Dear DPOLY Community:

The APS now accepts abstracts for the 2020 March meeting.

The deadline for submitting abstracts for the 2020 March APS meeting is Oct 25, 2019 (5 PM US Eastern Time zone).
Please visit https://www.aps.org/meetings/march/index.cfm for instructions about how to submit your abstract, register for the DPOLY sort course, and to learn about registration and housing deadlines.

The meeting will feature numerous invited, focus, and contributed sessions (see below). Often the DPOLY co-organizes its sessions with other APS divisions, *i.e.*, DSOFT, DBIO, DFD, DBIO, DCP, DCOMP, DCMP, DAMOP, and others.

The DPOLY **invited sessions** (each featuring five invited talks, 36 mins in length) scheduled for the March 2020 meeting are:

DPOLY INVITED SESSIONS
- 100 Years of Polymer Science
- Machine Learning and Data in Polymer Physics
- Revealing the Microscopic Dynamics Driving Nonlinear Polymer Flows
- Fantastic Polyelectrolytes and How They Behave in Coacervates
- Highly Loaded and Morphologically Enhanced Polymer Nanocomposites
- The Organic Electrochemical Transistor
- Physics of Foams: From Beer to Windmill Blades and Everything in Between (with FIAP)
- Non-equilibrium Dynamics of Film Formation During Drying (with DSOFT)
- Polymer Physics Prize

The **focus sessions** include 1-2 invited talks (36 mins, including Q/A) and contributed talks (12 mins, including Q/A). You can submit your abstract for a contributed talk to any of the focus sessions (DPOLY and DPOLY co-organized) listed below.

DPOLY FOCUS SESSIONS
01.01.01 Machine Learning and Data in Polymer Physics (DPOLY, DBIO, DCOMP, GDS)
01.01.02 Organic Electronics (DPOLY, FIAP, DMP)
01.01.03 Fundamental Roles of Electric Polarization in Polymer Physics (DPOLY, GSNP, DCP, DCOMP)
01.01.04 Tuning Structure, Mechanics and Thermal Transport of Solid Polymers and Polymer Nanocomposites by Molecular Engineering (DPOLY, DCOMP)
01.01.05 Polymer Nanocomposites: From Fundamentals to Applications (DPOLY, DSOFT, GSNP)
01.01.06 Hierarchical Structural Emergence in Elastomer Nanocomposites: Dispersion, Dynamics, Structure, Modeling, and Simulation (DPOLY, DSOFT)
01.01.07 Advanced Morphological Characterization of Polymeric Materials (DPOLY)
01.01.08 Polymer Dynamics at the Nano- to Meso-scale Revealed by X-ray and Neutron Spectroscopy (DPOLY, DSOFT)
01.01.09 Responsive Polymers, Soft Materials, and Hybrids (DPOLY, DSOFT, DBIO)
01.01.10 3D Printing of Polymers and Soft Materials: From Chemistry and Processing to Devices and Characterization (DPOLY, DSOFT, GSNP, DFD, FIAP)
01.01.11 Polymers Under Dynamic Environmental Conditions (DPOLY, DCP, GSCCM)

01.01.12 Non-equilibrium and Process-Dependent Mesoscale Structures of Polymeric Compounds (DPOLY, DSOFT)
01.01.13 Dynamics and Rheology of Polymers and Polyelectrolytes (DPOLY, DSOFT, GSNP, DBIO, DFD)
01.01.14 Polyelectrolyte Complexation (DPOLY, DSOFT)
01.01.15 Vitrimers and Associative Polymer Networks (DPOLY, DSOFT)
01.01.16 Molecular Glasses (DPOLY, DSOFT, DCP, DMP)
01.01.17 Dynamics of Glassy Polymers Under Nanoscale Confinement (DPOLY, DSOFT, DCP)
01.01.18 Polymers and Soft Solids at Interfaces: Tribology, Wear, Rheology and Interactions (DPOLY, DSOFT, GSNP, DFD)
01.01.19 Physics of Foams: From Beer to Windmill Blades and Everything in Between (DPOLY, DSOFT, GSNP, DBIO, DFD, FIAP)
01.01.20 Confinement, Dynamics, and Ion Interactions in Ion-Containing Polymers (DPOLY, DSOFT)
01.01.21 Block Copolymer Thin Films: Fundamental Issues and Applied Technologies (DPOLY)
01.01.22 Polymers with Special Architectures: From Molecular Design to Physical Properties (DPOLY, DSOFT)
01.01.23 Biopolymers, Polymer Bioconjugates, and their Self-Assembled Phases (DPOLY, DSOFT)
01.01.24 Biopolymers and Sustainable Polymers for Enhanced Applications (DPOLY)
01.01.25 Polymer Networks, Gels, and Elastomers (DPOLY)
01.01.26 Chirality in Polymers and Soft Matter: From Molecular to Hierarchical Scales (DPOLY, DSOFT, DBIO)
01.01.27 Polymer Crystals and Crystallization (DPOLY, DSOFT, DMP)

FOCUS SESSIONS CO-ORGANIZED WITH OTHER DIVISIONS
This link https://www.aps.org/meetings/march/focus.cfm#010101 includes all the Focus session descriptions. If you continue to scroll down, Soft Matter and other divisions are also listed, with co-sponsoring indicated.

CONTRIBUTED DPOLY SESSIONS
The **contributed sessions** include 12 mins talks (including Q/A); typically ~15 talks per session. Authors submit their abstracts to one of the following general sorting categories:
01.03.00 Semi-Crystalline Polymers
01.04.00 Liquid Crystalline Polymers
01.05.00 Polymer Glasses and Glass Formation
01.06.00 Polymer Rheology
01.07.00 Polymeric Networks, Elastomers, and Gels
01.08.00 Charged and Ion-Containing Polymers
01.09.00 Copolymers
01.10.00 Polymer Solutions and Blends
01.11.00 Polymer Composites
01.12.00 Electrically and Optically Active Polymers
01.13.00 Surfaces, Interfaces, Thin Films, and Coatings
01.14.00 Biopolymers and Sustainable Polymers

The submitted abstracts will be divided into the individual contributed sessions based on the topics of the abstracts. While it is hard to predict the actual names of the contributed sessions at this stage, you can get a sense of what topics were covered in the past by looking at the abstracts submitted for the previous meetings (see the DPOLY APS March Meeting booklets https://www.aps.org/units/dpoly/meetings/index.cfm).

POSTER SESSION
In addition to the 12 min talks in focus and contributed sessions, there will be a 3-hrs long poster session (often on Wed). This event offers a unique opportunity for the presenters (typically students) to present their work and receive ample feedback from the attendees.

We point out three particular sessions that constitute the highlights of the week-long meeting.

The **Polymer Physics Prize** invited symposium (Tuesday at 8 AM) honors an individual for his/her "outstanding accomplishment and excellence of contributions in polymer physics research." The 2020 winner is Professor Kurt Binder of the University of Mainz, Germany.

The **John H. Dillon Medal** focus symposium (Tuesday at 2:30 PM) recognizes "outstanding research accomplishments by young polymer physicists who have demonstrated exceptional research promise early in their careers." The 2020 winner is Professor Rodney Priestley of the Princeton University.

Congratulations to both Professor Binder and Professor Priestley for receiving the awards!

The **Frank J. Padden, Jr. Award** contributed session (Tuesday at 11:15 AM) "honors a graduate student for *'Excellence in Polymer Physics Research.'*" [A note to the nominators for the Frank J. Padden, Jr. Award: Please, send nominations via email to Ramanan Krishnamoorti (ramanan@uh.edu) using the subject line "Padden_name of the student." The deadline for receipt of all materials is October 25, 2019 (midnight US Eastern Time zone). The nomination procedure and the selection criteria are at https://www.aps.org/units/dpoly/awards/padden.cfm. The winner of the Frank J. Padden, Jr. Award will be recognized during the DPOLY Business Meeting (Tuesday at 5:45 PM).

The DPOLY also organizes a 1.5 day-long short course (mid-Saturday and all Sunday) before the APS meeting. You can sign up for the DPOLY short course when you register for the APS meeting.

DPOLY Short Course: Machine Learning for Polymer Physicists
Saturday, February 29, 2020, and Sunday, March 1, 2020

Organizers
Debbie Audus, NIST
Jonathan K. Whitmer, University of Notre Dame

Overview
Recent developments in machine learning and related data-driven approaches have created a new paradigm for approaching scientific research. The field of polymer physics has seen important

applications in the design of experiments, analysis of scattering data, prediction of molecular properties, and identification of important structural and dynamic patterns. Additionally, the use of high throughput computational and experimental techniques promises to increase the amount of data available to polymer physicists and presents new opportunities for discovery. This day and a half short course will provide an essential introduction to machine learning and data analytics as relevant to polymer physicists, while also showcasing recent advances by leaders in the field. Topics covered will include data capture, design of experiments, varying levels of data quality, model building, optimization, and general analysis of both experimental and computational data. Attendees will leave with a sound basis in key algorithmic concepts including when those algorithms are appropriate, an understanding of the state-of-the-art applications, and a foundational understanding of how to incorporate machine learning and data science into their current research.

Who should attend?
The workshop is appropriate for polymer and soft materials researchers at all levels who wish to integrate machine learning techniques into their work. The short course will be particularly useful for people who have not received formal data science training but appreciate the power of data science to augment and extend traditional techniques. While aimed toward early-career researchers (including graduate students, postdocs, and early career PIs) there will be topics of interest for researchers at all career levels from both computational and experimental groups.

We encourage you and your students to attend the Mach 2020 meeting of the APS. You are eligible for a registration discount if you are a member of a reciprocal society (https://www.aps.org/membership/reciprocal/societies.cfm). If your students are members of the APS and the Forum on Graduate Student Affairs (FGSA), they are eligible to apply for a travel grant ($500). See https://www.aps.org/units/fgsa/travel/index.cfm

To summarize important deadlines:

- Abstract submission for the meeting (and registration for the DPOLY short course) is due on Oct 25, 2019 (5 PM US Eastern Time zone). Please visit https://www.aps.org/meetings/march/index.cfm for instructions about how to submit your abstract, and learn about registration and housing deadlines.
- Nomination for The Frank J. Padden, Jr. Award is due on Oct 25, 2019 (midnight US Eastern Time zone) via email to Ramanan Krishnamoorti (ramanan@uh.edu) using the subject line "Padden_name of the student". See the details above.

Should you have any questions, please feel free to contact the **DPOLY Chair, Jan Genzer** (jgenzer@ncsu.edu) or the **DPOLY Program Chair, Connie Roth** (cbroth@emory.edu).

We hope to see you in Denver, CO, in March 2020.

The DPOLY Executive Committee