



AMERICAN PHYSICAL SOCIETY

DIVISION OF POLYMER PHYSICS

NEWSLETTER
October 22, 2010

UPCOMING DEADLINES

Nominations from the membership for positions on the DPOLY Executive Committee are due Friday, **November 19, 2010** (see below).

Abstracts for the 2011 APS March Meeting are due by 5:00 p.m. EST on Friday, **November 19, 2010**.
Nominations for the 2011 Padden Award are due by 5:00 p.m. EST on Friday, **November 19, 2010**.

For International Members: APS encourages March meeting participants to *apply for a visa as early as possible*. It takes 7 to 10 days to generate the Meeting Invitation Letter. More information is available at: <http://www.aps.org/programs/international/visa/meetings/index.cfm>.

2011 POLYMER PHYSICS PRIZE AND 2011 DILLON MEDAL RECIPIENTS

The 2011 Polymer Physics Prize will be awarded to Kurt Kremer (Max Planck-Institut für Polymerforschung) and Gary Grest (Sandia National Laboratory): *"For establishing numerical simulation as a tool on equal footing with experiment and theory in the field of polymer science, as exemplified by their seminal simulations of entangled polymer melt dynamics."*

The 2011 Dillon Medal will be awarded to Raffaele Mezzenga (Swiss Federal Institute of Technology, Zurich): *"For exceptional contributions to the understanding of self-assembly principles and their use to design and control materials with targeted functionalities"*

The Polymer Physics Prize has been endowed by a generous matching grant from the Dow Chemical Company, and contributions from LG Chemical Company and former Polymer Physics Prize winners. The Dillon Medal is sponsored by Elsevier, publisher of *Polymer*.

CALL FOR NOMINATIONS: DPOLY EXECUTIVE COMMITTEE ELECTIONS

The DPOLY Nominating Committee has proposed the following slate of candidates for positions on the DPOLY Executive Committee:

For Vice-Chair:

Jan Genzer (North Carolina State University)

Karen Winey (University of Pennsylvania)

For Member-at-Large:

Mark Foster (University of Akron)

Sanat Kumar (Columbia University)

Members of the Division are hereby invited to submit nominations for these positions. As provided by the Bylaws, any candidate named by not less than 1% of Division members (currently, 14) shall be considered nominated. Nominations should be sent to the Secretary-Treasurer (email and fax info at the end of this newsletter) and must be received **no later than November 19, 2010.**

CALL FOR NOMINATIONS: Frank J. Padden Jr. Award, 2011

DPOLY encourages you to nominate a deserving graduate student for the Frank J. Padden, Jr. Award, which honors "Excellence in Polymer Physics Research." The number of quality applications is a good barometer of the future health of our Division, so please take a moment from your hectic schedule and nominate a deserving student. The Padden Award is sponsored by the College of Polymer Science and Polymer Engineering, University of Akron.

Application Criteria:

- (1) membership in DPOLY,
- (2) PhD candidate, and
- (3) has not completed requirements for a Ph.D. before November 19, 2010.

Nomination Packet:

- (1) Abstract
 - contributed talk in the DPOLY program at the March Meeting (submitted on-line).
 - electronic copy to the DPOLY Education Committee (see below),
- (2) A 1-page curriculum vitae (list but do not attach publications), and
- (3) A nominating letter addressing the quality of the graduate research and academic excellence.

Send nominations by email to John Torkelson (j-torkelson@northwestern.edu) using the subject line "Padden_name of student". Paper nominations will not be accepted. The deadline for receipt of all materials is 5pm EST on November 19, 2010.

2011 DPOLY SHORT COURSE

The 2011 DPOLY Short Course, entitled "Advances in Scattering Techniques: Theory and Applications in Polymer Physics" will be offered on Saturday and Sunday (March 19-20, 2011) in the Dallas Convention Center, Dallas, TX.

Overview:

The workshop will introduce basic concepts of elastic and inelastic X-ray and neutron techniques that provide understanding of the structure and dynamic processes in polymers. The physics that underlies the properties of polymers in their many applications from sustainable energy to single molecule sensors in biological complexes is determined by their structure and their dynamics. The structure of polymers incorporates correlations on multiple length scales from that of a single bond (0.1nm) to that of molecular dimensions (nm) and assemblies (μm). The dynamic processes correlated with different length scales range from electronic transitions and rotational-vibrational dynamics (picoseconds) to segmental motion (nanoseconds) and macroscopic diffusion (nanoseconds to macroscopic times) of the macromolecules. Neutron and X-ray scattering techniques are ideal for probing polymeric systems on broad length scales, from that of a single bond through the smallest rigid segments and the polymer dimensions to that of assemblies. The workshop will introduce the basic principles of the major elastic and inelastic scattering

techniques that are currently employed to study polymers together with examples. New developments to probe extended length and time scales will also be discussed. Two series of lectures will be given: one on neutron based techniques and one on X-ray based methods. Both series will incorporate elastic and inelastic techniques.

Graduate students, postdoctoral fellows, and principal investigators in academia and industry who are interested in learning about advanced techniques to study structure and dynamics of polymers, membranes, and complex fluids, as well as scientists who are interested in the development of new X-ray and neutron techniques for the study of soft matter will benefit from this workshop.

Speakers and Topics:

Boualem Hammouda (NCNR, National Institute of Standard and Technology): *Small-Angle Neutron Scattering from Polymers*

Dvora Perahia (Clemson University): *Neutron Reflectometry: Applications to Polymers and Membranes*

Kenneth W. Herwig (SNS, Oak Ridge National Laboratory): *Quasielastic Scattering/Backscattering in polymers*

Bela Farago (ILL, France): *Neutron Spin Echo in Soft Matter*

Roger Pynn (Indiana University): *New Techniques for the Study of Polymers*

Tom Russell (University of Massachusetts): *Small Angle X-ray Scattering and Grazing Angle Diffraction in Polymers*

Wesley R. Burghardt, (Northwestern University): *Small Angle X-ray scattering under shear*

Simon Mochrie, (Yale University): *X-ray Photon Correlation Spectroscopy in Polymers*

Organizer:

Professor Dvora Perahia

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Registration Fees:

Undergraduate/Graduate/Post-doctoral students	\$100
DPOLY member beyond post-doc	\$150
Not DPOLY member	\$250

There are **no** on-site registrations for the DPOLY Short Course. Please register on-line at <http://www.aps.org/meetings/march/registration/index.cfm>.

2011 DPOLY MARCH MEETING

The next DPOLY March Meeting will be held March 21-25, 2011 in Dallas, Texas. Darrin Pochan (University of Delaware; email: Pochan@udel.edu) is the Program Chair.

Session chairs are sought for the contributed sessions. No experience is necessary and APS will send you guidelines. If you are interested in serving as a session chair, please email Darrin your contact information (name, institution, mailing address, and email). Also, volunteers are needed to help at the Sorter's Meeting to be held in early December at APS headquarters in College Park, Maryland.

For International Members: APS encourages March meeting participants to *apply for a visa as early as possible*. It takes 7 to 10 days to generate the Meeting Invitation Letter. More information is available at: <http://www.aps.org/programs/international/visa/meetings/index.cfm>.

The sorting topics for the 2011 meeting, including special focus topics, are listed below:

04. Polymer and Soft Matter Physics

- 04.1 Semi Crystalline Polymers
- 04.2 Liquid Crystalline Order in Polymer and Complex Fluids
- 04.3 Polymeric Glasses
- 04.4 Polymer Network Mechanics
- 04.5 Elastomers and Gels
- 04.6 Charged and Ion-Containing Polymers
- 04.7 Physics of Copolymers
- 04.8 Polymer Blends
- 04.9 Polymer Composites
- 04.10 Electrically and Optically Active Polymers
- 04.11 Surfaces, Interfaces, and Polymeric Thin Films
- 04.12 Friction, Adhesion, and Fracture of Polymers
- 04.13 Biopolymers: Molecules, Solutions, Networks, and Gels
- 04.14 New Experimental, Theoretical, and Computational Methods in Polymer and Soft Matter Physics

Special Focus Topics:

- [04.15.1](#) Thin Film Block Copolymers
- [04.15.2](#) Assembly, Structure, and Instabilities in Polymer Films, Network Films, and Interfaces
- [04.15.3](#) Polymer Brushes
- [04.15.4](#) Dynamics of Polymers: Phenomena due to confinement
- [04.15.5](#) Kinetic Control of Solution Assemblies (DPOLY/DFD) [same as 08.18.2]
- [04.15.6](#) Supramolecular Self-assembly: Controlling Network and Gel Formation (DPOLY/DBP) [same as 10.15.10]
- [04.15.7](#) Active Biopolymers and Biomaterials (DPOLY/DBP) [same as 10.15.9]
- [04.15.8](#) Translocation through Nanopores (DPOLY/DBP) [same as 10.15.8]
- [04.15.9](#) Polymer Colloids: Structure, Function and Dynamics (DPOLY/DFD) [same as 08.18.3]
- [04.15.10](#) Processing, Degradation, and Applications of Sustainable Polymers
- [04.15.11](#) Directed Assembly of Hybrid Nanomaterials
- [04.15.12](#) Nanocomposite Physics
- [04.15.13](#) Organic Electronics and Photonics (DMP/DPOLY) [same as 16.12.2]
- [04.15.14](#) Polymers for Energy Storage and Conversion (DMP/DPOLY/GERA) [same as 24.7.3]
- [04.15.15](#) Single Molecule Biophysics (DBP/DPOLY) [same as 10.15.1]

Descriptions of the Focus Topic Sessions and the contact information for their organizers are available at:
<http://www.aps.org/meetings/march/scientific/focus.cfm>.

See the Resources section on the DPOLY web site for a list of meetings of interest to the DPOLY community: <http://www.aps.org/units/dpoly/resources/index.cfm>

APS INTERNATIONAL TRAVEL GRANT AWARD PROGRAM

DPOLY is a sponsor of the APS the International Travel Grant Award Program (ITGAP) and DPOLY members are eligible to apply for travel grants. This program provides travel grants to promote international scientific collaborations, especially between APS members and physicists in developing countries. Conditions, criteria, and the selection process are described at:

<http://www.aps.org/programs/international/programs/travel-grants.cfm>.

This newsletter was prepared by:

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