

# DPOLY Newsletter

October 12, 2003

B. L. Farmer

## Call for Nominations: Executive Committee Elections

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

### For Vice Chair:

- Sanat Kumar, Rensselaer Polytechnic Institute
- Steve Granick, University of Illinois, Urbana-Champaign

### For Member-at-Large:

- Nitash Balsara, University of California, Berkeley
- Sharon Glotzer, University of Michigan

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, 13) shall be considered nominated. Nominations should be sent to the Secretary-Treasurer and must be received no later than **November 15, 2003**

## 2004 Polymer Physics Prize and 2004 Dillon Medal

**Timothy P. Lodge** (University of Minnesota) will receive the 2004 Polymer Physics Prize. The citation will be:

*For outstanding contributions to the fundamental understanding of polymer chain diffusion and segmental-chain dynamics.*

**Marcus Muller** (Johannes Gutenberg University, Mainz, Germany) will receive the 2004 Dillon Medal, sponsored by Elsevier Science Ltd., publisher of *Polymer*. The citation will be:

*For the development of powerful analytic and computational methods, and their application to the structure and dynamics of polymers.*

The winners will be honored by special symposia at the March Meeting of the Division.

# MEMBERS WANTED!

Remember ? the first year membership in APS and DPOLY for students is **free!** Membership forms are available on-line at <http://www.aps.org/memb/stapp.cfm>.

## DEADLINES

November 7	Padden Award Nominations
November 15	Executive Committee Nominations
December 5	Abstracts for March Meeting

## March 2004 Program

The next March Meeting will be held in Montreal, Canada the week of March 22-26, 2004. The DPOLY Program Chair is Nitash Balsara (University of California, Berkeley, e-mail: [nbalsara@uclink.berkeley.edu](mailto:nbalsara@uclink.berkeley.edu)). Abstracts must be submitted via the web (see below). The deadline for abstracts is **December 5, 2003**. (Nominations and abstracts for the Padden Award and Symposium are due November 7, 2003.).

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 Nitash your contact information (name, institution, mailing address, and email) and a list of research interests by **November 7, 2003**.

The DPOLY sorting categories for the March Meeting are listed below. When submitting your abstract, please thoughtfully consider which sorting category is most appropriate.

March Meeting ID: MAR04

- |                                    |                                                 |
|------------------------------------|-------------------------------------------------|
| 4. Polymeric and Organic Materials | 4.7 Block and Graft Copolymers                  |
| 4. Polymeric & Organic Materials   | 4.8 Blends and Composites                       |
| 4.1 Semi-Crystalline Polymers      | 4.9 Electrically and Optically Active Materials |
| 4.2 Liquid Crystalline Polymers    | 4.10 Surfaces                                   |
| 4.3 Solid Amorphous Polymers       | 4.11 Thin Films                                 |
| 4.4 Melts, Solutions and           |                                                 |

Gels

4.12 Experimental Techniques

4.5 Rubbers and  
Networks

4.13 Theory and Simulation

4.6 Charged and Ion-Containing  
Polymers

## Special Focus Topics

[4.14.1 Defects in Polymers and Liquid Crystals \(DPOLY\)](#)

[4.14.2 Multiscale Modeling of Polymer Systems \(DPOLY/DCOMP\)](#)

[4.14.3 \(same as 12.9.2\) Electrostatics in Complex and Biological Systems \(DPOLY/GSNP/DBP\)](#)

[4.14.4 Organic Nano- and Mesosstructures for Electronic & Photonic Applications \(DMP/DPOLY\)](#)

## Web Submission of Abstracts

Abstracts for the March Meeting must now be submitted via the World Wide Web by pointing a browser to <http://abstracts.aps.org/>. Simply click "Prepare an Abstract," and when the next page appears, select a meeting by clicking the appropriate button to the left of the meeting (March Meeting ID: MAR04). Specify the number of authors and collaborations or teams for your abstract, and click the "Create an Abstract for Me" button. It is recommended that, prior to submitting abstracts, new users select the Test meeting and complete all steps in order to familiarize themselves with the process.

Additional information can be found on the web at

<http://www.aps.org/meet/MAR04/abs.cfm>

## VISAs

Visa information is available from APS at <http://www.aps.org/meet/MAR04/index.cfm>. If you are in the United States on a visa and plan to attend the March Meeting, you must ascertain that your visa allows you back into the United States from Canada. **You are advised to look into this immediately.** If you need a personal letter of invitation to attend the meeting, contact [meetings@aps.org](mailto:meetings@aps.org), and include your complete mailing address and fax number. Your letter will be both faxed and mailed to you. Please make your request well in advance of your visa deadline.

## Call for Nominations: Frank J. Padden Jr. Award

The Frank J. Padden, Jr. Award, consisting of a certificate and appropriate recognition, honors a graduate student for "Excellence in Polymer Physics Research." To be considered for this award the student must be a member of DPOLY, must be working

toward the Ph.D. degree, and must not have completed the requirements for the Ph.D. before November 7, 2003. A nomination package consists of the following:

- 1) An acceptable abstract for a contributed talk in the DPOLY program at the March Meeting. Please submit the abstract *on-line directly to the APS, but provide a paper copy* for the award committee, as described further below.
- 2) A 1-page curriculum vitae (do NOT send papers or other attachments),
- 3) A nominating letter addressing the quality of the graduate research and academic excellence. The nominator may be the thesis adviser or another individual familiar with the student and his/her work. Individuals may make only a single nomination in a given year.

**A single paper copy of each of these three items should also be sent directly to the chair of the Education Committee:** M. Muthukumar, Dept. of Polymer Science and Engr., University of Massachusetts, Amherst, MA 01003. All materials must be received by **November 7, 2003.**

To be considered for the Padden Award, abstracts must be submitted on-line at <http://abstracts.aps.org/> by **November 7, 2003** (four weeks ahead of the general abstract deadline). Please submit the abstract to Sorting Category 4 and in the template space for Special Instructions, enter "Padden Award Symposium". The abstract will be forwarded to the Program Chair for inclusion in the March Meeting DPOLY program, either in the Padden Award Symposium if the nominee is selected as a finalist, or in the appropriate technical category otherwise.

The Education Committee will select 5 finalists based on quality of the research, abstract, c.v., and the nominating letter. The finalists will be invited to a dinner (sponsored by the University of Akron) with members of the DPOLY Education Committee. The Padden Award session will be held during the March Meeting. Each of the 5 finalists will give a 12-minute (including time for questions) oral presentation. The session will be attended by the Education Committee, who will serve as judges, and by any other interested members of DPOLY or APS. The winner will be selected based on quality of the research, the presentation, and response to questions. The winner will be announced at the annual DPOLY Business Meeting. A list of past Padden Award winners can be found on the DPOLY home page, at <http://www.aps.org/units/dpoly/prizes/winners.cfm#padden>.

## **2004 DPOLY Short Course**

### **Rheology and Dynamics of Polymers & Complex Fluids**

Saturday, March 20, 8:00 am ? 5:00 pm;  
Sunday, March 21, 8:00 am ? 5:00 pm

Registration fees: \$400 (\$200 for students)

## Course description

The ability of applied flow fields to perturb the equilibrium structure of polymers, colloids, self-assembled surfactants and other complex fluids leads to complex flow behavior that defies description by classical constitutive models of elastic solids or viscous liquids. Rheological (and complementary structural) characterization of such materials under flow provides a direct and informative probe of the molecular or meso-scale dynamics. Of equal importance, appreciation of the structure & rheology of complex fluids is of direct technological relevance in materials processing. This course will provide both an introduction to the foundations of this field and a broad survey of its application to diverse areas of current interest.

## Who should attend

The course will be useful to scientists from academia or industry with broad interests in polymers, complex fluids or other soft materials. The instructors will assume a background of B.S. level training in physical science or engineering. If you are a student, post doc, faculty member or scientist asking yourself the question: "What can Rheology do for me?" then this course is for you.

## Topics to be covered

The course will begin with a review of techniques of mechanical rheometry and an overview of polymer viscoelasticity. Polymer solutions and melts will be discussed in detail, covering recent experimental and theoretical advances. Focus will then shift to more complex examples of polymeric and self assembled fluids, including liquid crystals, liquid crystalline polymers, block copolymers, surfactants, biopolymers, etc. Experimental methods for obtaining complementary *in situ* structural information will be reviewed. Finally, the principles, techniques and applications of "microrheology" will be introduced.

## Planned Speakers

Wesley Burghardt (Northwestern University),  
Eric Furst (University of Delaware),  
Ron Larson (University of Michigan),  
Scott Milner (Exxon-Mobil),  
Jean-Francois Berret (CNRS/Rhodia),  
William Graessley (Princeton University)  
[Others TBD].

## Course Organizer

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## **SPECIAL ISSUE: JOURNAL OF POLYMER SCIENCE, POLYMER PHYSICS EDITION**

The Journal of Polymer Science: Part B: Polymer Physics will publish its thirteenth annual DPOLY Special Issue this year, showcasing papers presented in the DPOLY program at the 2004 March Meeting. This year's guest editor will be Professor Surita Bhatia (sbhatia@ecs.umass.edu) from the University of Massachusetts. The 2004 Special Issue will be an "electronic collection" - papers will appear in the printed version of the journal in an average of eight weeks after acceptance (five weeks to on-line publication), but are also collected together and highlighted in a special virtual on-line issue of the journal. This electronic Special Issue of the journal is accessible to everyone, regardless of whether they have a personal or institutional subscription to the journal. The link to this electronic collection will be at the top of the journal web page, guaranteeing prominence for the articles which it contains. Contributors will also enjoy the usual benefits of publishing in the Journal of Polymer Science: Part B: Polymer Physics: no page charges; 50 free high-quality, glossy reprints; and rapid publication. The deadline for manuscript submission for the 2004 Special Issue will be May 1, 2004

Journal of Polymer Science, Part B: Polymer Physics will also be announcing the winner of the *Wiley Journal of Polymer Science Polymer Physics Award* which honors the best paper published in the journal during the previous two years. The first award will be presented by the Editors in March 2004 at the meeting of the American Physical Society (APS). The recipient will be given an honorarium of \$2,500 and a travel stipend to attend the award presentation at a banquet during the APS meeting. The winner will be selected by the Journal Editors and a subcommittee of the Editorial Board.

## **NEWS TIPS TO AIP**

The American Institute of Physics is working to bring scientific news to a general audience of nonscientists who are interested in physics. AIP needs news tips from us. Members of APS are encouraged to notify AIP year round about forthcoming publications and scientific meetings. The best time to contact AIP is shortly after a paper is accepted by a journal, or 1-2 months prior to a meeting at which the research will be presented. This gives them time to consider the paper for coverage in the AIP bulletin Physics News Update ([www.aip.org/physnews/update](http://www.aip.org/physnews/update)) or even our more general interest website, Inside Science News Service ([www.insidescience.org](http://www.insidescience.org)).

A "tip" includes a summary (300-500 words) that identifies the news and includes enough background information as needed to understand the significance of the news. Summaries should also mention industrial applications, consumer products, etc., as appropriate.

This route for submitting tips is complimented by the activities of Physical Review Letters which encourage authors of accepted papers to write short, high-school-level summaries of their papers for a general audience. These summaries are received by AIP, Physics Today, and Physical Review Focus ([focus.aps.org](http://focus.aps.org)), which highlights one or two PRL papers each week. DPOLY members are encouraged to submit the requested author summaries

Submit tips to Ben Stein ([bstein@aip.org](mailto:bstein@aip.org)) or Phil Schewe ([pschewe@aip.org](mailto:pschewe@aip.org)) of the American Institute of Physics, Media & Government Relations Division. Note that polymer physics is more difficult for the writers in AIP to understand, perhaps because it involves concepts that are not part of the undergraduate physics curriculum. Don't be afraid to assume as little prior knowledge as possible. They assure me that they will not be offended!

A number of DPOLY members have successfully publicized their scientific news using this APS membership benefit. You could be next!