



AMERICAN PHYSICAL SOCIETY

DIVISION OF POLYMER PHYSICS

NEWSLETTER
October 29, 2012

UPCOMING DEADLINES

Abstracts for the 2013 APS March Meeting are due **5:00 p.m. EST on Friday, November 9, 2012.**

Nominations for the 2013 Padden Award are due by **5:00 p.m. EST on Friday, November 9, 2012.**

Nominations from the membership for positions on the DPOLY Executive Committee are due **November 15, 2012** (see below).

Nominations for the 2013 UK PPG/DPOLY Polymer Lecture Exchange are due by 11:59 p.m. EST on **December 31, 2012** (see below).

Applications for Child Care Grants for the March Meeting are due by **January 4, 2013** (see below).

For International Members: APS encourages March Meeting participants to *apply for a visa as early as possible*, usually four to five months before the Meeting. A Meeting Invitation Letter, which can be requested on-line, takes 7 to 10 days to generate. More information is available at:

<http://www.aps.org/programs/international/visa/meetings/index.cfm>

MEMBERSHIP SURVEY RESULTS

We recently conducted a survey of the DPOLY membership concerning the change in scope and name of the Division. The specific question put to the membership was:

Shall the Division approach the APS Council to request approval for the Division to vote on proposed changes to the DPOLY By-Laws to expand its technical scope and change its name?

The responses to the survey were: Yes: 202 (70%) No: 87 (30%)
21% of the current DPOLY membership responded to the survey.

With a 2/3 favorable vote (of those voting) being required to proceed, the Division will move forward with these changes.

2013 POLYMER PHYSICS PRIZE AND 2013 DILLON MEDAL RECIPIENTS

The 2013 Polymer Physics Prize will be awarded to **Stephen Cheng** (University of Akron): *“For pioneering contributions to the fundamental understanding of crystallization, metastability, and phase transformations of semi-crystalline polymers.”*

The 2013 Dillon Medal will be awarded to **Mahesh Mahanthappa** (University of Wisconsin–Madison): *“For insightful studies on the synthesis and self-assembly of complex fluids.”*

The Polymer Physics Prize has been endowed by a generous matching grant from the Dow Chemical Company, and contributions from the 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. Candidates are listed alphabetically.

Candidates for Vice-Chair

Stephen Cheng (University of Akron)
Alexei Sokolov (University of Tennessee)

Candidates for Member-at-Large:

Amalie Frischknecht (Sandia National Laboratory)
Chris Soles (National Institute of Standards and Technology)

Candidates for Division Councilor:

Mark Ediger (University of Wisconsin)
Scott Milner (Pennsylvania State University)

Candidates for Secretary-Treasurer:

Bob Bubeck (Michigan Molecular Institute)
Steve Hudson (National Institute of Standards and Technology)

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 15, 2012.**

CALL FOR NOMINATIONS: Frank J. Padden Jr. Award, 2013

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 9, 2012.

Nomination Packet:

- (1) Abstract
 - contributed talk in the DPOLY program at the March Meeting (submitted on-line).
 - electronic copy to the Chair of the DPOLY Education Committee (see below),
- (2) A curriculum vitae including education, awards, professional experience, presentations, and publications (2 page limit), and
- (3) A nominating letter addressing the quality of the graduate research and academic excellence of the nominee.

Send nominations by email to padden2013@gmail.com using the subject line "Padden_name of student". Paper nominations will not be accepted. The deadline for receipt of all materials is **5 pm EST on November 9, 2012.**

UK PPG/DPOLY POLYMER LECTURE EXCHANGE

James Adams from the University of Surrey has been selected as the representative from the UK PPG to present an invited lecture at the 2013 DPOLY March meeting in Baltimore.

In 2009, the Division of Polymer Physics (DPOLY) of the American Physical Society (APS) and the Polymer Physics Group (PPG) of the Institute of Physics established the UK PPG/DPOLY Polymer Lecture Exchange to strengthen ties between our organizations. The lectureships are offered every two years to coincide with UK-PPG meetings. Each group selects a person who will present an invited lecture at the meeting of the other group. A short description can be found at <http://www.aps.org/units/dpoly/awards/ukppg.cfm>.

Nominations are now being solicited for a young scientist to represent DPOLY and lecture at the Fall, 2013 UK PPG meeting (9-11 September 2013) in Sheffield, UK. In order to be eligible, the nominee must be a current DPOLY member and have received a Ph.D. within 5 years of the nomination deadline.

The nomination packet should be sent as one pdf file to Rich Vaia (richard.vaia@wpafb.af.mil) by the deadline (**December 31, 2012**) and include the following:

- 1) Nomination Letter including a statement that the candidate is available to present a lecture at the PPG meeting.
- 2) Two supporting Letters
- 3) CV
- 4) Copies of three publications.

2013 DPOLY MARCH MEETING

The next DPOLY March Meeting will be held March 18-22 at the Baltimore Convention Center in Baltimore, MD. Lynn Loo [lloo@princeton.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 Lynn your contact information (name, institution, mailing address, and email). Also, about 14 **volunteers** (locals from the area if possible) are needed to help at the Sorters meeting to be held December 6-7, 2012 at APS headquarters in College Park, Maryland. Please contact Lynn to make arrangements. (DPOLY has limited funds to help support volunteers' expenses.)

The sorting topics for the 2013 meeting, including special focus topics, are listed below. The hyperlinks for each focus topic will take you to a description of the topic and the organizer.

01. POLYMERS AND SOFT MATTER PHYSICS (DPOLY)

FOCUS TOPICS:

- [01.1.1](#) Dynamics of Glassy Polymers Under Nanoscale Confinement
- [01.1.2](#) Polymers for Energy Storage and Conversion (DMP/GERA)
- [01.1.3](#) Crystallization and Directed Assembly of Multicomponent Systems
- [01.1.4](#) Dielectric and Ferroelectric Polymers for Electrical Applications (DMP)
- [01.1.5](#) Polymer Membranes for Clean Energy and Water (DPOLY/GERA)
- [01.1.6](#) Understanding Fluctuation and Correlation Effects in Polymers
- [01.1.7](#) Thin Films of Block Copolymers and Hybrid Materials
- [01.1.8](#) Supercooled Polymeric Liquids and Glasses (DCMP/GSNP)
- [01.1.9](#) Microfluidics and Nanofluidics: The Physics of Confined Fluids (DPOLY/DFD/GSNP)
- [01.1.10](#) Charged Colloids with Short-Range Attractions (DCMP/DBIO)
- [01.1.11](#) Statistical Physics of Active Systems Away from Detailed Balance: Motors, Swimmers, and All That (DBIO/GSNP)
- [01.1.12](#) Nano to Meso-Scale Structure in Ordered Soft Matter: Liquid Crystal Structure, Dynamics, and Function
- [01.1.13](#) Structure and Dynamics of Biomembranes (DBIO/DPOLY) [same as [04.1.21](#)]
- [01.1.14](#) Single Molecule Studies of Nanomachines (DBIO/DPOLY) [same as [04.1.6](#)]
- [01.1.15](#) Biophysics of Cytoskeleton (DBIO/DPOLY) [same as [04.1.8](#)]
- [01.1.16](#) Cell Mechanics (DBIO/DPOLY) [same as [04.1.7](#)]

01.1.17 Physics of Proteins I: Folding, Dynamics, Function and Structure (DBIO/DPOLY)
01.1.18 Physics of Proteins II: Protein-protein Interactions, Assembly, and Aggregation (DBIO/DPOLY)
[01.1.19 Organic Electronics and Photonics \(DMP/DPOLY\)](#)
01.1.20 Novel Photophysics and Transport Mechanisms for Nanostructured Photovoltaics
(GERA/DPOLY/DCOMP) [same [21.1.6](#)]
[01.1.21 Assembly and Function of Biomimetic and Bioinspired Materials \(DMP/DBIO\)](#)
[01.1.22 Polymer Nanocomposites: Active Particles and Dynamics](#)

STANDARD SORTING CATEGORIES:

01.2 Semi Crystalline Polymers
01.3 Liquid Crystalline Polymers
01.4 Polymeric Glasses
01.5 Polymer Melts and Solutions
01.6 Polymeric Elastomers and Gels
01.7 Charged and Ion-Containing Polymers
01.8 Physics of Copolymers
01.9 Polymer Blends
01.10 Polymer Composites
01.11 Electrically and Optically Active Polymers
01.12 Surfaces, Interfaces, and Polymeric Thin Films
01.13 Friction, Adhesion, and Fracture of Polymers
01.14 Biopolymers: Molecules, Solutions, Networks, and Gels
01.15 New Experimental, Theoretical, and Computational Methods in Polymer and Soft Matter Physics

MARCH MEETING CHILD CARE GRANTS

Small grants of up to \$400 are available to assist meeting attendees who are bringing small children or who incur extra expenses in leaving them at home (i.e., extra daycare or babysitting services).

A link to information on the program is available on the DPOLY home page. The application deadline is January 4, 2013.

IMAGES WANTED

The DPOLY Program Chair is chiefly responsible for the DPOLY Program Booklet, including the polymer-physics related image that appears on the cover. This year, Lynn Loo has decided to provide an opportunity to DPOLY members to submit images for her consideration for the cover. Images will also be posted in the DPOLY Image Gallery, from which selections are displayed on the DPOLY Home Page. Please submit images you would like to have posted and considered for the cover to Rich Vaia (richard.vaia@wpafb.af.mil), who currently chairs our Publicity Committee.

2013 DPOLY SHORT COURSE

The 2013 DPOLY Short Course entitled “**Membranes for Clean Energy and Water**” will be offered the weekend before the March Meeting in Baltimore on Saturday, March 16 from 1:00 p.m. - 5:00 p.m. and on Sunday, March 17 from 9:00 a.m. - 5:00 p.m. This short course is co-organized by A. Evren Ozcam and Nitash P. Balsara, Department of Chemical and Biomolecular Engineering, University of California at Berkeley. DPOLY Short Courses are offered as an educational service to division members and to the technical community to introduce important topics in polymer physics to a broader audience.

Who Should Attend?

There is considerable worldwide interest water purification and clean energy applications. The reason to organize a single course on these diverse topics is due to the inter-related nature of the subjects. For example, the European Union is moving to include water in its sustainability metrics for renewable energy. Our objective is to educate students, post-docs, and other members of the scientific community (industrial scientists, investigators at national laboratories, and faculty) on the roles that polymers could play in this emerging landscape.

Registration

Pre-register for the Short Course when you register online for the March Meeting. You must pre-register. Registration closes on Friday, February 15, 2013. There is **no** on-site registration.

Cost

Fees include both days.

\$150 APS Members

\$100 Students/Post Docs

\$250 Non-Members

Course Description

The understanding of the underlying physics of the transport through polymeric membranes will enable improved performance of membranes for clean energy and water purification applications. The objective of this short course is to provide background and to cover recent developments for the synthesis, fabrication, modification and characterization of the polymeric membranes for these applications.

We will cover both theoretical and experimental aspects of selective transport through polymers. The permeants of interest include lithium ions, protons, ethanol, butanol, carbon dioxide, water, hydrogen, etc. A common framework for describing the transport of these diverse species will be developed.

APS OUTREACH MINI-GRANTS

The American Physical Society is happy to announce that it will award several grants, up to \$10,000, to encourage the development of new outreach activities. Programs to be funded may include not only the more traditional K-12 outreach but also engaging the general public within physics and informing them about the importance of physics in their daily lives. Innovative ideas and new approaches, particularly if they have the potential to lead to sustained activities beyond the duration of the grant, are particularly encouraged. For more information about the program including application procedures, please visit www.aps.org/programs/outreach.

PHYSICS TEACHER EDUCATION CONFERENCE

The 2013 Physics Teacher Education Conference (PhysTEC) is being held in conjunction with the 2013 APS March Meeting, March 16-17 in Baltimore, MD. The PhysTEC Conference is the nation's largest meeting dedicated to physics teacher education. It features workshops, panel discussions, and presentations by national leaders, as well as excellent networking opportunities. Richard Steinberg, Program Director of Science Education at City College of New York and author of *Where the Rubber Meets the Road*, will present the opening plenary.

PhysTEC invites proposals for 90-minute workshop sessions at the conference. Proposals related to any aspect of physics teacher preparation will be considered. A link to the meeting abstract submission site will be provided on the website (link below) at the end of October, with a submission deadline in November.

For more information and registration please visit <http://www.ptec.org/conferences/2013/index.cfm>

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