in the Bulk and under Confinement</p> <p><i>Kyriakh Chrissopoulou, Krystalenia Androulaki, Spiros Anastasiadis, Massimiliano Labardi</i></p>
10:24AM - 10:36AM	<p>K54.00011: The Role of Architecture on the Structure of Irreversibly Adsorbed Polymer Layers</p> <p><i>Makbule Gizem Kirevliyasi, Sumeyye Ozer, Ayse Caglayan, David Uhrig, Bulent Akgun</i></p>
10:36AM - 10:48AM	<p>K54.00012: Direct observation of chain morphology of deoxyribonucleic acid adsorbed on a solid interface</p> <p><i>Yuma Morimitsu, Hisao Matsuno, Keiji Tanaka</i></p>
10:48AM - 11:00AM	<p>K54.00013: Phase transition of physically confined 2-decanol: effect of bulk</p> <p><i>Jason L Turner, Caleb Novins, Alexander Clain, Samuel Amanuel</i></p>

Session K55: Focus Session: Advancing Polymer and Biopolymer Physics through Simulation and Theory III

Sponsoring Units: DPOLY DCOMP DBIO GSNP

Chair: Frederick Phelan Jr., National Institute of Standards and Technology

Room: BCEC 254B

8:00AM - 8:12AM	K55.00001: Monte Carlo Modelling of Phase Separation in Polymer Blends That Contain Branched Molecules <i>Emma Wood, Nigel Clarke</i>
8:12AM - 8:24AM	K55.00002: Interface repulsion and arrest of coarsening in thin films of homopolymer blends due to thermal oscillations <i>Marcus Mueller, Louis Pigard</i>
8:24AM - 8:36AM	K55.00003: The application of Renormalization Group Theory to polymers <i>Anna Sinelnikova, Maxim Ulybyshev, Antti J Niemi</i>
8:36AM - 8:48AM	K55.00004: Coarse-grained Modeling for Polymer Solutions via the Mori-Zwanzig formalism <i>Shu Wang, Wenxiao Pan</i>
8:48AM - 9:00AM	K55.00005: Simulating Diblock Copolymer Micelles in Binary Explicit Solvents <i>Dong Meng, Jing Zong</i>
9:00AM - 9:12AM	K55.00006: Assessment of an Anisotropic Coarse-Grained Model for Cis-Polybutadiene Obtained by a Bottom-up Approach <i>Ioannis Tanis, Claire Lemarchand, Rousseau Bernard, Laurent Soulard</i>
9:12AM - 9:48AM	K55.00007: New Insights into the Glass Transition from Computational Prediction and Evolutionary Design <i>Invited Speaker: David Simmons</i>
9:48AM - 10:00AM	K55.00008: Thermodynamics and kinetics of diblock copolymer micelles: chain architecture effect <i>Prhashanna Ammu, Elena Dormidontova</i>
10:00AM - 10:12AM	K55.00009: Simulation of Free Surface of Block Copolymers <i>Daniil Bochkov, Gaddiel Ouaknin, Frederic Gibou</i>
10:12AM - 10:24AM	K55.00010: Systematic and Many-Chain-Simulation-Free Coarse Graining of Polymer Melts: Structure-based Coarse Graining of the Kremer-Grest Model <i>Yan Wang, Qiang Wang</i>
10:24AM - 10:36AM	K55.00011: Extensional Rheology of Neat and Contaminated Ring Polymer Melts <i>Thomas O'Connor, Ting Ge, Michael Rubinstein, Gary Grest</i>
10:36AM - 10:48AM	K55.00012: Stress Relaxation in Highly Oriented Melts of Entangled Polymers <i>Austin Hopkins, Thomas O'Connor, Mark Owen Robbins</i>
10:48AM - 11:00AM	K55.00013: Plasticizing polymers with small-molecule additives: a not so simple picture revealed by a simple molecular model <i>Kushal Panchal, Oluseye Adeyemi, Roozbeh Mafi, Li Xi</i>

Session K57: Focus Session: The Extreme Mechanics of Balloons

Sponsoring Units: GSNP DPOLY GSOFIT

Chair: PT Brun

Room: BCEC 256

8:00AM - 8:36AM	K57.00001: The Extreme Mechanics of Balloons: From Interfacial Films to Inflated Membranes and Back <i>Invited Speaker: Joseph D Paulsen</i>
8:36AM - 8:48AM	K57.00002: Mechanics of interconnected balloon networks <i>Matjaz Cebron, Miha Brojan, Andrej Kosmrlj</i>
8:48AM - 9:00AM	K57.00003: Beyond the smectic order: splay and amplitude modulations in wrinkle patterns <i>Oleh Tovkach, Benjamin Davidovitch</i>
9:00AM - 9:12AM	K57.00004: Self-similar retraction of a shot rubber-band <i>Alexandros Oratis, James C Bird</i>
9:12AM - 9:24AM	K57.00005: All-in-One Design of Soft Machines <i>Trevor Jones, Joel Marthelot, PT Brun</i>
9:24AM - 9:36AM	K57.00006: Inflatable origami-inspired structures <i>David Melancon, Chuck Hoberman, Benjamin Gorissen, Carlos Garcia Mora, Yunfang Yang, Jason Ku, Erik Demaine, Katia Bertoldi</i>
9:36AM - 9:48AM	K57.00007: Buckling of inflatable pouch seams <i>James Hanna, Hee Doo Yang, Alan Asbeck</i>
9:48AM - 10:00AM	K57.00008: Stress Focusing in Inflated Membranes: Threshold and Morphology <i>Raj De, Yousra Timounay, Jessica L Stelzel, Joseph D Paulsen</i>
10:00AM - 10:12AM	K57.00009: From flat sheet to cone without cutting: the wrinkled cone <i>Doireann O'Kiely, Joseph Blanc, Finn Box, Dominic Vella</i>
10:12AM - 10:24AM	K57.00010: Inflating and programming flat inextensible curvilinear paths <i>Emmanuel Siefert, Etienne Reyssat, Jose Bico, Benoit Roman</i>
10:24AM - 10:36AM	K57.00011: Dragonfly-inspired deployable structures: how to inflate and stay flat? <i>Joel Marthelot, Thomas Dupuis, Pierre-Thomas Brun</i>
10:36AM - 10:48AM	K57.00012: Sub-millimeter air-filled toroidal bubbles featuring easily reversible and rapid shape change. <i>Paul Russo, Xujun Zhang, Andrew Gorman, Peter Yunker, Saad Bhamla, H. Qi</i>
10:48AM - 11:00AM	K57.00013: Control of adhesion through geometrical enhancements <i>Nicolas Gaillard, Michal Budzik, Marcelo Azevedo Dias</i>

Session K65: Phase Separation in Biological Systems

Sponsoring Units: DBIO DPOLY GSNP GSOFT

Chair: Jean-Charles Walter

Room: BCEC 260

8:00AM - 8:12AM	K65.00001: Permeation of small molecules in phase separated lipid bilayer domains <i>Martin Girard, Tristan Bereau</i>
8:12AM - 8:24AM	K65.00002: Aggregation of cells dispersed in packed microgels <i>Cameron Morley, Katherine Kiwimagi, Jesse Tordoff, Ron Weiss, Thomas Angelini</i>
8:24AM - 8:36AM	K65.00003: Evolutionary analysis of pollen patterns as a curious consequence of modulated phases <i>Asja Radja, Maxim O Lavrentovich, Alison Sweeney</i>
8:36AM - 8:48AM	K65.00004: Spatial control of irreversible protein aggregation <i>Christoph Weber, Thomas Michaels, L Mahadevan</i>
8:48AM - 9:00AM	K65.00005: Density and viscosity measurements on the liquid condensates of FUS protein low-complexity domain <i>Chao Ji, Eric Girardi, Nicholas Fawzi, Jay Tang</i>
9:00AM - 9:12AM	K65.00006: Multicomponent Equilibrium Model for the Effects of Charge Regulation on Liquid-liquid Phase Separation of a Globular Eye Lens Protein <i>George M Thurston, John F Hamilton, David Ross, Aaron Fadden, Christopher W Wahle, Lea Vacca Michel, Julia Faraone, Symeon Bushunow</i>
9:12AM - 9:24AM	K65.00007: Mediator and RNA polymerase II forms phase-separated bodies and colocalizes with centrosomes during mitosis. <i>Choongman Lee, Won-Ki Cho, Jan-Hendrik Spille, Ibrahim Cisse</i>
9:24AM - 9:36AM	K65.00008: Liquid-like protein condensates are glassy <i>Louise Jawerth, Elisabeth Fischer-Friedrich, Anthony Hyman, Frank Julicher</i>
9:36AM - 9:48AM	K65.00009: Effective long range interactions generated by polymer fluctuations induce bound particle phase separation <i>Gabriel David, Jean-Charles Walter, Chase Broedersz, Jérôme Dornignac, Frédéric Geniet, Andrea Parmeggiani, Nils-Ole Walliser, John Palmeri</i>
9:48AM - 10:00AM	K65.00010: Motif Sequences and the Statistical Physics of Intracellular Phase Separation <i>Benjamin Weiner, Yigal Meir, Ned Wingreen</i>
10:00AM - 10:12AM	K65.00011: Phase separation and migration in 2D cell co-cultures <i>Manuel Gomez-Bera, Supravat Dey, Moumita Das</i>
10:12AM - 10:24AM	K65.00012: In vivo dynamics and phase state of natural lipid droplets <i>Margarita Fomina, Eugene Mamontov, Hugh O'Neill</i>
10:24AM - 10:36AM	K65.00013: Optimal segregation of proteins: phase transitions and symmetry breaking <i>Jie Lin, Jiseon Min, Ariel Amir</i>
10:36AM - 10:48AM	K65.00014: The role of motility in Myxococcus xanthus droplet formation and droplet geometries <i>Cassidy Yang, Katherine Copenhagen, Joshua Shaevitz</i>
10:48AM - 11:00AM	K65.00015: Mechanical Interplay of Chromatin and Liquid-Liquid Phase Separated Condensates <i>Daniel Lee, Yi-Che Chang, Yongdae Shin, David Sanders, Dan Bracha, Pierre Ronceray, Ned Wingreen, Cliff Brangwynne</i>

Session K58: Disordered and Glassy Systems I (GSOFT)

Room: BCEC 257A

Session L70: Poster Session II

Room: BCEC Exhibit Hall A

L70.00001: POLYMER PHYSICS

L70.00002: POSTER WITHDRAWN

L70.00003: A new concept of electrodes for ambipolar carrier injection in organic semiconductors

Katsumi Tanigaki, Thangavel Kanagasakaran, Syun Onuki, Taiki Miura, Hidekazu Shimotani

L70.00004: Water-Mediated Mixed Ionic-Electronic Conduction in Polythiophene-Derived Polyelectrolytes

Garrett Grocke, Ban Dong, Shrayesh Patel

L70.00005: Charge transport and structural properties of functionally graded conjugated polymer thin films for organic thermoelectrics

Tengzhou Ma, Mark DiTusa, Ban Dong, Garrett Grocke, Shrayesh Patel

L70.00006: Mechanism of charge transfer in polymer/fullerene-free type organic solar cell

Nozomi Ohta, Azusa Muraoka, Koichi Yamashita

L70.00007: Excimontec: An Open-Source Software Tool for Kinetic Monte Carlo Simulations of Organic Electronic Devices

Michael Heiber

L70.00008: Variable Resolution Coarse-Graining of Ion-Coupled Electron Transport in Electrochemically Active Polymers

Brett Savoie

L70.00009: Absorption enhancement in evanescently-coupled waveguides

Shamir Maldonado-Rivera

L70.00010: Optical Super-Resolution Imaging of Block Copolymer Thin Film Surface Morphology Using Fluorescent Silica Nanoparticles

Joshua Hinckley, Dana Chapman, Ulrich Wiesner

L70.00011: Ion transport properties of block copolymer electrolytes comprising mixed ionic liquids.

Jaemin Jeon, Moon Jeong Park

L70.00012: Nanofabrication for Probing Ionic Conductivity Mechanisms in Thin-Film Polymer Electrolytes

Veronica Burnett, Paul F Nealey, Shrayesh Patel

L70.00013: Ion Transport in Polymer Blend Electrolytes

Bill Wheatle, Venkatraghavan Ganesan

L70.00014: Simultaneous Transient Gel Behavior and Multivalent Ionic Mobility in Polymeric Ionic Liquid-Ligand Gels

Seamus Jones, Nicole Michenfelder-Schauser, Glenn Fredrickson, Rachel Segalman

L70.00015: Mechanism of pattern formation in polymer ionic liquid blends under the influence of an electric field

Vandana Rajput, Anubha Agrawal, Pratyush Dayal

L70.00016: Polymerized mesophases of triblock copolymer/ionic liquid/monomer for gel electrolytes

Alireza Bandegi, Jose L Banuelos, Reza Foudazi

L70.00017: Ionic Conductivity in Telechelic Polyethylenes Oligomers from Fatty Acids

Lu Yan, Maneul Häußler, Stefan Mecking, Karen Winey

L70.00018: Ion transport and aggregate morphology in precise sulfophenylated polyethylene ionomers

Benjamin Paren, Lionel Picard, Patrice Rannou, Manuel Marechal, William Neary, Aaron Kendrick, Justin G Kennemur, Amalie Frischknecht, Karen Winey

L70.00019: Multiscale structure and dynamics in copolymers of polymerized ionic liquids

Jonathan P Coote, Joshua Sangoro, Gila E Stein

L70.00020: Phase behavior of polymerized ionic liquid mixtures in a non-aqueous solvent

Minjung Lee, Ryan Hayward

L70.00021: Effect of pH on structure of charged nanoparticles in oppositely charged polyelectrolyte solutions

Rituparna Samanta, Venkatraghavan Ganesan

L70.00022: pH DEPENDENT RHEOLOGY OF HYDROPHOBICALLY MODIFIED ALKALI SOLUBLE EMULSION (HASE) POLYMERS

Alan Nakatani, Lyndsay Leal, Nikhil Fernandes, Kathleen Michels, Jennifer M Koenig, Catheryn Jackson

L70.00023: Interparticle Interaction between Functionalized Clay Nanosheets Dispersed in Polymer Matrix

Supriya Gupta, Paresh Chokshi

L70.00024: Novel Properties of Mesostructured Superconductors Synthesized via Block Copolymer Self Assembled Nanocomposites

Randal Thedford, Sol Michael Gruner, Ulrich Wiesner

L70.00025: In-Situ Monitoring Polymer-graft Functionalization on Gold Nanoparticles and Influences on Assembly Formation

Yiwen Qian, Ting Xu

L70.00026: Fabrication of polymer-brush modified Ba-Ti oxide/poly(vinylidene fluoride) nanocomposites thin film

Maiko Nishibori, Kohei Nosue, Ayumi Hamada, Yuko Konishi, Atsushi Takahara

L70.00027: Morphological behavior of ABC mikto-arm terpolymer with a C60

Hyeyoung Kim, Matthias ML Arras, Sergey Chernyy, Duk Man Yu, Gregory S Smith, Thomas Russell

L70.00028: Desorption of Water Collected on Hygroscopic Polymer Nanofibers

Zhihao Shang, D Reneker

L70.00029: A Colloidal Model to describe the effects of mixing time on filler dispersion in industrial nanocomposites

Vishak Narayanan, Kabir Rishi, Greg Beaucage, Vikram K Kuppa, Alex McGlasson, Michael Chauby

L70.00030: Entropy driven assembly in multicomponent nanocomposite

Le Ma, Peter Ercius, Ting Xu

L70.00031: Nafion Nanocomposite Fuel Cell Membranes for Improved High Temperature Performance

Donovan Weiblen, Krista Biggs, Alianna Maguire, Deniz Rende, Rahmi Ozisik

L70.00032: Growth and Bulk Effects of Irreversibly Adsorbed Layers in Polymer Nanocomposites

Katelyn Randazzo, Rodney Priestley

L70.00033: Biomimetic Nanocoatings with Exceptional Mechanical, Barrier, and Flame Retardant Properties from Large Scale One-Step Co-assembly

Fuchuan Ding, Jingjing Liu, Luyi Sun

L70.00034: One Component Silver-Polystyrene Nanocomposites: The Interplay of Thermoplasmonics and Elastic Mechanical Properties

David Saleta Reig, Patrick Hummel, Zuyuan Wang, Sabine Rosenfeldt, Bart Graczykowski, Markus Retsch, George Fytas

L70.00035: Coassembly of binary nanoparticle systems

Jiuling Wang, Brian Lee, Gaurav Arya

L70.00036: Hybrid computer simulations of block copolymer/nanoparticle systems

Marco Pinna, Javier Diaz, Ignacio Pagonabarraga, Andrei Zvelindovsky

L70.00037: Influence of PVAc/PMMA/Silica Nanocomposite Structure on Properties

Chen Gong, Deniz Rende, Rahmi Ozisik

L70.00038: "Energy dissipation of elastomer nanocomposites at large strains and high strain-rates."

Keith Duso, Alfred Crosby

L70.00039: Nanoparticle Diffusion in Athermal And Attractive Entangled Polymer Melts

Eric Bailey, Russell John Composto, Karen Winey

L70.00040: The Study of Mechanical Property of Block Copolymer Composites Tuned by Nanoscale Polymeric Morphology and Nanoparticles

Junpyo Kwon, Robert Oliver Ritchie, Ting Xu

L70.00041: Elucidating Synthetic Pathways in the Synthesis of Block Copolymer Self-Assembly Derived Mesostructured Nitrides with in situ Multimodal Synchrotron Characterization

Peter Beaucage, Francis J Di Salvo, Sol Michael Gruner, Ulrich Wiesner

L70.00042: Probing the Morphology of Hydrocarbon-Based Anion-Exchange Membranes via Scattering and Computational Methods

Eric Schibli, Barbara J Frisken, Steven Holdcroft

L70.00043: Investigation of microdomain deformation of thermoplastic elastomer based on in situ synchrotron radiation X-ray scattering

Nattanee Dechnarong, Kazutaka Kamitani, Chao-Hung Cheng, Shiori Masuda, Shuhei Nozaki, Chigusa Nagano, Nobuhisa Takayama, Ken Kojio, Atsushi Takahara

L70.00044: Quantification of Nanocomposite Dispersion for Weakly Correlated Systems

Alex McGlasson, Greg Beaucage, Michael Chauby, Kabir Rishi, Vikram K Kuppa

L70.00045: Electrospun fiber deposition using the gap method alters fiber moduli

Christine Helms, Mimi Tran, Garrett Lang, nicole bialick

L70.00046: Evolution of CTAB/NaSal Micelles: Structural Analysis by SANS

Christopher Lam, Wei-Ren Chen, Changwoo Do

L70.00047: Thermodynamic stability of worm-like micelle solutions and the corresponding ion behavior
Karsten Vogtt, Hanqiu Jiang, Greg Beaucage

L70.00048: Classes of radial wrinkle patterns in capillary wrinkling
Jooyoung Chang, Narayanan Menon, Thomas Russell

L70.00049: Influence of Side Chain Isomerism on the Conformation of Poly(3-alkylthiophenes) in Solutions Revealed by Neutron Scattering
Kunlun Hong, Yangyang Wang, Changwoo Do, Christopher Lam, Wei-Ren Chen

L70.00050: Relaxation behavior of biodegradable aliphatic-aromatic block copolymers as revealed by dielectric spectroscopy
I. Irska, A. Linares, A. Nogales, E. Piesowicz, S. Paszkiewicz, Z. Roslaniec, Tiberio Ezquerra

L70.00051: Polymer Dynamics in Poly(styrene-isoprene-2-vinylpyridine) miktoarm terpolymers
Thomas Kinsey, Emmanuel Mapesa, Kunlun Hong, Joshua Sangoro

L70.00052: Low frequency complex dielectric response of dilute clay suspensions
Ling Feng, Chang-Yu Hou, Nikita Seleznev, Denise Freed

L70.00053: Entanglement Effect on Mechanical Properties in Ultra-thin Glassy Polymer Films
Cynthia Bukowski, Reed Bay, Alfred Crosby

L70.00054: Effect of Topological Constraints on the Glass Transition Behaviors of Polyrotaxanes
Kazuaki Kato, Akihiro Ohara, Hideaki Yokoyama, Kohzo Ito

L70.00055: Alternation of thin film morphology with monomer modifications
Qiming He, Dean Mastropietro, Wei Chen, Matthew Tirrell

L70.00056: Self-assembled Copolymer Adsorption Layer-Induced Block Copolymer Nanostructures in Thin Films
Dong Hyup Kim, So Youn Y Kim

L70.00057: Morphological Evolution of Poly(solketal methacrylate)-block-polystyrene in Thin Films
Duk Man Yu, Darren Smith, Hyeyoung Kim, Jose Kenneth D. Mapas, Javid Rzayev, Thomas Russell

L70.00058: Highly Ordered, Complex Morphologies in Block Copolymer Films Obtained by Spatial Confinement Using Topographical Substrates
Elisheva Michman, Roland Stenger, Marcel Langenberg, Marcus Mueller, Roy Shenhar

L70.00059: Quasi-Two-Dimensional Assembly of Bottlebrush Block Copolymers with Nanoparticles in Ultrathin Films: Combined Effect of Graft Asymmetry and Nanoparticle Size
Yaron Aviv, Esra Altay esraalta@buffalo.edu, Lea Fink, Uri Raviv, Javid Rzayev, Roy Shenhar

L70.00060: Kinetic Pathway Dependent Supramolecular Nanocomposite Assembly on Patterned Substrates
Katherine Evans, Ting Xu

L70.00061: Protein-Polymer Block Copolymer Thin Films for Detection of Small Proteins in Biological Matrices via Size-Exclusion
Justin Paloni, Bradley David Olsen

L70.00062: Interfacial Interaction Effects on Phase Transition Behavior of Block Copolymer Thin Films
Yeongsik Kim, Daeseong Yong, Hyungju ahn, Jaeup Kim, Du Yeol Ryu

L70.00063: Top Coats: Control of Orientation, Alignment and Morphologies of Sub-10 nm Block Copolymer Microdomains

Eunjin Kim, Eunkyong Yoon, In Hyu Ryu, Jinwoo Oh, Jeong Gon Son

L70.00064: Thin Films of Block Copolymer-Based Supramolecules with Feature Size Over 50 nm

Katherine Evans, Emma Vargo, Ting Xu

L70.00065: A facile route to calculate the effective volume fractions in block copolymers during solvent vapor annealing

Saeed Behzadinasab, Julie Albert

L70.00066: Influence of salt additives on unconfined melt electrospinning of thermoplastics

Neelam Sheoran, Brenton Boland, Elnaz Shabani, Russell E Gorga, Jason Bochinski, Laura Clarke

L70.00067: Reactive Processing of 3D Printed ABS Structures Formed by Fused Deposition Modeling to Reduce Structural Anisotropy

Kaizhong Guan, Mark Dadmun

L70.00068: Droplet-Jet Shape Parameters Predict Electrospun Polymer Nanofiber Diameter

Suqi Liu, D Reneker

L70.00069: 3D printing of extensible, strain-sensitive conductive traces using coiling instabilities of a viscoelastic ink

Crystal Owens, Gareth McKinley, John Hart

L70.00070: Solvent Effects on the Crystallization Order and Morphology in PEO-b-PCL Copolymers

Ryan Van Horn, Cole Tower, Natasha Brigham, Kristi M Allen, Allison Carandang

L70.00071: Morphology and crystallization kinetics of poly(ethylene brassylate)

Daokun Song, Rufina G Alamo, Irma Flores, Alejandro J Müller

L70.00072: Tunable Liquid Crystallinity of Graphene Oxide by Polymer Crystallization

SOHJIN MUN, So Youn Kim

L70.00073: Controlling of Chain-Level Structure of Polymer via Freeze-Drying

Toshikazu Miyoshi

L70.00074: Liquids That Freeze When Mixed: Co-Crystallization and Liquid-Liquid Equilibrium in Polyoxacyclobutane-Water Mixtures

Joyita Bannerjee, Peter Koronaios, Eric Beckman, Robert Enick, John Keith, Sachin Velankar

L70.00075: Crystallization behavior, morphology and mechanical properties of copolymers of syndiotactic polypropylene with branched monomers

Claudio De Rosa, Miriam Scoti, Finizia Auriemma

L70.00076: Fractionated and confined crystallization of polybutene-1 in immiscible polypropylene/polybutene-1 blends

Chenguang Liu, Yao Xu, Huarong Nie, Aihua He

L70.00077: Crystallization of trans-1,4-polyisoprene

Huarong Nie, Xiao Han, Aihua He, Huicheng Ren

L70.00078: Thermodynamic Concepts of the First-Order Prefreezing

Oleksandr Dolynchuk, Muhammad Tariq, Thomas Thurn-Albrecht

L70.00079: In Situ Electron Microscopy of Polyethylene Glycol Crystallizing in an Ionic Liquid

Satyam Srivastava, Alexander Ribbe, Thomas Russell, David Hoagland

L70.00080: Investigation of Electron Density Mapping of Crystal Structure of Linear Polymers Using Maximum Entropy Method and X-ray Powder Diffraction Data

Sono SASAKI, Junki Yamamoto, Miho Nagao, Kenichi Kato, Masaki TAKATA, Shinichi SAKURAI, Kosei Noso (Male, M1 student)

L70.00081: Gelatinization and Gelation Process of Japanese sweets -Warabi-mochi-

Akane Nagasaki, Go Matsuba

L70.00082: Mesoscale Simulations for Micellization of Diblock Copolymers

Chu-yun Huang, Ming-Tsung Lee, Hsiu-Yu Yu

L70.00083: Anti-biofouling polymer surfaces by a top-down approach

Zhixing Huang, Daniel Salatto, Weiyi Li, Leio Koga, Yizhi Meng, Maya Endoh, Tadanori Koga

L70.00084: Knot untying in elongational fields

Beatrice Soh, Alexander Klotz, Patrick Doyle

L70.00085: Polymer Diffusion Under Cylindrical Confinement

James Pressly, Robert Riggelman, Karen Winey

L70.00086: Theoretical Study of Polymer-Grafted Nanoparticle Translocation

Gabriela T Justino, Michael Hore

L70.00087: Prediction of Stable Morphology of Block Copolymers by using SCF Calculation and Deep Learning

Takeshi Aoyagi, Sadato Yamanaka

L70.00088: Evaluation of Accelerated Aging of Cross-Linked Polyethylene Pipes by Applying Machine Learning Concepts to Infrared Spectra

Melanie Hiles, Michael Grossutti, John Dutcher

L70.00089: Mobile Doubly Grafted Polymers and their Interaction

Min Chu, Dieter Heermann

L70.00090: Non-monotonicity in the knotting probability of semiflexible rings: numerical and analytical prediction

Erica Uehara, Lucia Coronel, Cristian Micheletti, Tetsuo Deguchi

L70.00091: Dynamics of Biodegradation

Ryan Sayko, Zilu Wang, Matthew Becker, Andrey Dobrynin

L70.00092: A Computational Method for Inverse Design Problem in Directed Self-Assembly of Block Copolymers

Daniil Bochkov, Frederic Gibou

L70.00093: Coarse-Grained Simulations to Understand the Effect of Grafting on Methylcellulose

Vaidyanathan Sethuraman, Kevin Dorfman

L70.00094: A Coarse-Grain Model for Efficient Simulation of Self-Assembling Amyloidogenic Peptide Systems
Murray Skolnick, Robert Riggelman, Zahra Fakhraai

L70.00095: A Model for Hyaluronan Secretion into Biological Fluids
Jan Scrimgeour

L70.00096: Predicting the linear stress and dielectric relaxations of polydisperse linear polymers
Daniel Read, Chinmay Das

L70.00097: Impact of divalent ions on the rheology and aggregation of semidilute polyelectrolyte solutions
Carlos Lopez, Walter Richtering

L70.00098: Viscoelastic Relaxation Behavior of Polyelectrolyte Complexes from Coacervate to Precipitate
Samim Ali, Anand Rahalkar, Juan De Pablo, Vivek Prabhu

L70.00099: Free Surface Flows and Extensional Rheology of Polymer Solutions
Jelena Dinic, Leidy Nallely Jimenez, Vivek Sharma

L70.00100: Electronically excited states in p/p stacking compounds
Ayaka Terauchi, Atsune Mitsui, Azusa Muraoka

L70.00101: Deformation of Hybrid Networks
Michael Jacobs, Heyi Liang, Andrey Dobrynin

L70.00102: Comparison of Mullins Effect between Tough Double Network Hydrogels and Filled Elastomers under Various Types of Deformation
Thanh-Tam Mai, Takahiro Matsuda, Tasuku Nakajima, Jian Ping Gong, Yoshihiro Morishita, Kenji Urayama

L70.00103: Effect of miscibility on shape memory characteristics of Polymer Blends
Surbhi Khewle, Pratyush Dayal

L70.00104: Ion Specific, Odd-Even Glass Transition Temperatures in Precise Network Polymerized Ionic Liquids
Christopher Evans, Chengtian Shen, Qiuji Zhao

L70.00105: Efficient Shockwave Energy Dissipation in Dynamic Covalent PDMS Rubber
Christopher Evans, Jaejun Lee, Brian Jing, Laura E Porath, Nancy Sottos

L70.00106: Approaches to Modification of Maleic Anhydride Copolymers with Applications to Antifouling and Water Purification
Steven Zboray, Kirill Efimenko, Jan Genzer

L70.00107: Elastocapillary-driven Deposition of Liquid Drops in Polymer Gels
Hongbo Fu, Christopher Barney, XUDONG LIANG, Alfred Crosby

L70.00108: Finite element modelling of polymer gels that exhibit temperature induced volume phase transitions
Priyanka Nemani, Ravi Sastri Ayyagari, Pratyush Dayal

L70.00109: Diffusion of Gold Nanoparticles in Entangled Poly (vinyl alcohol) Solutions and Gels.
Kavindya Senanayake, Ashis Mukhopadhyay

L70.00110: Computational investigation of cavitation phenomena in physically assembled gels

Satish Mishra, Thomas E. Lacy, Jr, Santanu Kundu

L70.00111: Polyethylene Cross-link Density Effects on Crystallization and Shape Memory Performance

Dean Penner, Chesterton B Schuchardt, Audrey T Young, David D Hsu

L70.00112: Bioinspired Fast Motion of an Elastomer Bilayer Beam

Michelle Gee, Justin Glover, Jonathan Pham

L70.00113: Water Dynamics in Poly(N-isopropyl acrylamide) Solutions at Ambient and High Pressure Probed with Quasi-elastic Neutron Scattering

Bart-Jan Niebuur, Wiebke Lohstroh, Marie-Sousai Appavou, Alfons Schulte, Christine M. Papadakis

L70.00114: Biomimetic wet-applicable adhesive as a stiffness-tunable binding interface for on-skin sensors and self-locking actuators

Song Chen, Songshan Zeng, Lan Liu, Luyi Sun

L70.00115: Spinodal Decomposition-Induced Surface Wettability Modification of Thermo-Responsive Nanoemulsion Films

HYEMIN SEO, Jin Woong Kim

L70.00116: Towards Optimizing Synthesis Temperature for Microgels with Large Degree of Deswelling

Kiril Strelitzky, Krista G Freeman, Jacob Adamczyk

L70.00117: Effect of Elasticity, Viscosity, External Dissipation and Structures on Impulsive Elastic Energy Release in Polymers

XUDONG LIANG, Alfred Crosby

L70.00118: Microballistic Deformation Behavior of Carbon Nanotube Mats

Wale Lawal, Jinho Hyon, Ramathasan Thevamaran, Edwin Thomas

L70.00119: Slicing of soft materials

Steven Rhodes, Eric Weeks

L70.00120: Optimizing random heteropolymers to improve protein folding in cell-free synthesis

Zhiyuan Ruan, Tao Jiang, Ting Xu

L70.00121: Thickness-dependent elastic modulus of spin-coated PDMS films

Pak Man Yiu, Hailin Yuan, Ophelia Tsui

L70.00122: Force Balance at Contact Lines of Soft Substrates

Heyi Liang, Zhen Cao, Zilu Wang, Andrey Dobrynin

L70.00123: Effects of force on facilitated protein dissociation

Jing Zhao, Katelyn Dahlke, Charles E. Sing

L70.00124: Melt-Electrospinning of Poly(ether ether ketone) Fibers to Avoid Sulfonation

Nelaka Dilshan Govinna, Thomas Keller, Peggy Cebe

L70.00125: Structural differences in regenerated cellulose fibers produced using Viscose and Lyocell techniques

Aakash Sharma, Guruswamy Kumaraswamy, Shirish Thakre

L70.00126: A molecular model for ductility ($T < T_g$) and drawability ($T > T_g$) of semicrystalline polymers

Shiqing Wang, Masoud Razavi

L70.00127: Semiflexible Polymers in Spherical Confinement

Arash Nikoubashman, Andrey Milchev, Mihir Khadilkar, Sergei Egorov, Daniel Vega, Kurt Binder

L70.00128: Replicating Chiral Structures with Common Polymers and the Study of Surface Changes under VOC's

Thomas Stoke, Petr Shibayev

L70.00129: Dynamic Relaxation and Glass Transformation of Electrospun Fibrous Membrane with Confined Chain Configuration: for Physical Aging and Shape Function Control and Delivery

XUHONG CHEN

L70.00130: Terahertz Dynamics of Carboxymethyl Starch

Wakana Terao, Leona Motoji, Tatsuya Mori, Karolina Kaczmarek, Beata Grabowska, Yasuhiro Fujii, Akitoshi Koreeda, Mikitoshi Kabeya, Jae-Hyon Ko, Seiji Kojima

L70.00131: Contrasting rubber-toughen mechanisms for glassy polymers

Masoud Razavi, Shiqing Wang, Hailan Guo

L70.00132: The morphology and flowing behaviors of TEMPO-oxidized cellulose nanofibers dispersed in non-aqueous solutions

Ruifu Wang, Tomas Rosen, Chengbo Zhan, Benjamin S Hsiao

L70.00133: Polymer physics and flow dynamics of thermodynamically pure ring polymers

Michael Tu, Ching-Wei Lee, Christopher Rudolphi, Simon Rogers, Charles Schroeder

L70.00134: Nonlinear melt rheology explored by molecular dynamics simulations

Yexin Zheng, Mesfin Tsige, Shiqing Wang

L70.00135: Melt Blown Cross-linked Fibers from Thermally Reversible Diels-Alder Polymer Networks

Kailong Jin, Sung-Soo Kim, Jun Xu, Frank Bates, Christopher Ellison

L70.00136: Properties of chemically crosslinked methylcellulose gels

Peter Schmidt, Svetlana Morozova, McKenzie Coughlin, S. Pıril Ertem, Theresa M. Reineke, Frank Bates, Timothy Lodge

L70.00137: Gel Point Determination of a Diffusive Photopolymer via ¹H NMR Relaxometry

Casey Lee-Foss, Anthony V Lynch, Gretchen Hofmeister, Martha-Elizabeth Baylor

L70.00138: Self-Moving Polymer beads

Ankur Mittal, Pratyush Dayal

L70.00139: Design of Self Oscillating Ionic Gels

Sairam S, Arnab Dutta, Arvind Kumar, Pratyush Dayal

L70.00140: Salt and Water Diffusivities in Polymer Electrolyte Membranes

Dipak Aryal, Venkatraghavan Ganesan

L70.00141: Effect of doping ratio on lithium-ion conductivity in nanostructured self-doped block polymer electrolytes

Melody Morris, Thomas H Epps

L70.00142: Tailoring Ionic Conductivity of Block Copolymer Electrolytes with End-functionalized Homopolymers

Jihoon Kim, Moon Jeong Park

L70.00143: Ion clustering behavior of “precise” phosphonated polymers

Se Jong Kang, Moon Jeong Park

L70.00144: Self-Assembled Shape-Anisotropic Diblock Copolymer Particles from Evaporative Emulsions: Experiment and Theory

Kang Hee Ku, Young Jun Lee, YongJoo Kim, Bumjoon Kim

L70.00145: Coupling between mean curvature and texture in thin block copolymer film

Gabriel Catalini, Aldo Daniel Pezzutti, Daniel Vega

L70.00146: Modelling Silica in Aggregates of Block Copolymers

Pallabi Haldar, Alessandro Patti, Flor R. Siperstein

L70.00147: Thermally Induced Phase Transitions in Amorphous-Crystalline Brush Block Copolymers

Gayathri Kopanati, Benjamin M Yavitt, Huafeng Fei, Ruipeng Li, Masafumi Fukuto, James J Watkins

L70.00148: The Systematic Study of Porous Monoliths to Measure Diffusion Induced by Hydrochloric Acid

Paola Lo-ez

L70.00149: Effect of Partial Saturation on Thermodynamic Interactions in Polydiene/Polyolefin Blends

Jialin Qiu, Megan L Robertson, Ramanan Krishnamoorti

L70.00150: Temperature-induced coil-globule transition of polypropylene oxide in aqueous solutions

Rasika Dahanayake, Udaya R Dahal, Elena Dormidontova

L70.00151: Simulating Diblock Copolymer Micelles in Binary Explicit Solvents

Jing Zong, Dong Meng

L70.00152: Local Structure and Relaxation Dynamics in the Brush of Polymer-Grafted Silica Nanoparticles

Yuan Wei, Michael Hore

L70.00153: Thermodynamics of Binary and Ternary Polymer Blend Nanocomposites

Shawn Maguire, Nadia Krook, Patrice Rannou, Manuel Marechal, Kohji Ohno, Russell John Composto

L70.00154: Vinyl Imidazole Sulfonate-based Zwitterionic Copolymers with Tuneable Adsorption on Carbonates

Mohammed Kawelah, Mariam F. Alghamdi, S. Sherry Zhu, Ayrat Gizzatov, Yuan He, Timothy M Swager

L70.00155: Nonmonotonic glass transition behavior of polystyrene film in contact with polystyrene brushes

Wooseop Lee, Hoyeon Lee, Vaidyanathan Sethuraman, Du Yeol Ryu, Venkatraghavan Ganesan

L70.00156: Ion-Conducting Polymers as Interfacial Layers in Solid Electrolytes

Arvin Sookezian, Priyadarshini Mirmira, Shrayesh Patel, Stuart J Rowan

L70.00157: Brushes of Peptide Coiled Coil Bundle Chains

Matthew Langenstein, Darrin Pochan

L70.00158: Impact of casting conditions on mechanical properties of polynorbornene membranes under typical biobutanol operating conditions.

Meeta Trivedi, Bryan Vogt

L70.00159: Biocellulose Nanofibrillar Adhesives with Antigen-Antibody Interactions for Dermal Therapy

Seulgi Kim, Ji Eun Kim, Jeong Yi Kang, Jin Woong Kim

L70.00160: Oligomeric Cellulose Co-Crystallization with DMSO

Xin Zhang, Feng Jiang, Yimin Mao, Doug Henderson, Yoshiharu Nishiyama, Robert M Briber, Howard Wang

L70.00161: Synthesis and Self-Assembly of Oligomeric Cellulose-block-Poly(ethylene glycol) Diblock Copolymers

Feng Jiang, Xin Zhang, Doug Henderson, Wonseok Hwang, Howard Wang, Robert M Briber

Session P00: Kavli Symposium

Chair: Paul Canfield, Iowa State University

Room: BCEC Ballroom East/West

2:30PM - 3:06PM	P00.00001: The Heusler System And How You Can Use It As A Lego Box To Build The States You Are Interested In <i>Invited Speaker: Claudia Felser</i>
3:06PM - 3:42PM	P00.00002: Stacking atomic layers one by one: quest for new materials and physics <i>Invited Speaker: Philip Kim</i>
3:42PM - 4:18PM	P00.00003: The Design And Growth Of Ultra-Stable Glasses <i>Invited Speaker: Mark Ediger</i>
4:18PM - 4:54PM	P00.00004: Colloidal Crystals, Quasicrystals and the Entropic Bond <i>Invited Speaker: Sharon Glotzer</i>
4:54PM - 5:30PM	P00.00005: Self Assembly of Biological Materials <i>Invited Speaker: Cliff Brangwynne</i>

Session P30: Focus Session: Polymer Networks, Gels, and Elastomers III: Architecture

Sponsoring Units: DPOLY

Chair: Ross Behling, 3M Corp.

Room: BCEC 162B

2:30PM - 2:42PM	P30.00001: Relationship between optical properties and network topology in gels crosslinked using controlled radical polymerization <i>Mahati Chintapalli, Stephen Meckler, Gabriel Iftime, Jessy B. Rivest</i>
2:42PM - 2:54PM	P30.00002: Mechanical and Thermal Performance of Interpenetrating versus Single Networks of Dynamically Crosslinked Polymers <i>Mehdi Zanjani, Ballal Ahammed, Borui Zhang, Dominik Konkolewicz, Zhijiang Ye</i>
2:54PM - 3:06PM	P30.00003: Influence of weak ionic associations on the mechanical properties of hydrogels crosslinked by hydrophobic associations <i>Bryan Vogt, Chao Wang, Robert A Weiss, Katherine Deitrick</i>
3:06PM - 3:42PM	P30.00004: Externally Triggered Healing in Covalent Adaptable Networks <i>Invited Speaker: Christopher Kloxin</i>
3:42PM - 3:54PM	P30.00005: Linking failure behavior of physically assembled styrene-isoprene-styrene gels to their network structure <i>Satish Mishra, Rosa Maria Badani Prado, Thomas E. Lacy, Jr, Santanu Kundu</i>
3:54PM - 4:06PM	P30.00006: Modelling of chemo-mechanical coupling in polymer gels via nonlinear finite element method <i>Priyanka Nemani, Ravi Sastri Ayyagari, Pratyush Dayal</i>
4:06PM - 4:18PM	P30.00007: Expanding Gelation Conditions in Dynamically Crosslinked Networks <i>Seth Cazzell, Niels Holten-Andersen</i>
4:18PM - 4:30PM	P30.00008: Melt Blown Cross-linked Fibers from Thermally Reversible Diels-Alder Polymer Networks <i>Kailong Jin, Sung-Soo Kim, Jun Xu, Frank Bates, Christopher Ellison</i>
4:30PM - 4:42PM	P30.00009: Carefully Controlled Photo-catalyzed Thiol-ene Networks of Poly(lactic acid) <i>Nicholas Baksh, Ryan Toomey, Nathan Gallant</i>
4:42PM - 4:54PM	P30.00010: Characterizing Network Structure and Protein Separation in Lignin-Based Hydrogel Composites <i>Nicholas Gregorich, Junhuan Ding, Mark C Thies, Eric Davis</i>
4:54PM - 5:06PM	P30.00011: Modeling reconstituted silk fibroin gels during deformation <i>Peter Olmsted, Peiran Jin</i>
5:06PM - 5:18PM	P30.00012: Overcoming the Achilles' Heel of Dynamic Vitrimers Networks: Modification and Application of Flory-Stockmayer Theory to Minimize Creep <i>Lingqiao Li, John Torkelson</i>
5:18PM - 5:30PM	P30.00013: Defects as a Highway to Stress Relaxation of Vitrimers <i>Simone Ciarella, Francesco Sciortino, Wouter Ellenbroek</i>

Session P49: Focus Session: Tribology of Polymers and Soft Materials II: Friction and Slip

Sponsoring Units: DPOLY GSOFT DFD GSNP

Chair: Catheryn Jackson

Room: BCEC 252A

2:30PM - 3:06PM	P49.00001: Shear-driven polymerization: critical roles of chemisorption and molecular deformation <i>Invited Speaker: Ashlie Martini</i>
3:06PM - 3:18PM	P49.00002: Slippage of polymers at interfaces <i>Marion Grzelka, Marceau Hénot, Alexis Chennevière, Liliane Léger, Frederic Restagno</i>
3:18PM - 3:30PM	P49.00003: An Effect of Interfacial Aggregation States on Frictional Properties of Hydrogel Thin Films <i>Daisuke Kawaguchi, Nozomi Itagaki, Yukari Oda, Norifumi L. Yamada, Keiji Tanaka</i>
3:30PM - 3:42PM	P49.00004: Microgel systems containing phospholipid: Role of component interactions on rheology and tribology <i>Barbara Farias, Saad Khan</i>
3:42PM - 3:54PM	P49.00005: Orientation of nanodomains of star-shaped (PMMA-b-PS) ₆ in thin films with different molecular weights <i>Soyeong Park, Chungryong Choi, Kyuseong Lee, Seungkyoo Park, Eunseol Kim, Jin Kim</i>
3:54PM - 4:06PM	P49.00006: Concentration-Dependent Long-Range Repulsive Interactions of Adsorbed Associative Polymers <i>Timothy Murdoch, Eugene Pashkovski, Robert W Carpick, Daeyeon Lee</i>
4:06PM - 4:18PM	P49.00007: Beyond the lubrication approximation: capillary levelling of holes in freestanding polymer films <i>John Niven, Vincent Bertin, Thomas Salez, Elie Raphael, Kari Dalnoki-Veress</i>
4:18PM - 4:30PM	P49.00008: Understanding Polymerization-Induced Nanostructural Transitions Using in situ Characterization Methods <i>Robert Hickey, Jacob A LaNasa, Everett Zofchak</i>
4:30PM - 4:42PM	P49.00009: Lubricated friction on microtextured soft substrates <i>Yunhu Peng, Christopher Serfass, Lilian Hsiao</i>
4:42PM - 4:54PM	P49.00010: Effective Orientation Control of Block Copolymer Nanostructures in Thin Films by Surface Modification using Self-assembled Copolymer Adsorption Layer <i>Dong Hyup Kim, So Youn Y Kim</i>
4:54PM - 5:06PM	P49.00011: Contact and slip mechanics between crosslinked hydrogel surfaces using in situ microscopy <i>Alison Dunn, Christopher L Johnson, Jiho Kim, Shabnam Z Bonyadi</i>
5:06PM - 5:18PM	P49.00012: Wall slip of complex fluids: Interfacial friction versus slip length <i>Benjamin Cross, Chloé Barraud, Cyril Picard, Liliane Léger, Frederic Restagno, Elisabeth Charlaix</i>
5:18PM - 5:30PM	P49.00013: Mechanical and thermodynamic properties of A β 42, A β 40 and α -synuclein fibrils from molecular-scale simulation <i>Adolfo Poma, Horacio Vargas, Mai Suan Li, Panagiotis Theodorakis</i>

Session P50: Focus Session: Organic Electronics II: Structure and Morphology

Sponsoring Units: DPOLY DMP

Chair: Dean DeLongchamp, National Institute of Standards and Technology

Room: BCEC 252B

2:30PM - 2:42PM	P50.00001: Raman Crystallography as a Spectroscopic Probe of Structure in Single Crystal Organic Semiconductors <i>Adam Biacchi, Emily Geraldine Bittle, Lisa A. Fredin, Andrew Herzing, Thomas C. Allison, David James Gundlach, Angela Hight Walker</i>
2:42PM - 2:54PM	P50.00002: Phonons and anisotropic mobility in a single crystal organic semiconductor <i>Emily Geraldine Bittle, Adam Biacchi, Lisa A. Fredin, Andrew Herzing, Thomas C. Allison, Angela Hight Walker, David James Gundlach</i>
2:54PM - 3:06PM	P50.00003: Anomalous Pressure Dependence of the Electronic Properties of Molecular Crystals Explained by Changes in Intermolecular Electronic Coupling <i>Maituo Yu, Xiaopeng Wang, Xiong-Fei Du, Bohdan Schatschneider, Harald Oberhofer, Noa Marom</i>
3:06PM - 3:18PM	P50.00004: Exploring the impact of atomistic substitution on thin-film structure in a germanyl-ethynyl functionalized pentacene <i>Jeni Sorli, Qianxiang Ai, Devin Granger, Chad Risko, John Anthony, Lynn Loo</i>
3:18PM - 3:30PM	P50.00005: Investigation on charge transport properties of Cyclopentadithiophene-based D-A type semiconducting copolymers <i>Jiyoul Lee, Jisang Hong</i>
3:30PM - 3:42PM	P50.00006: Local Aromaticity: Elucidating non-planar configurations in conjugated polymers <i>Brandon Wood, Yongwoo Shin, Kristin Persson</i>
3:42PM - 4:18PM	P50.00007: Printing Conjugated Polymers to Order via Non-Equilibrium Assembly <i>Invited Speaker: Ying Diao</i>
4:18PM - 4:30PM	P50.00008: Molecular Orientation in Thin Films of Poly(3-hexylthiophene) and Poly(3-(6-bromohexyl)-thiophene) Crystallized on Graphene <i>Oleksandr Dolynchuk, Philip Schmode, Paul M. Reichstein, Matthias Fischer, Mukundan Thelakkat, Thomas Thurn-Albrecht</i>
4:30PM - 4:42PM	P50.00009: A Study on Intrinsic Mechanical Properties of n-type Conjugated Polymer via Controlling the Molecular Weight: The Importance of Critical Molecular Weight for Stretchable Organic Electronics <i>Jonnhyeong Choi, Wansun Kim, Taek-Soo Kim, Bumjoon Kim</i>
4:42PM - 4:54PM	P50.00010: Critical Role of Electron-donating Thiophene Group on the Thermomechanical Property of Donor-Acceptor Semiconducting Polymers <i>Song Zhang, Xiaodan Gu</i>
4:54PM - 5:06PM	P50.00011: Polymer light-emitting diodes with an emitting layer based on a nano-confined semiconducting polymer blend <i>Anielen Ribeiro, Paul Blom, Jasper Michels</i>
5:06PM - 5:18PM	P50.00012: Complexation of a Conjugated Polyelectrolyte and Impact on Optoelectronic Properties <i>Scott Danielsen, Thuc-Quyen Nguyen, Glenn Fredrickson, Rachel Segalman</i>
5:18PM - 5:30PM	P50.00013: Atomistic modeling of conjugated PEDOT:PSS complexes <i>Wesley Michaels, Jian Qin</i>

Session P52: Focus Session: Polymer Nanocomposites III: Polymer Blends and Solutions

Sponsoring Units: DPOLY

Chair: Robert Ferrier, Univ of Pennsylvania

Room: BCEC 253B

2:30PM - 3:06PM	P52.00001: Chemical and Dynamic Heterogeneities in Interfaces for Adaptive Polymer Nanocomposites <i>Invited Speaker: Pinar Akcora</i>
3:06PM - 3:18PM	P52.00002: Coexistence Curve and Theta Temperature of Polymer Grafted Nanoparticle (PGN) Solutions <i>Sarah Izor, Tony Dagher, Chris Grabowski, Ali Jawaid, Kyoungwon Park, Richard Vaia</i>
3:18PM - 3:30PM	P52.00003: Simulating Nanoparticle Dynamics in Semidilute Polymer Solutions <i>Renjie Chen, Ryan Poling-Skutvik, Arash Nikoubashman, Michael P Howard, Sergei Egorov, Jacinta Conrad, Jeremy C Palmer</i>
3:30PM - 3:42PM	P52.00004: Interphase structures and dynamics near nanofiller surfaces in polymer solutions <i>Tadanori Koga, Deborah Barkley, Maya Endoh, Michihiro Nagao, Takashi Taniguchi, Jan-Michael Carrillo, Bobby G Sumpter, Maho Koga, Tomomi Masui, Hiroyuki Kishimoto</i>
3:42PM - 3:54PM	P52.00005: Dynamics of polymer-grafted nanoparticles controlled by soft confinement <i>Ali Slim, Ryan Poling-Skutvik, Jacinta Conrad, Ramanan Krishnamoorti</i>
3:54PM - 4:06PM	P52.00006: Initial solvent driven non-equilibrium behavior of polymer nanocomposites with varying size ratios between nanoparticles and polymers <i>Sol Mi Oh, Mazhdeh Abbasi, Kay Saalwaechter, So Youn Kim</i>
4:06PM - 4:18PM	P52.00007: Solvent-Induced Self-Assembly of Triblock Copolymers for Creating Polymer Nanocomposite Gels <i>Chao Lang, Yifan Xu, Jacob A LaNasa, Manish Kumar, Robert Hickey</i>
4:18PM - 4:30PM	P52.00008: Nanoparticle Jamming at Liquid Interfaces Studied by In Situ Scanning Electron Microscopy <i>Yige Gao, Paul Kim, Satyam Srivastava, Alexander Ribbe, Thomas Russell, David Hoagland</i>
4:30PM - 4:42PM	P52.00009: Self-assembly of Janus rods in binary blends of polymers. Part I: phase behavior under equilibrium <i>Shaghayegh Khani, Felipe Leis Paiva, Arman Boromand, Veronica Calado, Argimiro Secchi, Joao Maia</i>
4:42PM - 4:54PM	P52.00010: Self-assembly of Janus rods in binary blends of polymers. Part II: phase behavior under shear flow and relaxation <i>Felipe Leis Paiva, Shaghayegh Khani, Arman Boromand, Veronica Calado, Argimiro Secchi, Joao Maia</i>
4:54PM - 5:06PM	P52.00011: Fabrication and Optical Properties of Polymer-Grafted Gold Nanorod Assemblies <i>Jason Streit, Kyoungweon Park, Joon-Jae Yi, Richard Vaia</i>
5:06PM - 5:18PM	P52.00012: Constructing conductive composites by spinodal decomposition of miscible polymer blends with graphene nanoplatelets <i>Yangming Kou, Xiang Cheng, Chris W Macosko</i>
5:18PM - 5:30PM	P52.00013: Molecular dynamics simulation of spherical PEO brush: Curvature and Grafting Density Effect <i>Elena Dormidontova, Udaya R Dahal</i>

Session P54: Focus Session: Tuning Polymer Sequence and Architecture

Sponsoring Units: DPOLY DBIO

Chair: Charles Sing

Room: BCEC 254A

2:30PM - 2:42PM	P54.00001: Polymer chain sequence effects on the glass transition <i>William Drayer, David Simmons</i>
2:42PM - 2:54PM	P54.00002: Investigation of Monomer Segment and Salt Distributions in Self-Assembled, Tapered Block Polymer Electrolytes <i>Priyanka Ketkar, Thomas H Epps</i>
2:54PM - 3:06PM	P54.00003: Coherent States Field Theory Simulations for Supramolecular Multiblock Copolymers <i>Daniel Vigil, Kris T Delaney, Glenn Fredrickson</i>
3:06PM - 3:18PM	P54.00004: Miscibility Enhancement in Polyisoprene-Polyolefin Block Copolymers <i>Sravya Jangareddy, Richard Alan Register</i>
3:18PM - 3:30PM	P54.00005: Theory of interchain packing and dynamics in associating copolymer liquids <i>Ashesh Ghosh, Kenneth S. Schweizer</i>
3:30PM - 3:42PM	P54.00006: Morphology Transitions of Linear S11S2I2 Tetrablock Copolymers at the Symmetric Overall Volume Fraction. <i>Seonghyeon Ahn, Bin Zhao, Chao Duan, Weihua Li, Jin Kim</i>
3:42PM - 4:18PM	P54.00007: Genetically encoded biomaterials that self-assemble across multiple length scales <i>Invited Speaker: Ashutosh Chilkoti</i>
4:18PM - 4:30PM	P54.00008: Multicompartment Copolymer Micelles: effects of chain architecture, composition and interaction strength <i>Boyuan Yu, Abelardo Ramirez-Hernandez, Juan De Pablo</i>
4:30PM - 4:42PM	P54.00009: Interpreting the hierarchical morphology of ABC miktoarm terpolymers using self-consistent field theory <i>Jyoti Mahalik, Hyeyoung Kim, Matthias ML Arras, Weiyu Wang, Sergey Chernyy, Kunlun Hong, Gregory S Smith, Bobby G Sumpter, Thomas Russell, Rajeev Kumar</i>
4:42PM - 4:54PM	P54.00010: Miktoarm Stars via Grafting-Through Copolymerization: Self-Assembly and the Star-to-Bottlebrush Transition <i>Joshua Lequieu, Adam E Levi, Christopher M Bates, Glenn Fredrickson</i>
4:54PM - 5:06PM	P54.00011: Exploring the Phase Behavior of Poly(styrene)-block-Poly(dimethylsiloxane) Brush Block Copolymers <i>Huafeng Fei, Benjamin M Yavitt, Xiyu Hu, Gayathri Kopanati, Alexander Ribbe, James J Watkins</i>
5:06PM - 5:18PM	P54.00012: Molecular Architecture Driven Self-Assembly of Block Copolymers <i>Shifeng Nian, Zihao Gong, Liheng Cai</i>
5:18PM - 5:30PM	P54.00013: Strong Induced Chiroptical Effects in Light Emitting Polymer Blends <i>J Wade, L Wan</i>

Session P55: Focus Session: Polymer Crystallization I: Structure and Morphology

Sponsoring Units: DPOLY

Chair: Rufina Alamo, Florida State University

Room: BCEC 254B

- | | |
|--------------------|---|
| 2:30PM -
3:06PM | P55.00001: Microscopic Observation of Interface-Induced Crystallization via Prefreezing from Polymers Melts
<i>Invited Speaker: Thomas Thurn-Albrecht</i> |
| 3:06PM -
3:18PM | P55.00002: Supramolecular Crystals and Crystallization
<i>Stephen Z D Cheng</i> |
| 3:18PM -
3:30PM | P55.00003: Crystallization of conjugated polymers
<i>Lucia Fernandez-Ballester, Ramin Hosseinabad</i> |
| 3:30PM -
3:42PM | P55.00004: Tuning the Phase Behavior of Hydrogenated Polynorbornene via Epimerization
<i>Jared Phillip Klein, Richard Alan Register</i> |
| 3:42PM -
3:54PM | P55.00005: Gap Dependent Percolation of Spherulites during Crystallization: Rheology, Microscopy and Simulation
<i>Debjani Roy, Debra Audus, Kalman Migler</i> |
| 3:54PM -
4:06PM | P55.00006: Miniemulsions as Dynamic Confinement Environments for Polymer Crystallization
<i>Mark Staub, Christopher Li</i> |
| 4:06PM -
4:18PM | P55.00007: Solvent Vapor Annealing to Control Polymer Crystal Morphology
<i>Samuel E Bliesner, Julie Albert</i> |
| 4:18PM -
4:30PM | P55.00008: Crystallite Dissolution in Poly(ethylene oxide) Polymers Caused by Water
<i>Daniel Hallinan, Onyekachi D Oparaji, Oluwagbenga Iyiola, Matteo Minelli, Andrea Sardano</i> |
| 4:30PM -
4:42PM | P55.00009: Epitaxial growth of polyethylene oxide atop muscovite mica
<i>Jason Liu, Craig Arnold, Rodney Priestley</i> |
| 4:42PM -
4:54PM | P55.00010: Effect of zone annealing on anisotropic nanoparticle reordering in polymer nanocomposites
<i>Alejandro Krauskopf, Andrew Jimenez, Sanat Kumar, Elizabeth Lewis, Bryan Vogt, Julia Pribyl, Brian C Benicewicz</i> |
| 4:54PM -
5:06PM | P55.00011: Utilizing Mixed Nanofillers to Control Crystallization Induced Ordering
<i>Andrew Jimenez, Sanat Kumar, Jacques Jestin</i> |
| 5:06PM -
5:18PM | P55.00012: Crystallization Behavior of Poly(ϵ -caprolactone) in Spin-coating Film-forming processes
<i>Sono SASAKI, Jinkyu PARK, Shun Miyamoto, Mami Goda, Hossain Md. Amran, Shinichi SAKURAI, Hiroyasu MASUNAGA, Takaaki HIKIMA, Masaki TAKATA</i> |
| 5:18PM -
5:30PM | P55.00013: Regenerated cellulose fibers: Relating mechanical response to semicrystalline microstructure
<i>Aakash Sharma, Guruswamy Kumaraswamy, Shirish Thakre</i> |

Session P48: Thin Films, Surface Flows, Interfaces and Microfluidics II (DFD GSOF GSNP)

Room: BCEC 251

Session P58: Disordered and Glassy Systems II (GSOF)

Room: BCEC 257A

Session R49: Focus Session: Polymer and Polyelectrolyte Rheology I: Molecular Sequence and Architecture

Sponsoring Units: DPOLY DBIO DFD GSNP

Chair: Samanvaya Srivastava, University of California, Los Angeles

Room: BCEC 252A

8:00AM - 8:12AM	R49.00001: Elasticity of Self-Assembled Block Copolymers in Water and Oil Mixtures <i>Sahar Qavi, Millicent Firestone, Reza Foudazi</i>
8:12AM - 8:24AM	R49.00002: Exploring dynamics of polymerlike wormlike micelles in high shear flow <i>Paul Salipante, Alex Conte, Vishnu Dharmaraj, Steven Hudson</i>
8:24AM - 8:36AM	R49.00003: Brownian Dynamics Simulations of Polyrotaxanes <i>Phillip Rauscher, Stuart J Rowan, Juan De Pablo</i>
8:36AM - 8:48AM	R49.00004: Topological glass in self-entangled ring polymers <i>Beatrice Soh, Alexander Klotz, Rae Robertson-Anderson, Patrick Doyle</i>
8:48AM - 9:00AM	R49.00005: From Polyelectrolyte Complex Solution to Electrospun Fibers <i>mor Boas, Gleb Vasilyev, Arkadii Arinstein, Eyal Zussman</i>
9:00AM - 9:12AM	R49.00006: Solution Rheology of Polyelectrolyte-Grafted Nanoparticles <i>Chongfeng Zhang, Pinar Akcora</i>
9:12AM - 9:24AM	R49.00007: Nonlinear shear rheometry of melts and concentrated solutions of polymers with varying molecular structure <i>Dimitris Vlassopoulos, Daniele Parisi, Salvatore Costanzo</i>
9:24AM - 9:36AM	R49.00008: Effect of edge disturbance on shear banding in polymeric solutions <i>Seunghwan Shin, Kevin D Dorfman, Xiang Cheng</i>
9:36AM - 9:48AM	R49.00009: Viscoelastic Response of Branched Polyethylene Combs: A Molecular Dynamics (MD) Simulation Study <i>Sidath Wijesinghe, Dvora Perahia, Gary Grest</i>
9:48AM - 10:24AM	R49.00010: Flow behavior and impact of shear fields on structural transitions in diblock and triblock copolymer aqueous solutions <i>Invited Speaker: Lynn Walker</i>
10:24AM - 10:36AM	R49.00011: Accelerated diffusion and entanglement evolution during relaxation of aligned polymer melts <i>Marco Galvani, Austin Hopkins, Thomas O'Connor, Mark Owen Robbins</i>
10:36AM - 10:48AM	R49.00012: Filled Rubbers Missing High Harmonics in LAOS <i>Shan Jiang, Xiaorong Wang</i>
10:48AM - 11:00AM	R49.00013: The positions and trajectories of deformed polymers and networks <i>Kaikai Zheng, Yifan Zhang, Lingxiang Jiang, Jiang Zhao, Steve Granick</i>

Session R50: Focus Session: Ion Transport Mechanisms in Poly(ionic liquids) and Polymer Electrolytes

Sponsoring Units: DPOLY

Chair: Pinar Akcora, Stevens Institute of Technology

Room: BCEC 252B

8:00AM - 8:12AM	R50.00001: Decoupling Conductivity and Segmental Motion in Polymerized Ionic Liquids <i>Jordan Keith, Venkatraghavan Ganesan</i>
8:12AM - 8:24AM	R50.00002: Molecular design of precise network polymerized ionic liquids to control aggregation and conductivity <i>Qiuji Zhao, Chengtian Shen, Christopher Evans</i>
8:24AM - 8:36AM	R50.00003: Competitive structural and cooperative dynamical heterogeneities of hydrogen bonding and π -type interactions in imidazolium bis(oxalato)borate and polymers <i>Yonglei WANG, Aatto Laaksonen, Michael David Fayer, Jiayin Yuan</i>
8:36AM - 8:48AM	R50.00004: The Role of Polymer Backbone Chemistry on Ionic Aggregation and Conductivity in Metal-Ligand Coordinating Polymers <i>Nicole Michenfelder-Schauser, My Linh Le, Ram Seshadri, Rachel Segalman</i>
8:48AM - 9:00AM	R50.00005: Polymerization of a Methacrylate Based Ionic Liquid Under 2D Confinement and the Resulting Effects on Ion Dynamics <i>Thomas Kinsey, Kaitlin Glynn, Joshua Sangoro</i>
9:00AM - 9:12AM	R50.00006: Polymer-Grafted Nanoparticles in Ionic Liquids <i>Siqi Liu, Naresh Osti, Clemens Liedel, Pinar Akcora</i>
9:12AM - 9:24AM	R50.00007: Effects of Molecular Architecture on the Simultaneous Enhancement in Modulus and Ionic Conductivity in Polymer Solid Electrolytes <i>Spiros Anastasiadis, Emmanuil Glynos, Paraskevi Petropoulou, Lampros Papoutsakis, Emmanouil Mygiakis, Alkmini D. Nega, Georgios Sakellariou, Wenyang Pan, Emmanuel P. Giannelis</i>
9:24AM - 9:36AM	R50.00008: Increasing Permittivity in Ion-Containing Polymers: Influence of Zwitterion Additives on Ion-Conduction <i>Wenwen Mei, Josh M Rinehart, Josh E Bostwick, Robert Hickey, Ralph H Colby</i>
9:36AM - 9:48AM	R50.00009: Quantitative Evidence of Mobile Ion Hopping in Polymerized Ionic Liquids <i>Hongjun Liu, Alexei P Sokolov, Stephen J Paddison</i>
9:48AM - 10:00AM	R50.00010: Ion Transport in Precise Sulfonate Ionomers with Layered, Cylindrical, and Gyroid Morphologies <i>Lu Yan, Christina Rank, Stefan Mecking, Karen Winey</i>
10:00AM - 10:12AM	R50.00011: Nanostructured Polymer Particles for High Modulus and High Conductivity Polymer Electrolytes <i>Emmanouil Glynos, Lampros Papoutsakis, Spiros Anastasiadis, Wenyang Pan, Emmanuel P. Giannelis, Petra Bacova, Vagelis Harmandaris, Emmanouil Mygiakis, Alkmini D. Nega, Georgios Sakellariou</i>
10:12AM - 10:24AM	R50.00012: Multivalent cation conduction in dual cation-exchanged polyanions <i>Bumjun Park, Jennifer Schaefer</i>
10:24AM - 11:00AM	R50.00013: Poly(ionic liquid)s: marriage of ionic liquids and polymers for better materials <i>Invited Speaker: Jiayin Yuan</i>

Session R52: Focus Session: Polymer Nanocomposites IV: Networks, Elastomers, and Gels

Sponsoring Units: DPOLY

Chair: Jinhye Bae, University of California, San Diego

Room: BCEC 253B

8:00AM - 8:12AM	R52.00001: STRESS RELAXATION IN EPOXY NANOCOMPOSITES <i>Suresh Ahuja</i>
8:12AM - 8:24AM	R52.00002: Coarse-grained Molecular Dynamics Modeling of Epoxy/CNT Nanocomposites <i>Ralph Romero, Hayden Hollenbeck, Chengyuan Wen, Gary Seidel, Shengfeng Cheng</i>
8:24AM - 8:36AM	R52.00003: QM/MM hybrid simulations of critical failure at the interface in CNT/polymer nanocomposites. <i>Jacek Golebiowski, Arash A Mostafi, Peter Haynes, James R Kermode</i>
8:36AM - 8:48AM	R52.00004: A new strategy for tire tread stocks with high performances <i>Aihua He, Xinping Zhang, Riguo Wang, Hao Wang</i>
8:48AM - 9:00AM	R52.00005: The Linear-Nonlinear Dichotomy Behavior for Filled Rubbers in LOAS <i>Shan Jiang, Xiaorong Wang</i>
9:00AM - 9:12AM	R52.00006: Controlling Microstructure in Thermoplastic Polyurethane/Graphene Oxide Nanocomposites via Rigid Segment Length <i>Brandy Grove, Shaghayegh Khani, Ricardo Andrade, Guilhermino Fechine, Joao Maia</i>
9:12AM - 9:48AM	R52.00007: Interphases in polymer nanocomposites - recent insights from NMR studies <i>Invited Speaker: Kay Saalwaechter</i>
9:48AM - 10:00AM	R52.00008: Compatibility/Dispersion in Multi-Hierarchical Polymer Nanocomposites <i>Greg Beaucage, Kabir Rishi, Alex McGlasson, Michael Chauby, Vikram K Kuppa</i>
10:00AM - 10:12AM	R52.00009: Fabricating Polymer Network Nanocomposites for Recyclability with Full Property Recovery and the Sometimes Complex Roles of Polymer-Nanofiller Interfaces <i>Xi Chen, Lingqiao Li, John Torkelson</i>
10:12AM - 10:24AM	R52.00010: Intrinsic temperature dependence of plasmonic resonances in gold nanorod polymer nanocomposites <i>David Lioi, Sarah Izor, Vikas Varshney, William Kennedy</i>
10:24AM - 10:36AM	R52.00011: The Impact of an Emergent Hierarchical Filler Network on Nanocomposite Dynamics <i>Kabir Rishi, Greg Beaucage, Vikram K Kuppa, Alex McGlasson, Jan Ilavsky</i>
10:36AM - 10:48AM	R52.00012: Defect-Mediated Assembly of Liquid Crystal Elastomer Nanocomposites <i>Xinfang Zhang, Hao Yu, Yubing Guo, Taras Turiv, O D Lavrentovich, Qi-Huo Wei</i>
10:48AM - 11:00AM	R52.00013: Mesoscale modeling of polymer bigels using Janus particles <i>Shensheng Chen, Xin Yong</i>

Session R54: Focus Session: Confined Polymer Glasses III: Elasticity, Nanoparticles, and Brushes

Sponsoring Units: DPOLY GSOFTE GSNP

Chair: Ophelia Tsui, Boston University

Room: BCEC 254A

8:00AM - 8:12AM	R54.00001: Enhanced Thermal Stability of Polymers under Extreme Nanoconfinement <i>Haonan Wang, Jyo Lyn Hor, Aixi Zhang, Prantik Mazumder, Daeyeon Lee, Zahra Fakhraai</i>
8:12AM - 8:24AM	R54.00002: Unexpected strengthening effect in brush particle-based hybrid materials with intermediate grafting density <i>Jaejun Lee, Zongyu Wang, Jianan Zhang, Tingwei Deng, Krzysztof Matyjaszewski, Michael R Bockstaller</i>
8:24AM - 8:36AM	R54.00003: Dramatic Modification of Nanoparticle Surface Mobility in Polymer Colloids with a Core-Shell Structure <i>Hojin Kim, Eunsoo Kang, Bartlomiej Graczykowski, Rodney Priestley, Eric M Furst, George Fytas</i>
8:36AM - 9:12AM	R54.00004: Materials by Design for Stiff and Tough Nanoparticle Assemblies with Polymeric Hairs <i>Invited Speaker: Sinan Keten</i>
9:12AM - 9:24AM	R54.00005: Diminishing Interfacial Effects with Decreasing Nanoparticle Size in Polymer-Nanoparticle Composites <i>Hamed Emamy, Francis Starr, Sanat Kumar</i>
9:24AM - 9:36AM	R54.00006: Disentangling the Role of Chain Conformation on the Mechanics of Particle Brush Materials <i>yu cang, Jiarul Midya, Sergei Egorov, Krzysztof Matyjaszewski, Michael R Bockstaller, Arash Nikoubashman, George Fytas</i>
9:36AM - 9:48AM	R54.00007: Interfacial entropic interactions tunes fragility and dynamic heterogeneity of confined polymer glasses with embedded nanoparticles. <i>Nafisa Begam, Nimmi Das Anthuparambil, Sivasurender Chandran, Mohd Ibrahim, Venkat Padmanabhan, Michael Sprung, Jaydeep K Basu</i>
9:48AM - 10:00AM	R54.00008: Interactions of Ligand-Coated Nanoparticles at a Liquid Surface <i>David Hoagland, Paul Kim, Yige Gao, Alexander Ribbe, Thomas Russell</i>
10:00AM - 10:12AM	R54.00009: Switching mixed polymer brushes surfaces through external stimulation <i>Mingxiao Li, Christian Pester</i>
10:12AM - 10:24AM	R54.00010: The TUFF Method: Stretching Free-Standing Ultra-Thin Glassy Polymer Films <i>Reed Bay, Alfred Crosby</i>
10:24AM - 10:36AM	R54.00011: Unveiling the Elasticity of Confined Multilayer Hybrid Materials <i>Zuyuan Wang, Konrad Rolle, Theresa Schilling, Markus Retsch, Josef Breu, George Fytas</i>
10:36AM - 10:48AM	R54.00012: Tensile elastic modulus of free-standing single-layer and bilayer polymer films <i>Pak Man Yiu, Hailin Yuan, Qiao Gu, Ping Gao, Ophelia Tsui</i>
10:48AM - 11:00AM	R54.00013: Surface and Interfacial Tension of Graft Polymer Melts <i>Michael Jacobs, Brandon Pugno, Heyi Liang, Andrey Dobrynin</i>

Session R55: Focus Session: Polymer Crystallization II: Packing Assembly, Chip Calorimetry and Simulations

Sponsoring Units: DPOLY

Chair: Rufina Alamo, Florida State University

Room: BCEC 254B

8:00AM - 8:36AM	R55.00001: Isodimorphic biodegradable copolyesters: Structure and crystallization behavior <i>Invited Speaker: Alejandro J. Müller</i>
8:36AM - 8:48AM	R55.00002: Packing Selection of a Helical Semicrystalline Polymer in Solution and Melt-Grown Crystals <i>Toshikazu Miyoshi</i>
8:48AM - 9:00AM	R55.00003: Semicrystalline polyethylene measurement by Polarized Resonant Soft X-ray Scattering <i>Dean DeLongchamp, Eliot H Gann, Chad Ray Snyder</i>
9:00AM - 9:12AM	R55.00004: Polymorphism in nanolayered comb-like and linear precision polymers <i>Varun Danke, Gaurav Kumar Gupta, Mario Beiner</i>
9:12AM - 9:24AM	R55.00005: Unusual crystallization kinetics of long-spaced polyacetals <i>Xiaoshi Zhang, Sidney Cameron, Rufina Alamo, Xiaobin Zuo, Patrick Ortmann, Stefan Mecking</i>
9:24AM - 9:36AM	R55.00006: Homogeneous crystal nucleation in polymers: New insights from fast scanning calorimetry <i>Evgeny Zhuravlev, Rene Androsch, Ruslan Andrianov, Christoph Schick</i>
9:36AM - 9:48AM	R55.00007: Using chip-based calorimetry to monitor crystallization during polymer processing <i>Kenneth Kearns, Thomas R Fielitz, Rajen M Patel, Shrikant Dhodapkar, Travis McIntire, Jin Wang, Christopher M Thurber, Robbyn Prange</i>
9:48AM - 10:00AM	R55.00008: Visualization of Polymer Crystallization by a Combination of Atomic Force Microscopy with Fast Scanning Calorimetry <i>Rui Zhang, Evgeny Zhuravlev, Christoph Schick</i>
10:00AM - 10:12AM	R55.00009: Slip-link modeling of a crystallizing entangled polymer melt <i>Marat Andreev, Gregory C Rutledge</i>
10:12AM - 10:24AM	R55.00010: Monte Carlo simulations of stress-induced polymer crystallization <i>Wenbing Hu, Jiping Wang</i>
10:24AM - 10:36AM	R55.00011: Monte Carlo Simulation of Stress-Induced Polymer Crystallization during Cold Drawing <i>Jiping Wang, Yihuan Yu, Wenbing Hu</i>
10:36AM - 10:48AM	R55.00012: Polymer Crystallization during shear flow <i>Go Matsuba</i>
10:48AM - 11:00AM	R55.00013: Modeling the melting of a semicrystalline polymer <i>Kiran Iyer, Marzbed Margossian, Murugappan Muthukumar</i>

Session R58: Focus Session: Soft Interface Mechanics I

Sponsoring Units: GSOFD DPOLY GSNP DBIO

Chair: Katharine Jensen, Williams College

Room: BCEC 257A

8:00AM - 8:12AM	R58.00001: Influence of Elastic Modulus of a Soft Elastomer on Adhesion to Rough Surfaces <i>Siddhesh Dalvi, Abhijeet Gujrati, Ali N Dhinojwala, Tevis Jacobs, Lars Pastewka</i>
8:12AM - 8:24AM	R58.00002: Gluing polymer interfaces with nanoparticles: insights from molecular dynamics <i>Nicola Molinari, Boris Kozinsky, Stefano Angioletti-Uberti</i>
8:24AM - 8:36AM	R58.00003: Ultra-soft textured substrates <i>Martin Coux, John Kolinski</i>
8:36AM - 8:48AM	R58.00004: Hydrogel menisci: Shape and interaction <i>Anupam Pandey, Charlotte Nawijn, Jacco Snoeijer</i>
8:48AM - 9:00AM	R58.00005: Equilibration time, swelling, and the tangential contact-line force on a partially immersed gel thread <i>Shih-Yuan Chen, Aaron R Bardall, Michael Shearer, Karen Daniels</i>
9:00AM - 9:12AM	R58.00006: Using droplet shapes to study the surface tension of soft gels <i>Katrina Smith-Mannschott, Qin Xu, Eric Dufresne, Robert Style</i>
9:12AM - 9:24AM	R58.00007: Adhesion-Based Measurements of Strain-Dependent Surface Stress in Soft Solids <i>Jeremy Thaller, Minwoo Kang, Katharine Jensen</i>
9:24AM - 9:36AM	R58.00008: Interfacially Driven Plastic Deformation of Soft Solids <i>Christopher O'Bryan, Thomas Angelini</i>
9:36AM - 9:48AM	R58.00009: Poking a peach: Is testing for ripeness confounded by the skin? <i>Dominic Vella, Finn Box, Mokhtar Adda-Bedia</i>
9:48AM - 10:24AM	R58.00010: Direct observations of dewetting relaxation at the interface of soft gels <i>Invited Speaker: Qin Xu</i>
10:24AM - 10:36AM	R58.00011: Surface waves and wakes on soft solids <i>Robert Haussman, Aditi Chakrabarti, Lakshminarayanan Mahadevan</i>
10:36AM - 10:48AM	R58.00012: Measuring the dispersion relation of capillary waves using differential dynamic microscopy <i>Jing Wang, Ryan J. McGorty</i>
10:48AM - 11:00AM	R58.00013: How suction cups fail <i>Chon U Chan, Michelle Walsh, L Mahadevan</i>

Session R63: Focus Session: Physics of Proteins and Nucleic Acids I: Structures, Dynamics, Interactions, and Energetics

Sponsoring Units: DBIO DPOLY

Chair: Huan-Xiang Zhou, Florida State University

Room: BCEC 259A

8:00AM - 8:36AM	R63.00001: Single molecule measurements provide insight into general secretory system activity <i>Invited Speaker: Gavin King</i>
8:36AM - 8:48AM	R63.00002: Mechanical determinants of protein function and evolution <i>Sandipan Dutta, Tsvi Tlusty</i>
8:48AM - 9:00AM	R63.00003: Protein Intramolecular Motions with Deuteration and Inhibitor Binding Dependence <i>Yanting Deng, Jeffrey McKinney, Tod Romo, Alan Grossfield, Andrea Markelz</i>
9:00AM - 9:12AM	R63.00004: Optimality of cooperativity in allosteric materials and proteins
9:12AM - 9:24AM	<i>Riccardo Ravasio, Solange Flatt, Le Yan, Stefano Zamuner, Carolina Brito, Matthieu Wyart</i>
9:24AM - 9:36AM	R63.00005: Finding the Optimal Folding Routes of self-entangled Proteins via Coarse-Grained Molecular Dynamics <i>Claudio Perego, Raffaello Potestio</i>
9:36AM - 9:48AM	R63.00006: Molecular mechanisms for protein-denaturation in urea and guanidinium chloride mixtures <i>Pritam Ganguly, Joan-Emma Shea</i>
9:48AM - 10:00AM	R63.00007: Large-scale, automated prediction of protein-ligand binding structures <i>Zhiwei Ma, Xianjin Xu, Rui Duan, Xiaoqin Zou</i>
10:00AM - 10:12AM	R63.00008: Inferring protein dynamics through experiment and simulation: collective modes from atomic trajectories <i>Lauren McGough, Rama Ranganathan</i>
10:12AM - 10:24AM	R63.00009: Temperature dependent studies of proteins and their hydration shell properties using megahertz-to-terahertz dielectric spectroscopy <i>Ali Charkhesht, Djamila Lou, Ben Sindle, Vinh Q Nguyen</i>
10:24AM - 10:36AM	R63.00010: Protein Structural Fluctuations at Criticality in the Temperature-pressure-crowding Folding Phase Diagram <i>Andrei G Gasic, Caleb M Daugherty, Margaret Cheung</i>
10:36AM - 10:48AM	R63.00011: Neighbourhood preference based energy function and its applications in structure prediction and protein evolution <i>siyuan liu, xilun xiang, Haiguang Liu</i>
10:48AM - 11:00AM	R63.00012: Protein Structure Prediction with MELD x MD <i>James Robertson, Alberto Perez, Ken Dill</i>
	R63.00013: Dynamic Allosteric Residue Coupling (darc) Spots Shed Light on Functional Changes from Sequence Variation <i>Paul Campitelli, Liskin Swint-Kruse, Banu Ozkan</i>

Session R30: Physics of Bio-Inspired Materials (GSOFT DBIO)

Room: BCEC 162B

Invited Speaker: John Rogers (8:00 AM)

Session R59: Actuation in Soft Matter I (GSOFT)

Room: BCEC 257B

Invited Speaker: Robert Shepard (8:00 AM)

Session R65: Biomaterials: Structure, Function, Design IV (DBIO)

Room: BCEC 260

Invited Speaker: Laurie Gower (8:00 AM)

Session S49: Focus Session: Polymers in Reactive Conditions

Sponsoring Units: DPOLY

Chair: Nir Goldman, Lawrence Livermore Natl Lab

Room: BCEC 252A

11:15AM - 11:51AM	S49.00001: Capturing shock-driven dissociation of polymers and foams <i>Invited Speaker: Dana Dattelbaum</i>
11:51AM - 12:03PM	S49.00002: Dynamic Response of Polymers Characterized using Ultrafast Laser Compression <i>Paulius Grivickas, Michael Armstrong, Joseph Michael Zaug, Richard H. Gee</i>
12:03PM - 12:15PM	S49.00003: Predicted pathways for chemical degradation in siloxane polymers <i>Matthew Kroonblawd, Nir Goldman, James Lewicki</i>
12:15PM - 12:27PM	S49.00004: Perturbing effects on the structure and properties of physically and chemically crosslinked phenolic resins <i>Weiwei Zhao, Shaw Hsu</i>
12:27PM - 12:39PM	S49.00005: Photothermally-driven oxidative degradation of LDPE nanocomposites containing plasmonic nanoparticles <i>Gabriel Firestone, Honglu Huang, Russell E Gorga, Laura Clarke, Jason R Bochinski</i>
12:39PM - 12:51PM	S49.00006: Phase field model for reactive blending of a symmetric binary polymer blend <i>Mukul Tikekar, Kris T Delaney, Douglas R. Tree, Glenn Fredrickson</i>
12:51PM - 1:03PM	S49.00007: Integrating Particle and Field-Theoretic Simulations: A Multiscale Approach to Complex Polymeric Solutions <i>Nick Sherck, Kris T Delaney, M. Scott Shell, Glenn Fredrickson</i>
1:03PM - 1:15PM	S49.00008: Hydration of the polymer block in globular protein-polymer bioconjugates <i>Helen Yao, Bradley David Olsen</i>
1:15PM - 1:27PM	S49.00009: Controlled Crystallization of Small Organic Molecules using Polymers: the Role of Hidden Liquid-Liquid Phase Domain <i>Gagan Kangovi, Sungmin Park, Sangwoo Lee</i>
1:27PM - 1:39PM	S49.00010: Dynamics of photoresponsive molecules in glassy solids <i>Kenneth Salerno, Timothy Sirk, Juan De Pablo</i>
1:39PM - 2:15PM	S49.00011: Why do Silicones do that? A Perspective on the Stability and Dynamics Polysiloxane based Polymers <i>Invited Speaker: James Lewicki</i>

Session S50: Focus Session: Organic Electronics III: Organic Transistors and Sensors

Sponsoring Units: DPOLY DMP

Chair: Xiaodan Gu, University of Southern Mississippi

Room: BCEC 252B

11:15AM - 11:27AM	S50.00001: Y-shape DNA guided Ni ion chain based nanowire transistor development and characterization <i>Chia-Ching Chang, Wen-Hung Wang, Wen-Bin Jian, Yu-Chang Chen</i>
11:27AM - 11:39AM	S50.00002: Influence of self-assembled monolayers on electronic properties of poly(3-hexylthiophene) at the polymer/substrate interface <i>Jill Wenderott, Peter Green</i>
11:39AM - 11:51AM	S50.00003: Enhanced Charge Injection Properties of Organic Field Effect Transistor via Molecular Implantation Doping <i>Youngrok Kim, Seungjun Chung, Kyungjune Cho, David Harkin, Wang-Taek Hwang, Daekyoung Yoo, Jae-Keun Kim, Woocheol Lee, Younggul Song, Heebeom Ahn, Yongtaek Hong, Henning Sirringhaus, Keehoon Kang, Takhee Lee</i>
11:51AM - 12:27PM	S50.00004: Contacts in Organic Field-Effect Transistors <i>Invited Speaker: Oana Jurchescu</i>
12:27PM - 12:39PM	S50.00005: Limits to Charge Carrier Motion in High-Performance Organic Semiconductors: Role of Energy Barriers at Grain Boundaries and Interface Traps <i>Ilya Vladimirov, Michael Kühn, Thomas Gessner, Falk May, Ralf Weitz</i>
12:39PM - 12:51PM	S50.00006: Impact of Mixed Phases and Domain Network Tortuosity on Long-Range Charge Transport in Phase-Separated Organic Semiconductor Blends <i>Michael Heiber, Andrew Herzing, Lee Richter, Dean DeLongchamp</i>
12:51PM - 1:03PM	S50.00007: Controlling the Doping Mechanism in Thin Film Transistors Through Design of Polymeric Ionic Liquid Gate Dielectrics <i>Dakota Rawlings, Elayne Thomas, Michael L. Chabynec, Rachel Segalman</i>
1:03PM - 1:15PM	S50.00008: Hysteresis and Gate Bias Stress Effects in Organic Electrochemical Transistors based on Room Temperature Ionic Liquids <i>Vikash Kaphle, Shiyi Liu, Chang Min Keum, Bjorn Lussem</i>
1:15PM - 1:27PM	S50.00009: Chemical Doping Efficiency by Semiconducting Polymer Type in Electrolyte-gated Polymer Transistor <i>Seung Hoon Oh, Jiyoul Lee</i>
1:27PM - 1:39PM	S50.00010: High performance organic field-effect transistors with wire bar-coated semiconducting polymer film <i>Do Yeon Kim, Jiyoul Lee</i>
1:39PM - 1:51PM	S50.00011: Polymer light emitting field effect transistors with steadily high efficiency over three orders of magnitude of current <i>BANG-YU HSU</i>
1:51PM - 2:03PM	S50.00012: A Molecularly- Imprinted Electrochemical Sensor to Detect VOCs in the Breath Print of Lung Cancer Patients. <i>Shadi Emam, Nian Xiang Sun</i>
2:03PM - 2:15PM	S50.00013: Low-power photonic organic artificial synapse inspired by dopamine-facilitated synaptic activity <i>Seonggil Ham, Sanghyeon Choi, Haein Cho, Gunuk Wang</i>

Session S51: Invited Session: Dynamics and Rheology of Polyelectrolytes and Biopolymers

Sponsoring Units: DPOLY DBIO

Chair: Vivek Sharma, University of Illinois at Chicago

Room: BCEC 253A

11:15AM - 11:51AM	S51.00001: Nonlinear Elongational Rheology of Unentangled Polystyrene and Poly(p-tert-butyl styrene) Melts <i>Invited Speaker: Hiroshi Watanabe</i>
11:51AM - 12:27PM	S51.00002: Salt-induced polyelectrolyte capsule formation in microfluidics <i>Invited Speaker: Joao Cabral</i>
12:27PM - 1:03PM	S51.00003: Topological Effects on Movements of Charged Macromolecules in Crowds <i>Invited Speaker: Murugappan Muthukumar</i>
1:03PM - 1:39PM	S51.00004: How structural modifications of pectin affect its gelling and complexation behavior <i>Invited Speaker: Ruth Cardinaels</i>
1:39PM - 2:15PM	S51.00005: Network connectivity, viscoelasticity and failure in gel networks: microscopic insights into soft complexity. <i>Invited Speaker: Emanuela Del Gado</i>

Session S52: Focus Session: Block Copolymer Thin Films I: Theory and Simulation

Sponsoring Units: DPOLY

Chair: Christopher Arges, Louisiana State University

Room: BCEC 253B

11:15AM - 11:27AM	S52.00001: Self-assembly of Bottlebrush Block Polymers at Surfaces using Coarse-grained Molecular Dynamics Simulations <i>Michiel Wessels, Arthi Jayaraman</i>
11:27AM - 11:39AM	S52.00002: Program the self-assembly of block copolymers for desired mesocrystals <i>Wei-hua Li</i>
11:39AM - 11:51AM	S52.00003: Dynamics at the Interface of Structured Block Co-Polymer Thin Films with Polar Solvents: Molecular Dynamics Simulations Insights <i>Manjula Senanayake, Dipak Aryal, Gary Grest, Dvora Perahia</i>
11:51AM - 12:03PM	S52.00004: Microphase Separation in Dipolar Diblock Copolymer Melts <i>Rajeev Kumar, Wei Li, Bobby G Sumpter, Murugappan Muthukumar</i>
12:03PM - 12:15PM	S52.00005: DPD simulation of multilayer self-assembly of block-copolymer <i>Hejin Huang, Alfredo Alexander-Katz</i>
12:15PM - 12:27PM	S52.00006: Is Simple Cubic Spherical Phase Possible in Block Copolymers? <i>Yueming Xia, Wei-hua Li</i>
12:27PM - 1:03PM	S52.00007: Simulation studies reflecting the importance of kinetics on block copolymer self-assembly <i>Invited Speaker: Su-Mi Hur</i>
1:03PM - 1:15PM	S52.00008: Single chain in mean field (SCMF) simulation of flexible and semiflexible block copolymers. <i>Sojung Park, Daeseong Yong, Jaeup Kim</i>
1:15PM - 1:27PM	S52.00009: Effect of free surface and substrate topography on the self-assembly of block copolymer films <i>Vikram Thapar, Juan De Pablo, Su-Mi Hur</i>
1:27PM - 1:39PM	S52.00010: Rational design of linear-dendritic block copolymer for overwhelming region of spherical phases <i>Yicheng Qiang, Wei-hua Li</i>
1:39PM - 1:51PM	S52.00011: Stability of Dodecagonal Quasicrystalline Tiling in ABC Star Terpolymers <i>Chao Duan, Yicheng Qiang, Wei-hua Li</i>
1:51PM - 2:03PM	S52.00012: Tiling Patterns Self-Assembled from Rod-Coil Copolymers with Hydrogen Bonds <i>Ping Tang, Zhihui Li, Faqiang Liu, Hongdong Zhang, Yuliang Yang</i>
2:03PM - 2:15PM	S52.00013: Self-Assembly Behaviors of B1AB2CB3 MultiBlock Copolymer <i>QIONG XIE, Wei-hua Li</i>

Session S54: Focus Session: Polymer Nanocomposites V: Thermodynamics and Dynamics

Sponsoring Units: DPOLY

Chair: Robert Hickey, Pennsylvania State University

Room: BCEC 254A

11:15AM - 11:27AM	S54.00001: Effects of Matrix Chain Length on Miscibility of Nanoparticles <i>Clement Koh, Amish Patel, Sanat Kumar</i>
11:27AM - 11:39AM	S54.00002: Dynamics of Adsorbed Polymer Chains in Polymer Nanocomposite Melts <i>Eric Bailey, Russell John Composto, Karen Winey</i>
11:39AM - 11:51AM	S54.00003: Rational Design of Polymer Nanocomposites to Advance Their Thermomechanical Performance via Predictive Multiscale Modeling <i>Wenjie Xia</i>
11:51AM - 12:03PM	S54.00004: Phase Behavior of Polymer Nanocomposite Systems with Attractive Particle-Polymer Interactions <i>Ben Lindsay, Francisco Buitrago, Peter A Gordon, Karen Winey, Robert Riggleman</i>
12:03PM - 12:15PM	S54.00005: Exchange of the Bound Polymer Layer on Silica Nanoparticles <i>Sanat Kumar, Andrew Jimenez, Jacques Jestin</i>
12:15PM - 12:27PM	S54.00006: The complexity of linear viscoelastic properties of polymer nanocomposites: polymer dynamics and nanoparticle rearrangement <i>Shiwang Cheng, Jie Yang, Wei Yang</i>
12:27PM - 12:39PM	S54.00007: The Effect of Nanofillers on the Viscoelastic Creep Behavior of Thermoplastics <i>Francisco Buitrago, Anita S Yang, Peter A Gordon, Robert Riggleman, Karen Winey</i>
12:39PM - 12:51PM	S54.00008: Thickness Effects on Morphology and Gas Permeability of Polystyrene-Grafted-Silica in a Polystyrene Matrix <i>Sophia Chan, Connor Bilchak, Mayank Jhalaria, Andrew Jimenez, Sebastian Russell, Julia Pribyl, Brian C Benicewicz, Sanat Kumar</i>
12:51PM - 1:03PM	S54.00009: Highly-Mobile Nanoparticles that Strongly Interact with Well-Entangled Polymer Melts Diffuse via the Vehicular Mechanism <i>Karen Winey, Eric Bailey, Philip J Griffin, Russell John Composto</i>
1:03PM - 1:39PM	S54.00010: Using advanced field-based approaches to predict macroscale polymer nanocomposite phase behavior <i>Invited Speaker: Jason Koski</i>
1:39PM - 1:51PM	S54.00011: Local structure and phase behavior of dense polymer-particle mixtures: improved theory and comparison with simulation <i>Yuxing Zhou, Kenneth Schweizer</i>
1:51PM - 2:03PM	S54.00012: Deforming Interfacial Layers of Bare and Grafted Particle Nanocomposites in Large Amplitude Oscillatory Shear <i>Siyang Yang, Pinar Akcora</i>
2:03PM - 2:15PM	S54.00013: Dissipative Particle Dynamics (DPD) Simulations of Polymer-Filler Blends: Understanding Dispersion and Hierarchical Structure in Polymer Nanocomposites. <i>Ashish Gogia, Kabir Rishi, Alex McGlasson, Michael Chauby, Greg Beaucage, Vikram K Kuppa</i>

Session S55: Polymers and Biopolymers in Very Strongly Confined Environments I: Structure and dynamics of packaged polymers

Sponsoring Units: DPOLY DBIO GSNP

Chair: Zachary Dell, University of Massachusetts Amherst

Room: BCEC 254B

11:15AM - 11:27AM	S55.00001: Distribution of label spacings for genome mapping in nanochannels <i>Daniel Odman, Erik Werner, Kevin D Dorfman, Charles R Doering, Bernhard Mehlig</i>
11:27AM - 11:39AM	S55.00002: Pathway-dependent nonequilibrium conformations of a polymer globule as a model for chromatin organization <i>Seulki Kwon, Bong June Sung</i>
11:39AM - 11:51AM	S55.00003: Organization and Dynamics of Multiple DNA Chains Confined in a Nanofluidic Compartment <i>Zezhou Liu, Xavier Capaldi, Lili Zeng, Yuning Zhang, Thu Ha Dao, Walter Reisner</i>
11:51AM - 12:27PM	S55.00004: Chromatin Rheology Tells a Story: From DNA Damage Loci to Cellular Monolayers <i>Invited Speaker: Kris Dahl</i>
12:27PM - 12:39PM	S55.00005: Conformation and Dynamics of Nonconcatenated Ring Polymers under Planar Confinement <i>Tianren Zhang, Karen Winey, Robert Riggleman</i>
12:39PM - 12:51PM	S55.00006: The Kinetoplast as a Model 2D Catenated Polymer <i>Alexander Klotz, Beatrice Soh, Patrick Doyle</i>
12:51PM - 1:03PM	S55.00007: Random Walks in Disordered Environments: Membrane-Induced Confinement of DNA <i>Xavier Capaldi, Zezhou Liu, Yuning Zhang, Walter Reisner</i>
1:03PM - 1:15PM	S55.00008: Molecular Confinement on Nanostructured Polymer Surfaces <i>Sara Heedy, Albert Yee</i>
1:15PM - 1:27PM	S55.00009: Voltage-Driven Translocation through a Nanopore: How can we define a/the Capture Radius? <i>Gary W. Slater, Le Qiao</i>
1:27PM - 1:39PM	S55.00010: Exploring How the Capture Process Affects the Translocation of Polymers through Nanopores <i>Hendrick W de Haan, Konstantinos Kastiris, Martin Magill</i>
1:39PM - 1:51PM	S55.00011: The effects of packaging on the ejection rate of a polymer from a nanopore <i>Chung Bin Park, Bong June Sung</i>
1:51PM - 2:03PM	S55.00012: Capture and translocation of a stiff oligomer by a nanopore <i>Le Qiao, Gary W. Slater</i>
2:03PM - 2:15PM	S55.00013: Towards Single Molecule Protein Sequencing by Nanopore Mass Spectrometry <i>Nicholas Drachman, Mathilde LePoitevin, Benjamin Wiener, hannah Szapary, Oliver G Isik, Derek Stein</i>

Session S56: Interactions of Elastic Structures with Fluids and Granular Matter I

Sponsoring Units: GSNP DPOLY

Chair: Douglas Holmes, Virginia Tech

Room: BCEC 255

11:15AM - 11:51AM	S56.00001: Interactions of slender elastic structures with complex media like granular materials <i>Invited Speaker: Evelyne Kolb</i>
11:51AM - 12:03PM	S56.00002: Elastogranular Packing of a Loop <i>David Jay Schunter, Jr., Regina K. Czech, Douglas Peter Holmes</i>
12:03PM - 12:15PM	S56.00003: Elastic tweezers for a vibrated granular bead <i>Paul Rambach, Thomas Salez, Yacine Amarouchene, Pascal Damman</i>
12:15PM - 12:27PM	S56.00004: Using an Olami-Feder-Christensen model with velocity weakened friction and variable stress transfer range to model slip-stick behavior in a sheared granular fault gouge system <i>Rachele Dominguez</i>
12:27PM - 12:39PM	S56.00005: Mechanical properties of jammed elastogranular columns <i>Xin Jiang, Mo Eydani, Kate Flanagan, Casey Ricks, Douglas Peter Holmes</i>
12:39PM - 12:51PM	S56.00006: Scaling Effects in Composite Elastogranular Materials <i>Mo Eydani, Xin Jiang, Casey Ricks, Kate Flanagan, Douglas Peter Holmes</i>
12:51PM - 1:03PM	S56.00007: Modeling the physical constraints of latch mediated, spring actuated systems <i>Mark Ilton, Andres Cook, Nicholas Heller, S. N. Patek, Alfred Crosby, Sarah Bergbreiter, Emanuel Azizi, Gregory P. Sutton, Sarah Longo, Sathvik Divi, Crystal Reynaga, Jeffrey Olberding, Ryan St Pierre, Suzanne Cox</i>
1:03PM - 1:15PM	S56.00008: Elastic feathers spread impact force <i>Sunghwan Jung, kinjal Bhar, Brian Chang, Lorian Staker, Emmanuel Viro, Romain Paris, Christophe Clanet</i>
1:15PM - 1:27PM	S56.00009: Entanglement of Elastic Fibers in low Reynolds Fluid Flow <i>Hossein Sharifzadeh, Yayun Du, Ali Beyzavi, Mohammad Khalid Jawed</i>
1:27PM - 1:39PM	S56.00010: Formation mechanism and morphological behavior of high aspect-ratio folds in compressed films <i>Derek Breid, Sachin Velankar</i>
1:39PM - 1:51PM	S56.00011: Rate-controlled wrinkling and folding of thin elastic films bonded to viscous substrates <i>Sachin Velankar, Sourav Chatterjee, Junyu Yang, Rui Huang, Xianheng Guan, Luka Pociavsek, Enrique Cerda</i>

Session S58: Soft Interface Mechanics II

Sponsoring Units: GSOFD DPOLY GSNP DBIO

Chair: Ryan McGorty, Univ of San Diego

Room: BCEC 257A

11:15AM - 11:27AM	S58.00001: Phospholipid bilayer interleaflet friction from coarse-grained numerical simulations <i>Othmène Benazieb, Fabrice Thalmann</i>
11:27AM - 11:39AM	S58.00002: Modifying lubrication in micro-patterned and polymer-grafted soft interfaces <i>Lilian Hsiao, Yunhu Peng, Christopher Serfass</i>
11:39AM - 11:51AM	S58.00003: Ink Transfer in Ultrathin Flexographic Printing Using Nanoporous Stamps <i>Dhanushkodi Mariappan, Kim Sanha, Michael S. H. Boutilier, Junjie Zhao, Hangbo Zhao, Justin Beroz, Ulrich Muecke, Hossein Sojoudi, Karen Gleason, PT Brun, John Hart</i>
11:51AM - 12:03PM	S58.00004: Effects of Bidisperse Wettability on Interfacial Viscoelasticity of Particle Laden Interfaces <i>Syed Ehsanur Rahman, Gordon Christopher</i>
12:03PM - 12:15PM	S58.00005: Particle assembly on an evolving interface <i>Benjamin Druecke, Xiang Cheng, Sungyon Lee</i>
12:15PM - 12:27PM	S58.00006: A Computational Method to Study Packing on Deformable Shells <i>Sanjay Dharmavaram, Luigi E Perotti</i>
12:27PM - 12:39PM	S58.00007: Rigid Bubbles: Novel Instabilities in Colloidal Film Rupture <i>Phalguni Shah, Srishti Arora, Michelle R Driscoll</i>
12:39PM - 12:51PM	S58.00008: Thermally assisted buckling of colloidal assemblies <i>Simon Stuij, Jan-Maarten van Doorn, Tom Kodger, Joris Sprakel, Corentin Coulais, Peter Schall</i>
12:51PM - 1:03PM	S58.00009: Memory effects in the attachment of thin films to liquid surfaces <i>Deepak Kumar, Thomas Russell, Benjamin Davidovitch, Narayanan Menon</i>
1:03PM - 1:15PM	S58.00010: Motion of water droplets on oil infused surfaces <i>Solomon Adera, Lilian Magermans, Mughees Khan, Joanna Aizenberg</i>
1:15PM - 1:27PM	S58.00011: ABSTRACT WITHDRAWN
1:27PM - 1:39PM	S58.00012: Two-wavelength Wrinkling Patterns in Chiral Liquid Crystal Surfaces <i>Pardis Rofouie, Ziheng Wang, Alejandro Rey</i>
1:39PM - 1:51PM	S58.00013: Sculpting high aspect ratio particles from oil-in-water emulsions <i>Mathew Giso, Haoda Zhao, Patrick T Spicer, Tim Atherton</i>
1:51PM - 2:03PM	S58.00014: Defect screening in faceted emulsion droplets. <i>Ireth García-Aguilar, Piermarco Fonda, Luca Giomi, Eli Sloutskin</i>
2:03PM - 2:15PM	S58.00015: Statistical Mechanics of Puckered Membranes <i>Abigail Plummer, David R Nelson</i>

Session S65: Focus Session: Physics of Genome Organization II

Sponsoring Units: DBIO DPOLY GSNP

Chair: Alexandre Morozov, Rutgers Univ

Room: BCEC 260

- 11:15AM - S65.00001: Measuring the energetics of transcriptional regulation in living cells using allelic manifolds
11:51AM
Invited Speaker: Justin Kinney
- 11:51AM - S65.00002: The Influence of Nucleosome Energetics on Chromatin Structure Across Multiple Length-Scales
12:03PM
Joshua Moller, Joshua Lequieu, Juan De Pablo
- 12:03PM - S65.00003: Modeling the spreading of epigenetic marks at the Oct4 promoter
12:15PM
Melinda Varga, William C. Aird, Erzsébet Ravasz Regan
- 12:15PM - S65.00004: The role of activity from within and outside of the cell nucleus in nuclear blebbing
12:27PM
Kuang Liu, Edward Banigan, Alison E. Patteson, J. M. Schwarz
- 12:27PM - S65.00005: Modeling intrinsic biases in high-throughput sequencing data for chromatin accessibility
12:39PM
Shengen Hu, Chongzhi Zang
- 12:39PM - S65.00006: Polymer models of chromosome compaction during cell division.
12:51PM
Anton Goloborodko, Johan H. Gibcus, Kumiko Samejima, Itaru Samejima, Natalia Naumova, Johannes Nuebler, Masato Kanemaki, Linfeng Xie, James R. Paulson, William C. Earnshaw, Job Dekker, Leonid Mirny
- 12:51PM - S65.00007: The structural consequences of one-sided loop extrusion
1:03PM
Edward Banigan, Aafke van den Berg, Hugo B Brandao, John Frederick Marko, Leonid Mirny
- 1:03PM - S65.00008: Noninvasive imaging of 3D dynamics in the cell nucleus
1:15PM
Yoon Jung, Kuan-Chung Su, William H Bloxham, Iain M. Cheeseman, Nikta Fakhri
- 1:15PM - S65.00009: Interplay of Loop Extrusion, Compartmentalization and Global Chromosome Dynamics Across Conditions and the Cell Cycle
1:27PM
Johannes Nuebler, Geoffrey Fudenberg, Maxim Imakaev, Nezar Abdennur, Leonid Mirny
- 1:27PM - S65.00010: A microscopic theory for chromosome congression in *C. elegans* mitotic spindle
1:39PM
Ehssan Nazockdast, Michael John Shelley, Stephanie Redemann
- 1:39PM - S65.00011: Optimizing chromosome disentanglement via chromatin loop organization
1:51PM
Sumitabha Brahmachari, John Frederick Marko
- 1:51PM - S65.00012: Modulation of the DNA accessibility in the nucleosome -- insights from basic physics.
2:03PM
Alexey Onufriev
- 2:03PM - S65.00013: How nucleoid associated proteins stabilize supercoiled DNA
2:15PM
Katelyn Dahlke, Charles E. Sing

Session R59: Actuation in Soft Matter II (GSOFT)

Room: BCEC 257B

Session V25: Focus Session: Polymer-Mediated Structural Transitions in Soft Materials

Sponsoring Units: DPOLY GSOFT DBIO

Chair: Tapomoy Bhattacharjee, Princeton University

Room: BCEC 160A

2:30PM - 3:06PM	V25.00001: Rouleaux formation: polymer induced Red Blood Cells aggregates <i>Invited Speaker: Christian Wagner</i>
3:06PM - 3:18PM	V25.00002: Extracellular polymers control bacterial biofilm expansion and material properties <i>Jing Yan, Bonnie Bassler, Ned Wingreen, Howard A Stone</i>
3:18PM - 3:30PM	V25.00003: Glass transition temperature of poly(lactic-co-glycolic acid) particles <i>Yiqing Yang, Qingrui Jiang, Steven Herrera, Kathleen McEnnis</i>
3:30PM - 3:42PM	V25.00004: Polyelectrolyte-Mediated Colloidal Interactions at the Interfaces of Liquid Crystals <i>Michael Tsuei, Young Ki Kim, Hao Sun, Xin Wang, Yu Yang, Nathan C. Gianneschi, Nicholas L. Abbott</i>
3:42PM - 3:54PM	V25.00005: Phase behavior and structure of polyelectrolyte-nanoparticle complex assemblies <i>E Neilsen, Samanvaya Srivastava</i>
3:54PM - 4:06PM	V25.00006: Polymer mediated interaction between colloids and their role in the formation of colloidal aggregates <i>Alexander Chervanyov</i>
4:06PM - 4:18PM	V25.00007: Dielectric virial expansion of polarizable dipolar spheres <i>Huada Lian, Jian Qin</i>
4:18PM - 4:30PM	V25.00008: Co-assembly of anisotropic colloids and diblock copolymer mixtures <i>Javier Diaz, Roy Shenhar, Marco Pinna, Ignacio Pagonabarraga, Andrei Zvelindovsky</i>
4:30PM - 4:42PM	V25.00009: Predicting chi for polymers with different chain architectures using simulation <i>Shreya Shetty, Milena Marie Adams, Enrique D Gomez, Scott Milner</i>
4:42PM - 4:54PM	V25.00010: Novel Dynamical behaviors of charged Macromolecules in a crowded environment <i>Di Jia, Murugappan Muthukumar</i>
4:54PM - 5:06PM	V25.00011: Similarity of Crambin Lattice Protein Homologues in the Semi-flexible HOP Model <i>Zewen Zhang, Alfred Farris, Guangjie Shi, Thomas Wuest, David P Landau</i>
5:06PM - 5:18PM	V25.00012: Is there a universal equation of state for flexible polymers beyond the semi-dilute regime? <i>Jaroslav Paturej, Jenz-Uwe Sommer, Torsten Kreer</i>
5:18PM - 5:30PM	V25.00013: Gelation of hydrogel films and coatings induced by substrate swelling. <i>David Moreau, Caroline Chauvet, François Etienne, François P Rannou, Laurent Corte</i>

Session V50: Focus Session: Ion Transport Mechanisms in Ionic Liquid/Polymer Hybrids

Sponsoring Units: DPOLY

Chair: Lisa Hall, Ohio State University

Room: BCEC 252B

2:30PM - 2:42PM	V50.00001: Influence of Side-chain Chemistry on Structure and Ionic Conduction Characteristics of Polythiophene Derivatives: A Computational and Experimental Study <i>Ban Dong, Christian Nowak, Jonathan Onorato, Fernando A Escobedo, Christine Luscombe, Paul F Nealey, Shrayesh Patel</i>
2:42PM - 2:54PM	V50.00002: Ion-Transport Properties of Nanothin Film Dry Polymer Electrolytes <i>Ban Dong, Paul F Nealey, Shrayesh Patel</i>
2:54PM - 3:06PM	V50.00003: Proton transport through acid aggregates in a hydrated precise sulfophenylated polyethylene <i>Benjamin Paren, Lionel Picard, Patrice Rannou, Manuel Marechal, William Neary, Aaron Kendrick, Justin G Kennemur, Amalie Frischknecht, Karen Winey</i>
3:06PM - 3:42PM	V50.00004: Mesoscale Organization and Dynamics in Ionic Liquids <i>Invited Speaker: Joshua Sangoro</i>
3:42PM - 3:54PM	V50.00005: Diffusion of Ions in Diblock Copolymers: Understanding the Molecular Weight Effect Through Coarse-Grained Modeling <i>Youngmi Seo, Lisa Hall</i>
3:54PM - 4:06PM	V50.00006: Study of Segmental Dynamics in Polymer-Ceramic Composite Electrolytes using Quasi-elastic Neutron Scattering <i>Chelsea Chen, Naresh Osti, Robert L Sacci, Nancy J Dudney</i>
4:06PM - 4:18PM	V50.00007: Transport of Associated Particles in Polymeric Melts: A Dynamic Bonding Approach <i>Zhen Cao, Jonathan P Mailoa, Alfredo Alexander-Katz</i>
4:18PM - 4:30PM	V50.00008: Study of Diffusion of Lithium Salt in Block Copolymer <i>Kyoungmin Kim, Daniel Hallinan</i>
4:30PM - 4:42PM	V50.00009: Influence of Doping on performance of Solid Polymer Electrolyte for Lithium-ion Batteries <i>Shankar Ram Chithur Viswanathan, Janna Maranas</i>
4:42PM - 4:54PM	V50.00010: Investigation of Ion Transport Properties of Stockmayer-Type Polymers <i>Bill Wheatle, Erick Fuentes, Venkatraghavan Ganesan</i>
4:54PM - 5:06PM	V50.00011: Analyzing Ion Conductivity in Block Copolymer Electrolytes from Molecular Dynamics Simulations with an Applied Electric Field <i>Kuan-Hsuan Shen, Lisa Hall</i>
5:06PM - 5:18PM	V50.00012: Dissolution of Lithium Metal in Poly(ethylene oxide) <i>Michael Galluzzo, Whitney Loo, Nitash Balsara</i>
5:18PM - 5:30PM	V50.00013: Designing efficient polymer electrolytes via end-group controls <i>Ha Young Jung, GYEONG-CHAN KANG, Moon Jeong Park</i>

Session V51: Invited Session: Protein Liquid-Liquid Phase Separation

Sponsoring Units: DBIO DPOLY

Chair: Xiaoqin Zou, University of Missouri

Room: BCEC 253A

2:30PM - 3:06PM	V51.00001: Physical Basis of Protein Liquid-Liquid Phase Separation <i>Invited Speaker: Huan-Xiang Zhou</i>
3:06PM - 3:42PM	V51.00002: Identifying sequence-determinants of protein liquid-liquid phase separation using molecular simulations <i>Invited Speaker: Jeetain Mittal</i>
3:42PM - 4:18PM	V51.00003: Atomic details of protein/RNA liquid-liquid phase separation by experiment and simulation <i>Invited Speaker: Nick Fawzi</i>
4:18PM - 4:54PM	V51.00004: Features and consequences for transcriptional activity of transcription factor condensation <i>Invited Speaker: Xavier Salvatella</i>
4:54PM - 5:30PM	V51.00005: Observation of LLPS in Protein and Peptide solutions: Serendipitous or Ubiquitous? <i>Invited Speaker: Ying Wang</i>

Session V52: Focus Session: Block Copolymer Thin Films II: Experiment and Application

Sponsoring Units: DPOLY

Chair: Julie Albert, Tulane University

Room: BCEC 253B

2:30PM - 3:06PM	V52.00001: Sequential Infiltration Synthesis – Mechanism and Applications of Metal Oxide Growth within Block Copolymers <i>Invited Speaker: Tamar Segal-Peretz</i>
3:06PM - 3:18PM	V52.00002: Self-Assembly Kinetics Enhancement in Ternary “Wet Brush” Block Copolymer/Homopolymer Blend Thin Films <i>Gregory Doerk, Ruyipeng Li, Masafumi Fukuto, Alfredo Rodriguez, Kevin G. Yager</i>
3:18PM - 3:30PM	V52.00003: Block Copolymer Films Showing Dual Patterns Using Topographically-Defined Substrates <i>Elishva Michman, Marcel Langenberg, Roland Stenger, Marcus Mueller, Roy Shenhar</i>
3:30PM - 3:42PM	V52.00004: Block Copolymer Derived Uniform Mesopores For Supercapacitors <i>Guoliang Liu, Tianyu Liu</i>
3:42PM - 3:54PM	V52.00005: Multi-scale Block Copolymer Coating That Induces Hydrophobic Properties on Inorganic Surfaces <i>Li-Chen Cheng, John William Simonaitis, Mukarram Tahir, Karim Gadelrab, Yi Ding, Alfredo Alexander-Katz, Karl K Berggren, Caroline Anne Ross</i>
3:54PM - 4:06PM	V52.00006: Generalized method for perpendicular orientation of block copolymer microdomains in thin films with surface crosslinking process <i>Jinwoo Oh, Hyo Seon Suh, Jeong Gon Son</i>
4:06PM - 4:18PM	V52.00007: Modification Toward Fluorine-Containing High- χ Block Copolymers and Orientation Control on Thin Films <i>Seongjun Jo, Seungbae Jeon, Taesuk Jun, Du Yeol Ryu</i>
4:18PM - 4:30PM	V52.00008: Self-organization of Triblock Copolymer Melt Chains Physisorbed on Non-neutral Surfaces <i>Daniel Salatto, Naisheng Jiang, Xiaoyu Di, Chang-Yong Nam, Masafumi Fukuto, Maya Endoh, Tadanori Koga</i>
4:30PM - 4:42PM	V52.00009: Fabrication of Dual Nanopatterns at desired area using Block Copolymer Containing Photocleavable Linker <i>Chungryong Choi, Soyeong Park, Yeseong Seo, Jaeyong Lee, Seonghyeon Ahn, Eunseol Kim, Jin Kim</i>
4:42PM - 4:54PM	V52.00010: Development of Shape-Tuned, Monodisperse Block Copolymer Particles through Solvent-Mediated Particle Restructuring <i>Jaе Man Shin, Young Jun Lee, Mingoo Kim, Kang Hee Ku, Junhyuk Lee, YongJoo Kim, Hongseok Yun, Bumjoon Kim</i>
4:54PM - 5:06PM	V52.00011: Order-to-disorder transition of block copolymer thin films and its dependence on thickness and preferential interaction <i>Jaеup Kim, Daeseong Yong, Yeongsik Kim, Du Yeol Ryu</i>
5:06PM - 5:18PM	V52.00012: Directional Alignment of Quasi-Single-Crystalline 2D Dot Array in Diblock Copolymer Thin Films via Epitaxial Cylinder-to-Sphere Transition <i>Ye Chan Kim, So Youn Kim</i>
5:18PM - 5:30PM	V52.00013: Pore Size Control using Cooperative Assembly with Block Copolymers and Low Volatility Solvents <i>Meeta Trivedi, Bryan Vogt</i>

Session V54: Focus Session: Sequence and Charge Driven Bio- and Bio-inspired Macromolecular Assembly

Sponsoring Units: DPOLY DBIO

Chair: Charles Sing

Room: BCEC 254A

2:30PM - 3:06PM	V54.00001: Theoretical Perspectives on Cellular Compartmentalization by Phase Separation <i>Invited Speaker: Hue Sun Chan</i>
3:06PM - 3:18PM	V54.00002: Transfer Matrix Theory Model of Sequence-Dependent Polyampholyte Phase Separation <i>Jason Madinya, Charles E. Sing</i>
3:18PM - 3:30PM	V54.00003: Impact of complex coacervation on tau amyloid aggregation <i>Yanxian Lin, Kate Zeng, Yann Fichou, Yuge Hu, Songi Han</i>
3:30PM - 3:42PM	V54.00004: Effect of pH on polymer adsorption and bridging in a two oppositely charged nanoparticle/protein system <i>Rituparna Samanta, Venkatraghavan Ganesan</i>
3:42PM - 3:54PM	V54.00005: Tuning interactions between hybrid physical-covalent rigid rods made of computationally designed coiled coils by peptide sequence manipulation <i>Nairiti Sinha, Rajkumar Misra, Rui Guo, Christopher Kloxin, Jeffery G Saven, Darrin Pochan</i>
3:54PM - 4:06PM	V54.00006: Influence of Charge Sequence on the Adsorption of Polyelectrolyte Solution on to Polyelectrolyte Brush <i>Vaidyanathan Sethuraman, Michael P McGovern, David Clark Morse, Kevin D Dorfman</i>
4:06PM - 4:18PM	V54.00007: Biomolecules for non-biological things: 1-D and 2-D polymer formation through peptide design and solution assembly <i>Darrin Pochan</i>
4:18PM - 4:54PM	V54.00008: Engineering protein and polyelectrolyte complexation for cellular applications <i>Invited Speaker: Allie Obermeyer</i>
4:54PM - 5:06PM	V54.00009: Conditions for complex coacervation of the microtubule-associated tau protein predicted from field theoretic simulations <i>James McCarty, Yanxian Lin, Kris T Delaney, Glenn Fredrickson, Songi Han, Joan-Emma Shea</i>
5:06PM - 5:18PM	V54.00010: Sequence Effects on Block Copolymer Self-Assembly through Tuning Chain Conformation and Segregation Strength Utilizing Sequence-Defined Polypeptoids <i>Anastasia Patterson, Scott Danielsen, Beihang Yu, Emily C Davidson, Glenn Fredrickson, Rachel Segalman</i>
5:18PM - 5:30PM	V54.00011: Kinetics of conformational changes in polyelectrolyte systems <i>Swati Sen, Soumik Mitra, Arindam Kundagrami</i>

Session V55: Focus Session: Polymer Crystallization III: Copolymer Crystallization, Intercrystalline Topology and Mechanical Properties

Sponsoring Units: DPOLY

Chair: Rufina Alamo, Florida State University

Room: BCEC 254B

2:30PM - 2:42PM	V55.00001: Statistics of Ties and Loops in Amorphous Regions of Polymer Crystals <i>Sabin Adhikari, Murugappan Muthukumar</i>
2:42PM - 2:54PM	V55.00002: Tie Molecule Formation in High Density Polyethylene <i>Seong Hyuk Cho, Richard Alan Register</i>
2:54PM - 3:06PM	V55.00003: Does crystal thickness dictate yield kinetics in polyethylene? <i>Jevan Furmanski, Jonathan Schaefer, Leon Govaert, Hans Van Dommelen</i>
3:06PM - 3:18PM	V55.00004: Structure and morphology of poly(ethylene)-block-isotactic poly(propylene) di-block copolymers <i>Claudio De Rosa, Rocco Di Girolamo, Anna Malafronte, Finizia Auriemma, Miriam Scoti</i>
3:18PM - 3:30PM	V55.00005: Quiescent and flow-induced crystallization of polyolefins studied by a novel low-field RheoNMR combination <i>Karl-Friedrich Rätzsch, Volker Rätzsch, Begüm M. Özen, Manfred Wilhelm</i>
3:30PM - 3:42PM	V55.00006: Distribution of Chain Ends in a Crystal-Fixed Polymer Elucidated by Solid-State NMR <i>Shichen Yuan, Klaus Schmidt-Rohr</i>
3:42PM - 4:18PM	V55.00007: The effect of multi-block structure on the crystallization and properties of ethylene/1-octene copolymers from chain shuttling technology. <i>Invited Speaker: Finizia Auriemma</i>
4:18PM - 4:30PM	V55.00008: Contrasting melt memory of homopolymers and random ethylene copolymers using halogen substitution with precision placement or random distribution <i>Stephanie Marxsen, Rufina Alamo</i>
4:30PM - 4:42PM	V55.00009: Study on the Thermodynamics of Polymer Crystallization Based on Twin-Lattice Model <i>Nuofei Jiang</i>
4:42PM - 4:54PM	V55.00010: Crystallization Process with Aggregation of Small Crystallites for Polytrimethylene Terephtharate <i>Takashi Konishi, Daisuke Okamoto, Daisuke Tadokoro, Yoshitaka Kawahara, Koji Fukao, Yoshihisa Miyamoto</i>
4:54PM - 5:06PM	V55.00011: Effects of diffusion barriers on the temperature dependence of polymer crystallization rates <i>Cai Jun, Jiping Wang, Wenbing Hu</i>
5:06PM - 5:18PM	V55.00012: Low-Temperature Crystal Nucleation of Enantiomeric Poly (lactic acids) <i>He Yucheng, Pengju Pan, Wenbing Hu</i>
5:18PM - 5:30PM	V55.00013: Crystallization Behavior and Kinetics of Blends of PVDF with a Fluorinated Copolymer <i>Nelaka Dilshan Govinna, Ilin Sadeghi, Ayse Asatekin, Christoph Schick, Peggy Cebe</i>

Session V58: Focus Session: Hyperuniformity and Optimal Tessellations: Structure, Formation and Properties

Sponsoring Units: GSOF DPOLY DBIO DMP

Chair: Gregory Grason, University of Massachusetts Amherst

Room: BCEC 257A

2:30PM - 3:06PM	V58.00001: Hyperuniformity and optimal tessellations: structure, formation and properties <i>Invited Speaker: Jasna Brujic</i>
3:06PM - 3:42PM	V58.00002: Disordered Hyperuniform Many-Particle Systems via Tessellations <i>Invited Speaker: Salvatore Torquato</i>
3:42PM - 3:54PM	V58.00003: Quantifying The Mechanical Energy Landscape of Two-Dimensional Cellular Matter <i>Sascha Hilgenfeldt, Xavier Cauvin, Sangwoo Kim</i>
3:54PM - 4:06PM	V58.00004: Algorithmically generated hyperuniform packings have novel vibrational properties <i>Jack Dale, Eric Corwin</i>
4:06PM - 4:18PM	V58.00005: Hyperuniformity of the Optimal Multiscale Hashin-Shtrikman Two-Phase Tessellations <i>Jaek Kim, Salvatore Torquato</i>
4:18PM - 4:30PM	V58.00006: General Mechanical Energy Landscape in Two-Dimensional Interacting Systems <i>Sangwoo Kim, Sascha Hilgenfeldt</i>
4:30PM - 4:42PM	V58.00007: Nano-Real Space Analysis Takes Dynamics of Colloids Three Decades Closer to the Glass Transition <i>Paddy Royall</i>
4:42PM - 4:54PM	V58.00008: Experiments on periodically sheared colloidal suspensions with diffusion <i>Sam Wilken, Rodrigo Guerra, David J Pine, Paul M Chaikin</i>
4:54PM - 5:06PM	V58.00009: Dynamic hyperuniformity of driven suspensions <i>Haim Diamant</i>
5:06PM - 5:18PM	V58.00010: Complex Spherical Micelle Packings in Aqueous Dispersions of Diblock Polymers <i>Ashish Jayaraman, Diana Y Zhang, Beth L Dewing, Mahesh Mahanthappa</i>
5:18PM - 5:30PM	V58.00011: Hyperuniformity of generalized random organization models <i>Zheng Ma, Salvatore Torquato</i>

Session X49: Charged and Ion-Containing Polymers

Sponsoring Units: DPOLY

Chair: Di Jia, University of Massachusetts Amherst

Room: BCEC 252A

8:00AM - 8:12AM	X49.00001: Role of Ion Size and Valency in Mechano-Electrical Energy Conversion of Flexo-Ionic Polymers <i>Hamad Albehajian, Camilo Piedrahita, Jinwei Cao, Thein Kyu</i>
8:12AM - 8:24AM	X49.00002: Flexoelectricity in polymer electrolyte membranes: 'Polarity switching' in solid polymeric ion conductors <i>Camilo Piedrahita, Jinwei Cao, Thein Kyu</i>
8:24AM - 8:36AM	X49.00003: Coarse-grained simulation of lithium dendrite suppression by flowable polymer coating <i>Xian Kong, Paul Rudnicki, Jian Qin</i>
8:36AM - 8:48AM	X49.00004: Ion Transport in Well-Aligned Block Copolymer Electrolytes <i>Peter Bennington, Daniel Sharon, Moshe Dolejsi, Paul F Nealey, Shrayesh Patel</i>
8:48AM - 9:00AM	X49.00005: Phase Behavior of Salt Doped A/B/A-B Ternary Polymer Blends <i>Shuyi Xie, En Wang, Daniel J Meyer, Timothy Lodge</i>
9:00AM - 9:12AM	X49.00006: Detection of the Order-to-Disorder Transition in Block Copolymer Electrolytes Using Quadrapolar ⁷ Li NMR Splitting <i>Lorena Grundy, Gurmukh Sethi, Michael Galluzzo, Nitash Balsara</i>
9:12AM - 9:24AM	X49.00007: Counterion condensation and ionic conductivity in microphase separated block copolymer electrolytes <i>Christopher Arges, Qi Le, Ke Le, Revati Kumar</i>
9:24AM - 9:36AM	X49.00008: Compositionally Asymmetric Block Polyelectrolyte Morphologies <i>Sebastian Russell, Alan C West, Oleg Gang, Monica Olvera De La Cruz, Luis M. Campos, Sanat Kumar</i>
9:36AM - 9:48AM	X49.00009: Mechanisms of Ion Diffusion as a Function of Microstructure in Ionomer Melts <i>Jonathan Bollinger, Mark Stevens, Amalie Frischknecht</i>
9:48AM - 10:00AM	X49.00010: Structural and Dynamical Properties of Water and Salt ions in Confined Geometries of Block Copolymers <i>Dipak Aryal, Rituparna Samanta, Venkatraghavan Ganesan</i>
10:00AM - 10:12AM	X49.00011: Phase Separation of Polymer Mixtures with Highly Concentrated Ions <i>Issei Nakamura</i>
10:12AM - 10:24AM	X49.00012: Effects of Molecular Polarity and Polymerization on Ion Solvation in Polymer Melts <i>Cameron Shock, Issei Nakamura, Mark Stevens, Amalie Frischknecht</i>
10:24AM - 10:36AM	X49.00013: Peering into Phase-Separated Perfluorinated Sulfonic-Acid Ionomers with Energy-Tunable X-rays <i>Gregory Su, Isvar Cordova, Ahmet Kusoglu, Cheng Wang</i>
10:36AM - 10:48AM	X49.00014: Macroion Complexation and Conformation of Neutral Polymer in Solution <i>Manuela Ferreira, Benxin Jing, Yingxi Elaine Zhu</i>
10:48AM - 11:00AM	X49.00015: Diffusion of Charged Macromolecules under Strong Electric Repulsion <i>Kuo Chen, Jingfa Yang, Jiang Zhao</i>

Session X50: Focus Session: Organic Electronics IV: Doping and Electronics

Sponsoring Units: DPOLY DMP

Chair: Oana Jurchescu, Wake Forest University

Room: BCEC 252B

8:00AM - 8:36AM	X50.00001: Rapid and non-destructive optical patterning of conjugated polymers for device applications <i>Invited Speaker: Adam Moule</i>
8:36AM - 8:48AM	X50.00002: Branched Side Chains Influence the Efficacy of Doping in Conjugated Polymers <i>Elayne Thomas, Emily C Davidson, Reika Katsumata, Rachel Segalman, Michael L. Chabinyc</i>
8:48AM - 9:00AM	X50.00003: Understanding the molecular doping process of semiconducting polymers through In-situ conductivity measurements and structural characterization <i>Mark DiTusa, Tengzhou Ma, Garrett Grocke, Jens Niklas, Oleg Poluektov, Shrayesh Patel</i>
9:00AM - 9:12AM	X50.00004: Electrical and magnetic characterization of doped conjugated polymers with pendent stable radicals <i>Albert Park, Yiren Zhang, Stephen McMillan, Nicholas Harmon, Michael Flatté, Christopher K Ober, Gregory Fuchs</i>
9:12AM - 9:24AM	X50.00005: Electronic and Optical Properties of N-doped BBL Polymer <i>Sarbani Ghosh, Igor Zozoulenko</i>
9:24AM - 9:36AM	X50.00006: Non-conjugated Radical Polymers as Transparent Conductors in Organic Electronic Devices <i>Bryan Boudouris</i>
9:36AM - 9:48AM	X50.00007: Modeling Charge Transport in Insulating Materials for High Voltage Direct Current (HVDC) Application <i>Jian Yang, Valeriy Ginzburg, Tim Person, Dachao Li, YuanQiao Rao</i>
	X50.00008: High-k and High-Temperature Polymer Dielectrics for Electric Energy Storage and Organic Electrics <i>Zhongbo Zhang, Lei Zhu</i>
10:00AM - 10:12AM	X50.00009: Magneto-electrical signatures of spin dependent processes in organic semiconductors <i>Sebastian Engmann, Adam Barito, Emily Geraldine Bittle, Lee Richter, Noel C Giebink, David James Gundlach</i>
10:12AM - 10:24AM	X50.00010: Programmable molecular-scale diode based on standard molecules/2D semiconductor hybrid molecular junction <i>Jaeho Shin, Seunghool Yang, Chul-Ho Lee, Gunuk Wang</i>
10:24AM - 10:36AM	X50.00011: The Structural, Electronic and Optical Properties of γ -glycine Under Pressure: A First Principles Study <i>Aaron Mei, Xuan Luo</i>
10:36AM - 10:48AM	X50.00012: Scanning Tunneling Microscopy and Spectroscopy of Novel Silver-Containing DNA Molecules <i>Natalie Fardian-Melamed, Gennady Eidelstein, Dvir Rotem, Alexander Kotlyar, Danny Porath</i>
10:48AM - 11:00AM	X50.00013: Electro-absorption in Metal Nanoparticles within Glass; Comparison with Quantum Dots in Nonconjugated Conductive Polymers <i>Mrinal Thakur, Justin Van Cleave</i>

Session X51: Invited Session: Using Polymer Sequence to Control Material Properties

Sponsoring Units: DPOLY DBIO

Chair: Lisa Hall, Ohio State University

Room: BCEC 253A

8:00AM - 8:36AM	X51.00001: Using PRISM theory and molecular simulations to understand the complex interplay of copolymer sequence and architecture on assembly in polymer solutions <i>Invited Speaker: Arthi Jayaraman</i>
8:36AM - 9:12AM	X51.00002: Impact of Structural Correlation and Monomer Heterogeneity in the Phase Behavior of Soft Materials and Chromosomal DNA <i>Invited Speaker: Andrew Spakowitz</i>
9:12AM - 9:48AM	X51.00003: Molecular Engineering Complex Coacervate Materials Using Sequence <i>Invited Speaker: Sarah Perry</i>
9:48AM - 10:24AM	X51.00004: Sequence-controlled polymers: bridging the gap between biotic and abiotic macromolecules <i>Invited Speaker: Jean-Francois Lutz</i>
10:24AM - 11:00AM	X51.00005: Segmented Ionenes: Precision within disperse structures yields interesting microstructures and stimuli-responsive behavior <i>Invited Speaker: Matthew Green</i>

Session X52: Focus Session Polymer and Polyelectrolyte Rheology II: Large Deformations

Sponsoring Units: DPOLY DBIO DFD GSNP

Chair: Vivek Sharma, University of Illinois at Chicago

Room: BCEC 253B

8:00AM - 8:12AM	X52.00001: Entanglements in strongly strained high molecular weight polymer melts <i>Hsiao-Ping Hsu, Kurt Kremer</i>
8:12AM - 8:24AM	X52.00002: Strain Hardening in Extensional Rheology of Polyolefin Multilayer Films <i>Alex Jordan, Kyungtae Kim, Bongjoon Lee, ean Iudtke, Frank Bates, Olivier Lhost, Chris W Macosko</i>
8:24AM - 8:36AM	X52.00003: Molecular origin of extensional strain hardening in phenyl-containing polymer melts <i>Carlos Lopez-Barron, Wesley Roth Burghardt, Mu Sung Kweon</i>
8:36AM - 8:48AM	X52.00004: Macromolecular Dynamics, Extensional Rheology, Pinch-off Dynamics, and Printability of Aqueous Solutions of Flexible and Semi-Flexible Polymers <i>Jelena Dinic, Vivek Sharma</i>
8:48AM - 9:00AM	X52.00005: Brownian dynamics simulations of linear and non-linear semidilute polymer solutions in extensional flow <i>Charles Young, Charles E. Sing</i>
9:00AM - 9:12AM	X52.00006: Pinch-off Dynamics, Extensional Rheology and Printability of Polyelectrolyte Solutions <i>Leidy Nallely Jimenez, Jelena Dinic, Vivek Sharma</i>
9:12AM - 9:48AM	X52.00007: Plant-Sourced Polysaccharides for Turbulent Drag Reduction <i>Invited Speaker: Gareth McKinley</i>
9:48AM - 10:00AM	X52.00008: Rheology and Dynamic Adsorption of Polymer-Surfactant Complexes <i>Carina Martinez, Vivek Sharma</i>
10:00AM - 10:12AM	X52.00009: A Model for Salt Effects on Semidilute Polyelectrolyte Solutions: Equilibrium and Dynamics <i>Guang Chen, Antonio Perazzo, Howard A Stone</i>
10:12AM - 10:24AM	X52.00010: Entanglement density and crossovers of polyelectrolyte solutions <i>Carlos Lopez, Walter Richtering</i>
10:24AM - 10:36AM	X52.00011: Coarse grained simulations of migration of polyelectrolytes in a combination of flow fields and electric fields <i>Angelo Setaro</i>
10:36AM - 10:48AM	X52.00012: Ultralow interfacial tension of polyelectrolyte coacervates using drop retraction method <i>Samim Ali, Anand Rahalkar, Vivek Prabhu</i>
10:48AM - 11:00AM	X52.00013: Bubble dynamics in non-Newtonian fluids <i>Marcos Reyes-Martinez, Edwin Chan</i>

Session X54: Focus Session: Polymers and Biopolymers in Very Strongly Confined Environments II: Polymers in Nanochannels and Nanopores

Sponsoring Units: DPOLY DBIO GSNP

Chair: Ining Jou, University of Massachusetts Amherst

Room: BCEC 254A

8:00AM - 8:12AM	X54.00001: Brownian Dynamics studies of a “Tug-of-War” of a DNA translocating through a two-nanopore system <i>Swarnadeep Seth, Aniket Bhattacharya, Walter Reisner, William B Dunbar</i>
8:12AM - 8:24AM	X54.00002: Controlling DNA Tug-of-War in a Dual Nanopore Device <i>Frank Liu, Yuning Zhang, Roland Nagel, Walter Reisner, William B Dunbar</i>
8:24AM - 8:36AM	X54.00003: Simulations of extension distributions for DNA confined in nanochannels near the persistence length <i>Aditya Bikram Bhandari, Kevin Dorfman</i>
8:36AM - 9:12AM	X54.00004: Diffusion of DNA in confinement: From nanochannels to cells <i>Invited Speaker: Kevin Dorfman</i>
9:12AM - 9:24AM	X54.00005: Stochastic Resonance Behavior of DNA Translocation with an Oscillatory Electric Field <i>Ining Jou, Rhys Duff, Murugappan Muthukumar</i>
9:24AM - 9:36AM	X54.00006: Spontaneous Transport of Single-Stranded DNA through Graphene-MoS ₂ Heterostructure Nanopores <i>Binqun Luan</i>
9:36AM - 9:48AM	X54.00007: Determining the Free Energy and Kinetics of a Translocating Polymer Chain <i>Zachary Dell, Murugappan Muthukumar</i>
9:48AM - 10:00AM	X54.00008: Using capillaries with varying cross-section to study polymer dynamics and behavior under multiple confining length scales <i>David Ring, Robert Riggleman, Daeyeon Lee</i>
10:00AM - 10:12AM	X54.00009: Polymer-Grafted Nanoparticle Translocation in Strongly Confining Nanochannels <i>Michael Hore, William R Lenart, Gabriela T Justino</i>
10:12AM - 10:24AM	X54.00010: Water mediated effects in alpha-helix formation inside nanotubes <i>Dylan Suvlu, Dave Thirumalai, Jayendran C Rasaiah</i>
10:24AM - 10:36AM	X54.00011: Free energy cost of localizing an end-monomer of a confined polymer <i>James Polson, Zakary R. N. McLure</i>
10:36AM - 10:48AM	X54.00012: Polymer Conformation & Diffusion in Symmetric Thin Film Confinement <i>James Pressly, Robert Riggleman, Karen Winey</i>
10:48AM - 11:00AM	X54.00013: Slit confinement effects on the Isotropic-Nematic-Smectic transition for semiflexible polymers: Structure, dynamics, and criticality <i>Yeng-Long Chen, Dmytro Luzhbin, Supriya Roy</i>

Session Y58: Focus Session: Soft materials in Disordered Environments

Sponsoring Units: GSOFD DPOLY DBIO GSNP

Chair: H. Jeremy Cho

Room: BCEC 257A

11:15AM - 11:51AM	Y58.00001: Imaging and Modeling Multiphase Flow and Reactive Transport in Disordered Porous Media: Spatio-Temporal Complexities <i>Invited Speaker: Branko Bijeljic</i>
11:51AM - 12:03PM	Y58.00002: Disorder-mediated wetting transitions in unstable imbibition <i>Amir Pahlavan, Luis Cueto-Felgueroso, Gareth McKinley, Ruben Juanes</i>
12:03PM - 12:15PM	Y58.00003: Suppressing fingering instabilities using gradients in porous media <i>Nancy B Lu, Janine Nunes, Sujit Datta</i>
12:15PM - 12:27PM	Y58.00004: Cooperative mobilization of emulsion droplets in porous media <i>Shima Parsa Moghaddam, Mohamad Ali Bijarchi, Maria Jimenez, David A Weitz</i>
12:27PM - 12:39PM	Y58.00005: Transport of Microgels in a Microfluidic Constrictive Channel <i>Shuaijun Li, Jing Fan</i>
12:39PM - 12:51PM	Y58.00006: Fluid-solute-colloid interactions in porous media and its implications for enhanced oil recovery <i>Sangwoo Shin</i>
12:51PM - 1:03PM	Y58.00007: Phase change in disordered media: intermolecular forces control simultaneous evaporation and condensation <i>Ke Xu, Amir Pahlavan, Ruben Juanes</i>
1:03PM - 1:15PM	Y58.00008: Effect of extreme nanoconfinement on the capillary rise of glassy polymers into densely packed nanoparticle packings <i>R Bharath Venkatesh, Jyo Lyn Hor, Haonan Wang, Zahra Fakhraai, Daeyeon Lee</i>
1:15PM - 1:27PM	Y58.00009: Disorder Suppresses Chaotic Viscoelastic Flow <i>Derek Walkama, Nicolas Waisbord, Jeffrey S. Guasto</i>
1:27PM - 1:39PM	Y58.00010: Mesoscale Structure of Elastic Turbulence in Porous Media <i>Christopher Browne, Audrey Shih, Sujit Datta</i>
1:39PM - 1:51PM	Y58.00011: Diffusion-controlled drug delivery: Dealing with the Stochastic Dilemma in Lattice Monte Carlo (LMC) simulations <i>Mehran Bagheri, Gary William Slater</i>
1:51PM - 2:03PM	Y58.00012: Hydrogels dehydrate liposomes: the structural fate of lipid nanoparticles in the extracellular matrix <i>Sarith Bandara, Thomas Molley, Hojun Kim, Priyalini Bharath, Kristopher Kilian, Cecilia Leal</i>
2:03PM - 2:15PM	Y58.00013: Emerging behavior in mixtures of swimmers and passive particles <i>Enkeleida Lushi</i>

Session Y64: Physics of Proteins and Nucleic Acids II: Structures, Dynamics, Interactions, and Energetics

Sponsoring Units: DBIO DPOLY

Chair: Aihua Xie, Oklahoma State Univ

Room: BCEC 259B

11:15AM - 11:51AM	Y64.00001: The physical basis of computer-aided drug design: assessing and advancing the accuracy of binding affinity calculations <i>Invited Speaker: Michael Gilson</i>
11:51AM - 12:27PM	Y64.00002: New strategies to predict protein-peptide interactions <i>Invited Speaker: Xiaoaqin Zou</i>
12:27PM - 12:39PM	Y64.00003: Effects of Small Compounds on Structure of Amyloid- β 1-42 Monomer <i>Farbod Mahmoudinobar, Zhaoqian Su, Cristiano Dias</i>
12:39PM - 12:51PM	Y64.00004: Cluster-expansion theory for sequence-specific "fuzzy" interaction between a pair of intrinsically disordered proteins <i>Alan Amin, Yi-Hsuan Lin, Suman Das, Hue Sun Chan</i>
12:51PM - 1:03PM	Y64.00005: Conformation-Induced Conductivity Switching in Bacterial Protein Nanowires <i>Sibel Ebru Yalcin, J. Patrick O'brien, Atanu Acharya, Yangqi Gu, Peter Dahl, Sophia Yi, Winston Huynh, Subhajyoti Chaudhuri, Victor Batista, Nikhil Malvankar</i>
1:03PM - 1:15PM	Y64.00006: Computational Protein Redesign and Decoy Discrimination <i>Zhe Mei, John Treado, Zachary Levine, Corey Shane O'Hern, Lynne Regan</i>
1:15PM - 1:27PM	Y64.00007: Weighted ensemble simulations of biomolecules: Applications to peptides and proteins <i>Hiroshi Fujisaki, Kei Moritsugu, Ayori Mitsutake, Hiromichi Suetani</i>
1:27PM - 1:39PM	Y64.00008: Identifying Trimerization Mechanisms of Human Islet Amyloid Polypeptide through Molecular Simulation <i>Ashley Guo, Juan De Pablo</i>
1:39PM - 1:51PM	Y64.00009: Direct experimental characterization of contributions from self-motion of hydrogen and from interatomic motion of heavy atoms to protein anharmonicity <i>Zhuo Liu, Chenxing Yang, Juan Huang, Jun Li</i>
1:51PM - 2:03PM	Y64.00010: Entropic Contribution to Enhanced Thermal Stability in the Thermostable P450 CYP119 <i>Zhuo Liu, Sara Lemmonds, Juan Huang, Madhusudan Tygai, Liang Hong, Nitin Jain</i>

Notes

DPOLY SPECIAL EVENTS AND KEY LOCATIONS

DPOLY Reception: Rosa Mexicano, 155 Seaport Blvd, Boston, MA 02210

DPOLY Award Lectures

Polymer Physics Prize: Ronald Larson
“Getting the kinks out: extensional flow in polymer solutions, melts, and glasses”
Tuesday, March 5th, 8:00 AM – 8:30 PM, 253A

Dillon Medal: Zahra Fakhraai
“Probing Glass Physics Through Measurements of Polymer Dynamics in Thin films and in Strongly Confined Systems”
Tuesday, March 5th, 2:30 PM – 3:00 PM, 210A

DPOLY/UKPPG Lecturer: Ignacio Martin-Fabiani
“Drying Blends of Polymer Colloids: How to Harness Physics to Control Film Formation”
Monday, March 4th, 11:15 AM – 11:51 AM, 252B

Frank J. Padden Award Finalists: Tuesday, March 5th, 11:39 AM – 1:51 PM, 253B

DPOLY Business Meeting: Tuesday, March 5th, 5:45 PM – 6:45 PM, 253A

NSF Question and Answer Session on Polymers: Tuesday, March 5th, 6:45 PM – 7:45 PM, 253A

DPOLY Poster Session: Wednesday, March 6th, 11:15 AM - 2:15 PM, Exhibit Hall A

Main DPOLY Rooms: Focus and Contributed 252A, 252B, 253B, 254A, 254B; Invited 253A

Part-time DPOLY Rooms: Focus and Contributed 160A, 162B; Invited 205A, 205C

Caregivers/Nursing room: 102A

Food Locations: On-site concessions are located onsite in Exhibit Hall A (Tuesday – Thursday) and in the “Wicked Good Market” on the West side of BCEC Meeting Level 1.

Information in this booklet is unofficial and is accurate as of 1/30/2019. For official information, please refer to the APS March Meeting Program online, which takes precedence in case of conflicts with printed materials.