Fall 2017

iNSIDE



OLY NEWSLETTER

American Chemical Society Division of Polymer Chemistry, Inc.

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Upcoming Dates & Deadlines

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POLY Fellows Award Deadline

Dec Macromex 2017 Workshop



Polymers & Nanotechnology Workshop

Jan 15

Bio/Macro Young Investigator Award Deadline

Jan 31

Research Award Deadline

National Meeting

Spring ACS

Henkel Graduate

Mar 18



Fluoropolymer Workshop

July 1

Marvel Creative **Polymer Award** Deadline



www.polyacs.org



2017 POLY Chair Marc Hillmyer **University of Minnesota**

Chair's Address

The year as the Chair of POLY goes quickly. It all started when I agreed to be a nominee for Vice Chair of the Division back in March of 2014, and it's hard to believe that in only three months I will take on the illustrious role of "Past Chair". It has been my absolute honor to serve the Division over the past several years, and I fully intend to do what I can to foster, support and promote polymer chemistry after my days in POLY leadership come to an end. Thank you to the members for all your support. It is the members that make the Division, and I am always heartened to hear from you about the cohesive, welcoming, and encouraging community of polymer scientists that make up POLY.

Election season is upon us again, and it's time to vote for the next set of POLY leaders. Soon you will be getting information on this by e-mail, so please keep an eye out for that message on the electronic

voting system (double check your junk mailbox just in case). I am very happy that the eight people listed here in the newsletter have offered their time and efforts to POLY. This is a volunteer organization, and we need dedicated and committed folks like these to run for the important POLY offices. One of the typical duties of the Past Chair of POLY is to participate in either canvassing or nominating committees for the elections in 2019. So, if you have ideas for the next set of leaders (or want your picture in the Fall newsletter next year!) please don't hesitate to reach out.

Thank you for being members of POLY. Rest assured that the Division of Polymer Chemistry is focused on bringing value to the membership and better communicating this value. We recognize that you have many ways to support polymer chemistry with your money and we want to make POLY your first choice. When you think of POLY, here are 10 key aspects that you should remember:

- Outstanding technical programming
- Top-notch workshop (and now webinar!) series
- Innovative educational programs
- Recognition of our members through numerous awards
- Many student-focused initiatives and programs
- Integrated involvement of industry, academia, and national labs
- Robust and growing group of student chapters
- Strong international presence
- Important and effective outreach programs
- Numerous networking opportunities over free coffee, pizza, popcorn, drinks, and apps (the kind you can eat) at ACS National Meetings!

Your membership dollars support all of these (and many more) aspects of POLY. We ask that you continue to support POLY through your membership. As Bob Moore said in the Fall 2011 POLY Newsletter "One of the greatest benefits of POLY membership is the opportunity to become actively involved in your field and directly connected to such an outstanding community of professionals." I want to echo Bob's sentiments here. Be connected, be involved, be a member of something that is certainly bigger than the sum of the parts.

As always, I welcome your comments and advice, so please feel free to contact me directly.

Best regards, Marc A. Hillmyer, University of Minnesota hillmyer@umn.edu

2017 POLY/PMSE Awards Ceremony

The POLY/PMSE awards reception, held on Wednesday evening, August 23, 2017 at the ACS National Meeting in Washington, DC, honored outstanding achievements by its members. Frank Bates (University of Minnesota), opened the event with a Plenary Lecture titled, "Frontiers in polymer science and engineering." Our 2017 POLY Chair, Marc Hillmyer (University of Minnesota), had the pleasure of congratulating this year's POLY award winners following Dr. Bates presentation.

One of the top awards presented Wednesday evening was **The Herman F. Mark and Mark Scholars Awards**. Named after Herman F. Mark (1895-1992), one of the fathers of Polymer Science, these awards are some of the highest honors given by the ACS Division of Polymer Chemistry. This award recognizes polymer scientists for "Outstanding research and leadership in Polymer Science" and is sponsored by *Elsevier, the publisher of the journal POLYMER*. Leanne Mullen, Elsevier's representative, was in attendance to present this year's award.

The Herman F. Mark Award: Professor Edward T. Samulski (University of North Carolina at Chapel Hill) was recognized with this award for his extraordinary contributions to the field of Polymer Science. He designed, and now chairs, the Department of Applied Physical Sciences, Carolina's first new science department in 40 years. In 1989, he established UNC's internationally recognized polymer chemistry program through judicious hiring and the development of curricula integrated with traditional chemistry courses, all while maintaining a top research program spanning a range of topics based on the interplay of basic polymer physics and inherent molecular orientational order found in liquid crystals. His major advances include adapting nuclear magnetic resonance to map the stress in elastic networks and sheared polymer melts ("RheoNMR"), and the discovery of a biaxial nematic, a phase with implications for fabricating ultra-high strength polymers. He co-founded two startups, Allotropica Technologies (2008), which makes "extreme materials for extreme conditions," and Carbon (2013), which pioneered a new 3D printing method based on oxygen-inhibited free radical polymerization. He also served as a senior science advisor to the State Department (2005-06).

<u>Mark Senior Scholar Award</u>: James Hedrick (IBM Almaden Research Center) spends a significant amount of time at IBM's Yorktown Heights Research Facility as well as the Institute of Bioengineering and Nanotechnology (IBN) in Singapore. Jim has pioneered new polymer-forming reactions for the creation of low k materials as high temperature interlayer dielectrics and for block copolymer lithography. Jim introduced the polymer science community to the concept of organic catalysis as an environmentally benign means to living polymerizations that enabled a broad range of new applications, namely for biomaterials in the area of nanomedicine. Jim now leads a new effort at IBM in collaboration with the IBN to solve critical problems in antimicrobial resistance, gene delivery, sustained therapeutic release and cancer therapies.

<u>Mark Scholar Award</u>: Christopher Bowman (University of Colorado) is a Distinguished Professor, Patten Endowed Chair in Chemical and Biological Engineering, and Director of Materials Science and Engineering. By creatively combining monomer synthesis and design with fundamental physical-chemical understanding and mechanistic evaluation, Bowman has led the development of efficient processes for forming and modifying polymer networks and for creating smart, adaptable polymeric materials.

<u>Mark Young Scholar Award</u>: Garret Miyake (University of Colorado Boulder) research focuses on the development of organocatalyzed atom-transfer radical polymerization and the scalable manufacturing of photonic crystal materials through block copolymer self-assembly. Dr. Miyake earned his Ph.D. at Colorado State University with Eugene Chen. He was a Camille and Henry Dreyfus Environmental Chemistry Postdoctoral Fellow at the California Institute of Technology with Robert H. Grubbs.

ACS Fellows: The (ACS) Fellows Program recognizes ACS members for outstanding achievements in and contributions to science, the profession, and the Society. POLY congratulated its Division Members who received this honor, including Timothy J. Bunning (Air Force Research Laboratory), Dana Garcia (Arkema, Inc.), Julie L. P. Jessop (The University of Iowa), and James H. Wang (Sinopec Shanghai Research Institute of Petrochemical Technology). A full list of ACS Fellows can be found on-line at www.acs.org/content/acs/en/funding-and-awards/fellows/list-of-2017-acs-fellows.html.

<u>Charles G. Overberger International Prize for Excellence in Polymer Research</u>: This biennial award recognizes and encourages accomplishments of unusual merit in the field of basic or applied polymer science. Craig Hawker (University of California, Santa Barbara) was the honored 2017 recipient.

Special Service Award: John Pochan (Graphenix Development Inc.) received this award for his Outstanding Service as POLY Councilor and Alternate Councilor for 18 consecutive years.

In addition to these, several other awards were recognized and are highlighted throughout this newsletter. The reception was extremely well-attended, drawing over 350 POLY and PMSE members and providing an opportunity to better recognize the excellence and community in both the POLY and PMSE Divisions.



POLY/PMSE Plenary Lecture (l-r) C. Soles (PMSE Chair), F. Bates (Univ. of Minnesota), M. Hillmyer (POLY Chair)



Mark Awards: (l-r) C. Bowman (Univ. of Colorado), E. Samulski (Univ. of North Carolina, Chapel Hill),

J. Hedrick (IBM Almaden), M. Hillmyer (POLY Chair), G. Miyake (Univ. of Colorado), L. Mullen (Elsevier)



ACS Fellows: (l-r) T. Bunning (Air Force Research Laboratory), D. Garcia (Arkema), M. Hillmyer (POLY Chair), J. Jessop (The University of Iowa)



Special Service Award: (l-r) John Pochan (Graphenix Development), M. Hillmyer (POLY Chair)

Colson Receives Henkel Award



The winner of the 2017 Henkel Award for Outstanding Graduate Research in Polymer Chemistry is John W. Colson. He earned his Ph.D. in 2015 at Cornell University with Prof. William Dichtel for preparation of two-dimensional covalent organic framework polymers interfaced with single layer graphene and application of the polymers with graphene sheets as materials for optoelectronic devices. After postdoctoral research

lenke

Sponsored by

at the University of Chicago with Profs. Matthew Tirrell and Paul Nealey, Dr. Colson now works at ClostraBio, Inc., in Chicago, IL.

Given annually, the Henkel Award recognizes the author of the best Ph.D. thesis in polymer chemistry during the three years preceding the date of the award. The award is sponsored by the Henkel Corporation and the ACS Divisions of Polymer Chemistry and Polymer Science: Materials and Engineering, and is administered by PolyEd, the polymer education committee.

POLY Recognizes Outstanding Posters

This award has been established to increase the importance and visibility of posters being presented at ACS National Meetings in the POLY section. It is recognized that a great deal of work goes into preparing and presenting a high-quality poster and POLY wishes to acknowledge and reward such efforts.

This year, the POLY Poster Awards Panel reviewed nearly 50 nominated posters during the Sci-Mix poster session. Nominees were judged on the basis of their contributions to their project, the quality and impact of their research, the clarity of their poster's design, as well as their presentation and communication skills.

Fall 2017 POLY Outstanding Poster Award Winners

Cheng Fang, The University of Pittsburgh

"Computational studies of copper-catalyzed and photoinduced metal-free atom transfer radical polyermization"

Phillip Pickett, The University of Southern Mississippi

"Recyclable sulfonamide 'polysoaps' via RAFT copolymerization for removal of hydrocarbon impurities from water for remediation applications"

Mingtao Chen, Virginia Tech

"Synthesis of block copolymers containing aurea and pyridinium: A synergy of hydrogen bonding and ionic interactions"



Henkel Award: (1-r) J. Colson (CostraBio), M. Hillmyer (POLY Chair), C.W. Paul (Henkel)



POLY Poster Award: (1-r): P. Pickett (Univ. of Southern Mississippi), M. Hillmyer (POLY Chair), M. Chen (Virginia Tech)

To be eligible for the POLY Poster Award, click, "YES" for "Consider for Sci-Mix" as you submit you abstract in MAPS

Biomacromolecules/Macromolecules Young Investigator Award

This award honors the contributions of two individuals, early in their careers, who have made a major impact on the field of polymer science. Congratulations to Professors Richard Hoogenboom (Ghent University) and Rachel O'Reilly (University of Warwick), who are the distinguished winners of this award.



(1-r) S. Rowan, R. Hoogenboom, A. Albertsson, R. O'Reilly, and T. Lodge



DSM Science and Technology Award

Royal DSM, the global Life Sciences and Materials Sciences company, has awarded the DSM Science and Technology Award, Americas 2017 to Dr. Catherine Mulzer of Cornell University (advisor W. Dichtel, Northwestern University). The theme of this year's award was Advanced Polymers in Energy Storage Applications. The DSM Award selection committee indicated that Mulzer had made a profound contribution to the field, and had communicated her research findings in a comprehensible, elegant presentation during the final symposium in Washington D.C. The Award was presented to Mulzer at the fall meeting by DSM Science Fellow Rolf van Benthem.

Mulzer was recognized for her pioneering research on the use of redox-active Covalent-



DSM Science and Technology Award: (l-r) L. Zhu (Penn State), M. Hillmyer (POLY Chair), L. Pitet (DSM), C. Mulzer (Cornell), R. van Benthem (DSM), K. Timachova (UC Berkeley), J. Lopez (Stanford)

Organic Frameworks as an energy storage platform. COFs are an emerging class of crystalline polymers exhibiting remarkably large surface areas owing to the highly organized, porous architectures routinely adopted. Through judicious choice of building blocks, Dr. Mulzer has shown that COFs exhibit impressive electrical conductivity after orienting the molecules and electropolymerizing a conductive polymer inside the resulting pores. The final hybrid materials also displayed high charging rates, which has been a formidable challenge in using polymeric and organic systems in electrochemical energy storage devices. This work has helped firmly establish COFs as a viable platform that rivals traditional activated carbon materials.

The other four selected finalists, who submitted excellent applications and presentations during the symposium, includ Ksenia Timachova, University of California, Berkeley (advisor: N. Balsara), "Ion transport in homogeneous and nanostructured polymer electrolytes"; Liang Zhu, Penn State University (advisor: M. Hickner), "Exploring multication side chain anion exchange membranes with varied backbones"; Jeffrey Lopez, Stanford University (advisor: Z. Bao), "High performance lithium metal anode with a soft and flowable polymer coating"; and Kelly Meek, Texas A&M University (advisor: Y. Elabd), "Chemical stability and ion transport in polymerized ionic liquid anion exchange membranes." Congratulation to all the outstanding awardees!

Garcia Receives Inaugural YIPS Award

This award was established in 2016 to recognize outstanding industrial innovation and creativity in the application of Polymer Science, conducted by young individual scientists. Dr. Jeannette (Jamie) M. Garcia of the IBM Almaden Research Center is the first recipient of this award, and one of the brightest rising stars in the field of industrial polymer research. Within less than five years of her independent industrial research career, she has made ground-breaking and impactful contributions to polymer chemistry, and shown remarkable potential to become one of the world's top researchers in polymer science.

Dr. Garcia completed her graduate studies at Boston College under the guidance of Prof. Amir H. Hoveyda. At IBM Research, Dr. Garcia, along with colleagues, has made a seminal discovery of a new class of revertible thermosetting industrial polymers, which can potentially be used as printable materials, structural composites, cargo carriers, adhesives, and sealants. Because of her exceptional accomplishments and her growing impact on t



Young Industrial Polymer Scientist Award: (l-r) M. Hillmyer (POLY Chair), J. Garcia (IBM Almaden), M. Hunt (IAB Vice-Chair)

exceptional accomplishments and her growing impact on the scientific community, Dr. Garcia is a natural fit for the inaugural Young Industrial Polymer Scientist Award.

Awards Deadlines

POLY Fellows Award

Application Due: 11/30/2017 Sponsored by: POLY **Purpose:** To recognize excellence in all ways that POLY members advance our field of polymer science, either through scientific accomplishments, service to the profession, or both.

Biomacromolecules/Macromolecules Young Investigator Award Application Due: 1/15/18 Sponsored by: ACS MacroLetters/ Macromolecules/Biomacromolecules Purpose: Honor the contributions of two individuals, early in their careers, who have made a major impact on the field of polymer science.

Henkel Outstanding Graduate Research in Polymer Chemistry Award Application due: 1/31/2018 Sponsored by: Henkel Purpose: Recognize a graduate student or recent graduate who completed an outstanding Ph.D. thesis in research accepted by a U.S. or Canadian university.

Graduate Student Travel Award See POLY Website for Fall & Spring Deadlines Sponsored by: Industrial Advisory Board Purpose: Provide funding for polymer graduate students to travel to National ACS meetings to present the results of their research.

Award Information:

www.polyacs.org/AWARDS.html

or contact: KATHYL@VT.EDU 540-231-3029

Awards Committee

Kenneth Carter 413-577-1416 krcarter@polysci.umass.edu Stuart Rowan 773-702-4833 stuartrowan@uchicago.edu Semra Colak Atan 651-736-4315 - scolak@mmm.com Toby Nelson 405-744-2482 toby.nelson@okstate.edu



It has been an exciting time for the ACS Division of Polymer Chemistry's Industrial Advisory Board (IAB). Founded in 1979, the IAB is presently celebrating its 38th anniversary, and the IAB has accomplished many successes year after year. This past year has been no exception.

The IAB continues to keep POLY relevant for its industrial membership by creating and supporting opportunities for networking, programming, education, and awards. Highlights from just this fall include:

- Three IAB members received IAB support to attend a POLY workshop.
- The inaugural Young Industrial Polymer Scientist Award was bestowed upon Jamie Garcia (IBM).
- The IAB Vice Chair Michael Hunt (MPD Chemicals) developed the "DC ACS Industry Spotlight" to help its industrial members stay informed of ACS National Meeting deadlines, awards, and events.
- Strong programming continued at the Fall ACS National Meeting with the seventh "Industrial Innovations in Polymer Science" (IIPS) symposium installment, "Plastic Packaging Science: Reducing Food Waste to Improving Recyclability."
- The IAB sponsored the Graduate Student Travel Awards, which were presented to Adrian Figg (University of Florida) and Jacob Lockhart (Vanderbilt University).
- The IAB co-hosted its biannual networking reception, in collaboration with the American Chemical Society Industry Member Programs and Corporation Associates.

Planning and development is already in progress for 2018 and beyond. At next spring's ACS National Meeting in New Orleans, the eighth IIPS symposium, co-organized by Erin Murphy and Hayley Brown, will offer talks on industrially relevant research focused on the ACS theme of Food, Energy, & Water. IAB will also support the 2018 National Graduate Research Polymer Conference next June, which will be held at the University of Minnesota.

We owe a great deal of thanks to our industrial pioneers and their supporting companies who have created and sustained this board and our industrial community for so long. As Chair of the IAB, I am honored to be included with the likes of individuals such as E. Vandenberg, R.S. Moore, A. Salamone, and D. Gerbi. I joined IAB in 2010, co-chaired the board with Diana Gerbi starting in 2011, and then began my tenure as chair in the fall of 2015. During this time, we have enhanced communication through bulletins and e-announcements, developed ACS National Meeting programming relevant to industry, maintained and created new industryspecific awards, and been a leading voice in a conversation to endow IAB awards to ensure their existence for many years to come. I am very proud of all of this and the IAB's many other accomplishments including participation in student panels, supporting graduate and undergraduate research symposia, and organizing industry networking opportunities. The Industrial Advisory Board of the Division of Polymer Chemistry is making every effort to positively impact all its members and the Division of Polymer Chemistry at large.

As always, I want to thank you for your active participation in the board and encourage you to reach out to Vice Chair Michael Hunt (MPD Chemicals) or me if you have any suggestions or questions. IAB always welcomes the participation of new members. It will be your energy and ideas that keep IAB relevant and dynamic in the years to come. We look forward to working with you!

> --Travis Baughman, IAB Chairman (DSM Engineering Plastics)



Fall 2017 Graduate Student Travel Award

Congratulations to the winners of the Fall 2017 Graduate Student Travel Award, sponsored by the Industrial Advisory Board! The purpose of this award is to provide funding for polymer graduate students to travel to National ACS meetings to present the results of their research.

Mr. Charles Adrian Figg, University of Florida "Color-coding visible-light polymerizations to elucidate mechanisms"

Mr. Jacob N. Lockhart, Vanderbilt University "Electron beam patterning of polyglycidol nanogels for immobilized enzyme cascade reaction"



Travel Award: (I-r): J. Lockhart (Vanderbilt Univ.), M. Hillmyer (POLY Chair), C. Figg (Univ. of Florida), M. Hunt (IAB)

Membership Committee Report

In membership committee news, Professor Colleen Scott has been appointed as the newest member of the Membership Committee. She is currently an Assistant Professor in the Department of Chemistry at Mississippi State University. We look forward to her contributions.

Special thanks to Dominik Konkolewicz (Miami University), for organizing the POLY/ PMSE Student Happy Hour held during the ACS National Meeting in Washington D.C. This event provides an excellent opportunity for students and faculty to network in a small group setting with polymer scientist peers and develop relationships which can develop future support and career opportunities. The POLY/PMSE Student Happy Hour is held during each ACS National Meeting on Monday evening. Come by the POLY booth during the next ACS National Meeting to learn about this.

The Division continues to offer free POLY membership to new members or if you have not been a member for three years. Sign up on-line at http://polyacs.net/Membership/memberapp. htm. While Division officers and the membership committee strive to recruit new members at the national meetings, there are plenty of other opportunities to recruit including regional and local section ACS meetings or other polymer-focused conferences. Anyone interested in running a membership drive for POLY, please contact Kevin Cavicchi (kac58@uakron.edu) or Kathy Mitchem (kathyl@vt.edu) to receive a simple, easy to use, recruiting packet.

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https://teamup.com/ksc26b7c6f43d85c99



To add your polymer-related activity, meeting, award, etc., e-mail details to: Carlee Linkous: carleel@vt.edu



E-mail Discussion List

The discussion list is a great way to inform others and receive information about upcoming symposia, workshops, job positions, share questions and answers, and more. The list is available to all POLY members who choose to sign-up.

To sign up, sign off, or change e-mail address . . .

- 1) Go to POLY Web: www.polyacs.org
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2017 POLY Online Elections



The 2017 candidate information is summarized below. Full statements and bylaw information can be reviewed online at polyacs. org. An e-mail will be sent to all voting members containing website and login instructions. If you do not have a current e-mail on file with us, you will NOT be sent a postcard as in previous years, so please make sure to e-mail KathyL@vt.edu to update your e-mail address!

The 2016 POLY Election was a huge success providing approximately 22.1% voting-membership participation (879). POLY anticipates a repeat performance in 2017!

VOTING ONLINE IS AS EASY AS 1-2-3!

- 1. Watch for the e-mail which will be sent in October from elections@vote-now.com, containing your individual password.
- 2. Once you receive your e-mail, go online to complete the election ballot
- 3. If you do not receive an e-mail by October 20th or for additional questions, please feel free to contact the POLY Business Office at KathyL@vt.edu or call 540-231-3029.

Election Slate

Candidates for Vice-Chair



Michael Meador NASA Glenn Research Center



Travis Baughman DSM Engineering Plastics

Candidates for Treasurer



Derek Patton University of Southern Mississippi



Christine Landry-Coltrain Eastman Kodak Company

Candidates for Councilor



Frank Blum Oklahoma State University



Kathryn Uhrich University of California, Riverside

Candidates for Alternate Councilor



Johan Foster Virginia Tech



Allan Guymon University of Iowa

POLY will not send election postcard notifications this year. If you do not receive an election e-mail notification by October 20th please e-mail KathyL@vt.edu or call 540-231-3029 for further directions.



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POLY Webinar How to Design Better Biomedicine: **Polymeric Materials and Nanomaterials**

POLY is excited to announce the third installment of the 2017 POLY Webinar series. A POLY webinar features two 20 minute presentations and is hosted by POLY Chair, Marc Hillmyer. The topic this fall will focus on synthetic polymers for biomedical applications. The two guest speakers will be Prof. Andrea Kasko from UCLA (http://www. bioeng.ucla.edu/andrea-kasko-ph-d/) and Prof. Nathan Gianneschi from Northwestern (http://www.chemistry.northwestern.edu/people/corefaculty/profiles/nathan-gianneschi.html). The live broadcast will be held TUESDAY 14 NOVEMBER 2017 from 1:30-2:45 p.m. Eastern Time. Please mark your calendars and look for an e-mail with registration details. A link to register will also be posted on-line at POLYACS.ORG.

If you are booked on 14 November, don't worry, you can watch this webinar recording and others from the past on the new POLY YouTube channel: https://www.voutube.com/channel/ UCEKjJUWIMXvaBC 04RTcnxQ.

Previous POLY Webinars on YouTube

- The Power of Plastics Polymerized Ionic Liquids and Nanostructured Polymers
- How to Design the Next Generation of Sustainable Polymers

Science Café in N. J. Teaches **Kids about Polymers in Sports**

On August 9th, a science café event for kids was held at the Hopewell Public Library in Hopewell, New Jersey. Dr. Wu Suen (Henkel) organized the event, which covered the topic, "Polymer Science and its Applications in Sports Activities." The presentation started with a background introduction on what polymers are, what different types there are, how they work, and their applications in daily life, with a focus on their applications in sports equipment, like clothes, shoes, and more. It was meant to be a fun and educational event that all kids could relate to. The students showed great interest in the topic, and raised a lot of questions during the talk and the discussion afterward. The students also had an especially lively conversation about sustainable polymers, and how we can use polymer science research to protect the environment.



Tuesday, November 14, 2017 - 1:30-2:45 p.m. Eastern Time

Guest Speakers:



Prof. Nathan Gianneschi Northwestern





UCLA

Video Awardee Illustrates **Special Properties of Hindered Polyurea Bonds**

Hanze Ying, a post doc in the department of Materials Science and Engineering at The University of Illinois at Urbana-Champaign, is the winner of the 2017 Video Award. Ying's video uses creative whiteboard drawings to help illustrate the unique properties of hindered polyurea bonds, like how they can be used as self-healing polymers. In addition to receiving a certificate and \$250 prize, the winning videos was shown during the ACS National Meeting in Washington, DC and posted online.

The purpose of this award is to prepare young chemists to present their research and interact with a broad range of audiences, including more senior scientists and the general public. To be eligible, current PhD students or post docs should submit a three-minute video describing their research to a non-technical person. The next award deadline will be July 2018. For further details, visit the POLY web page at polyacs.org.

View Video Online:

https://www.youtube.com/watch?v=5cNZ9httlG4 Congratulations Hanze Ying, University of Illinois-Urbana-Champaign





Subscribe to POLY's YouTube channel to keep up-to-date with POLY's growing video collection!

POLY Workshop Lineup

Polymers and Nanotechnology

December 17–20, 2017 Omni San Diego Hotel, San Diego, California, USA Chair: Richard M. Laine http://polyacs.net/Workshops/17Nano/home.html



Nanoparticle-reinforced polymers make up an incredibly large fraction of commercial polymer products sold today, with silica-reinforced tires perhaps being the most well recognized. With the advent of polymers used in microelectronics, nanophotonics, biopharmaceuticals, drug delivery, and separation membranes, there are now numerous advanced applications where nanoparticles, organic/ inorganic and nanostructured polymer-derived materials are being used to improve properties.

Fluoropolymer 2018

June 24–27, 2018 Embassy Suites by Hilton, Denver, Colorado, USA Organizers: Scott Iacono and Bruno Ameduri http://polyacs.net/Workshops/18Fluoropolymer/home.html



Fluoropolymers are enabling materials which find applications in critical technologies involving energy storage and conversion, microelectronics and photonics, extreme environment applications, and biomaterials. Traditional fluoropolymer technology is nearly 80 years old and it maintains a growth rate above the US GNP. In addition to perfluoropolymers, partially fluorinated polymers will continue to impact a wide range of technologies as better control of their unique optical, electronic, processing, extreme environment stability, and surface properties is achieved. This will be the tenth biennial Fluoropolymer conference hosted by the Division of Polymer Chemistry. The Fluoropolymer workshops have been a tremendous success since 2000—don't miss the tenth installment!

Polymers in Medicine and Biology 2018

September 9–12, 2018

Hilton Sonoma Wine Country, Santa Rosa, California, USA Chairs: Buddy D. Ratner, Theresa M. Reineke, Heather D. Maynard, Paul Burke http://polyacs.net/Workshops/18Biomed/home.html



Biomedical polymers save lives and improve the quality of life for millions as constituents of medical devices, diagnostics, and therapies. The creativity of polymer scientists and new innovations in our ability to precision-synthesize polymers will lead to future advances, economic opportunities and improved healthcare for large populations. This POLY workshop, started in 1992 and offered every 2-4 years since then, showcases the special contributions of polymer scientists in advancing biomedical applications. For new biomedical polymeric developments to reach patients we need to interface academic researchers, industry scientists, and government funders and regulators. Polymers in Biology and Medicine has, over its 26-year history, been a congenial forum for all stakeholders to share ideas and strategies. Join us for the next iteration of this long-running forum in the beautiful Sonoma Valley.

Polycondensation 2018

October 14–17, 2018 Crowne Plaza Old Town Alexandria, Virginia, USA Co-Chairs: Timothy Long and James Hedrick http://polyacs.net/Workshops/18Polycondensation/home.html



Polycondensation is one of the three dominating polymerization mechanisms applied for commercial polymer manufacturing. Condensation polymers form the basis for many commodity polymers, engineering plastics, coatings, adhesives, films, and fibers. This conference will focus on the discovery of novel monomers with a focus on renewable feed stocks, fundamental advances in structure-property relationships, progress in advanced manufacturing of polymers from polycondensation processes, and emerging technologies for higher performance engineering thermoplastics and thermosets.

National Graduate Research Polymer Conference

June 10–12, 2018 University of Minnesota, Twin Cities Minneapolis, Minnesota, USA http://ngrpc18.umn.edu/



National Graduate Polymer Conference (NGRPC) is a national conference series focused for graduate students in polymer science and engineering and is sponsored by the ACS Polymer Chemistry Division (POLY). On behalf of the University of Minnesota team who have organized this symposium it is our pleasure to invite you to participate in this event. Our primary goal is to facilitate interactions between graduate students, postdocs, distinguished faculty, and industry representatives.

More information coming soon

Silicon-Containing Polymers and Composites 2018

Polymers for Fuel Cells, Energy Storage, and Conversion 2019

Workshop Information

Workshop Chair H. N. Cheng USDA hncheng100@gmail.com

Submit a Workshop Proposal on our website: www.polyacs.net/ workshopshub.htm

or contact: Lesia Linkous Pristas POLY Business Office 540-231-3029 LesiaR@vt.edu

POLY Program Chairs

Thomas Epps, III University of Delaware thepps@udel.edu

Brett A. Helms Lawrence Berkeley National Lab bahelms@lbl.gov

> Corinne Lipscomb 3M celipscomb@mmm.com

Additional POLY Session Information

www.polyacs.org/8.html

Helms Named POLY Program Chair



Congratulations to Brett A. Helms, Lawrence Berkeley National Lab, for being selected as the newest POLY Program Chair. A new POLY Program Chair is selected annually to serve a threeyear term to organize and implement POLY Programing at ACS National Meetings.

POLY/ACS National Meeting Activity

255th ACS National Meeting

March 18-22, 2018, New Orleans, LA ACS Theme: The Food, Energy, Water Nexus Lead Program Chair: **T. Epps, III**

- Adaptive Nanogels
- Excellence in Graduate Polymer Research
- Flory Polymer Education Award
- General Topics: New Synthesis and Characterization of Polymers
- Industrial Innovations in Polymer Science
- Integrating Polymer Science in the Curriculum
- International Symposium on Biorelated Polymers: Innovations in Biomedical Polymers
- International Symposium on Biorelated Polymers: Renewable Materials
- International Symposium on Biorelated
 Polymers: Tutorial
- Nobel Laureate Signature Award for Graduate Education in Chemistry in honor of A. Zhukhovitskiy and J. Johnson
- Nonlinear Dynamical Approaches to the Synthesis of Polymeric Materials
- Photochemistry and Polymers
- Polymer Applications and Characterization in Medical Device and Pharmaceutical Industries
- Polymer Colloids: Synthesis, Analysis, Modeling, and Applications
- Polymer Networks: Soft Gels to Stiff
 Networks
- Polymer Optoelectronics
- Research By and Career Development For non-Ph.D.s in Industry
- Structure and Dynamics of Materials via NMR Spectroscopy
- Undergraduate Research in Polymer Science

Helpful Organizer Instructions:

https://www.acs.org/content/acs/ en/membership-and-networks/td/ abstractsubmission/maps-resources.html

256th ACS National Meeting

August 19-23, 2018, Boston, MA ACS Theme: Nanoscience, Nanotechnology, & Beyond Lead Program Chair: **C. Lipscomb**

(Draft list - final available January 2018)

- Biomacromolecules/Macromolecules
 Young Investigator Award
- DSM Science & Technology Award
- General Topics: New Synthesis & Characterization of Polymers
- Henkel Award for Outstanding Graduate Research in Polymer Chemistry
- Industrial Innovations in Polymer Science
- Industrial Polymer Scientist Award
- Polymer History
- Polymer Science of Everyday Things
- Polymeric Materials for Defense Applications
- Polymers in Cultural Heritage
- Soft Materials for Immunology
- TOSOH Lectures: Interface of Polymer Science & Biology
- TOSOH Lectures: Nanocomposites
- TOSOH Lectures: Nanostructured Polymers
- Transport in Polymer Membranes
- Vitromers & Other Covalent Adaptable
 Networks

Interested in Organizing a POLY Symposium?

1) Go online to http://www.polyacs.org/8.html

- 2) Click "Propose a POLY Symposium" and fill in the symposium details
- 3) E-mail the form to a POLY Program Chair

POLY Abstract Submissions

ACS POLY National Meeting abstract submission can be completed online through MAPS at https://acsmaps.abstractcentral.com/members/client/acs.jsp. Abstract submission is open spring and fall opposite of each meeting. A traditional abstract includes title, authors, affiliations, abstract text, and key figure. There is a word limit between 150 and 250 words. The figure counts for 70 words. This content fits within the current ACS submission system and avoids pre-publication issues that were a major concern for our members in the past.

POLY Councilors' Report

by G. Tew, M. A. Meador, R. Moore, & J. Mabry

The 254th American Chemical Society National Meeting & Exposition held August 20-August 24 in Washington, DC with a theme of Chemistry's Impact on the Global Economy, had over 12,900 registered attendees. The ACS Council at its August 23 meeting took the following actions:

- By electronic ballot, the Council elected new members to the Council Policy Committee, the Committee on Nominations and Elections, and the Committee on Committees.
- The Council defeated a proposal from the Committee on Divisional Activities that it establish a probationary Division of Space Chemistry, effective January 1, 2018.
- On the recommendation of the Committee on Local Section Activities, the Council approved a petition from the South Jersey Local Section to annex the unassigned and adjacent territory of Ocean County, New Jersey.
- A recommendation by the Committee on Membership Affairs that Council approve the Petition on International Chemical Sciences Chapters narrowly failed to achieve the two-thirds majority required to amend the Bylaws. The proposal would have amended Bylaw IX, Section 4, to permit financial support for International Chemical Sciences Chapters and to remove language from the Bylaws prohibiting Chapters from having representation on Council.

The Society's 2017 Probable 1 Projection calls for a Net from Operations of \$25.3 million. This is \$2.1 million favorable to the Approved Budget and \$1.6 million higher than 2016. Total revenues are projected to be \$553.0 million, which is \$2.4 million unfavorable to the budget, but 5.0% higher than the prior year. Total expenses are projected at \$527.6 million, which is \$4.5 million favorable to the budget, and 4.9% higher than 2016. The Budget and Finance Committee considered several program funding requests for 2018, and on its recommendations, the Board subsequently approved funding for the ACS Online Course in Laboratory Safety and the New Faculty Workshop Series for inclusion in the 2018 Proposed Budget and the 2019-2020 Forecast. Additional information can be found at www.acs.org, at the bottom of the page, click 'About ACS', then 'Financial'.

The Meetings and Expositions Committee (M&E) announced that as an experiment, there would be NO Thursday programming for the 262nd ACS National Meeting (August 22-26, 2021). Although this is a bit far out, it was the first meeting for which contracts have not yet been signed. They are still developing metrics in order to attempt to measure the success of this experiment so if you have suggestions, please send to POLY or M&E.

Divisional Activities Committee (Mary Ann Meador, Robert Moore): The DAC is forming a task force to come up with ways to change the allocation formula to award divisions for engagement on the international and regional levels. Suggestions on the table include counting number of sessions organized by divisions at regional meetings or awarding funding after the fact for internationally sponsored events.

In the Sunday morning DAC meeting in Washington, DC, the committee voted down a proposal to form a probationary Materials Chemistry Division. DAC also made plans to host a Division row at Sci-Mix starting in New Orleans where divisions can have posters that display what the division does and/or feature successful IPG grants. DAC continues to work with ACS staff to raise the profile of divisions on the ACS website and to enhance communication among divisions. ACS Staff is working on a site within the ACS Network for divisions to share information such as best practices and future programming.

ACS Insurance Available

In response to members' interest, the ACS Member Insurance Program is now offering a new Chemical Educators Legal Liability policy. It provides the coverage necessary for chemistry educators in case of lab accidents. Currently the insurance marketplace offers minimal protection for chemical educators by excluding Contingent Bodily Injury and Pollution Liability from their standard educators' legal liability policies. This new ACS plan will help educators protect themselves against risks within classrooms, teaching and research labs, and community outreach activities. Call 202-263-4018 to speak to the Program Administrator for the Chemical Educators plan. More information about all of the valuable insurance plans offered to ACS and AACT members is given in the ACS Member Insurance Program website (www.acs.org/insurance) or by calling 800-227-5558 x6037.

Future ACS National Meetings

255th - March 18-22, 2018 New Orleans, Louisiana

256th - August 19-23, 2018 Boston, Massachusetts

257th - March 31-April 4, 2019 Orlando, Florida

258th - August 25-29, 2019 San Diego, California

259th - March 22-26, 2020 Philadelphia, Pennsylvania

260th - August 23 - 27, 2020 San Francisco. California

261st - March 21 - 25, 2021 San Antonio, Texas

262nd - August 22-26, 2021 Atlanta, Georgia

263rd - March 20-24, 2022 San Diego, California

264th - August 21-25, 2022 Chicago, Illinois

265th - March 26-30, 2023 Indianapolis, Indiana

266th - August 13-17, 2023 San Francisco, California

267th - March 17-21, 2024 New Orleans, LA

268th - TBD

269th - March 23-27, 2025 San Diego, CA

270th - August 17-21, 2025 Washington, DC



In Memory of Allan S. Hay

Allan S. Hay passed away peacefully on August 14, 2017. He was born on July 23, 1929 in Edmonton Alberta, Canada the son of Stuart L. Hay and Verna Emila (Hodgins) Hay. He received a B.Sc. and M.Sc. from the University of Alberta (1950, 1952), and a Ph.D. in Organic Chemistry from the University of Illinois in 1955. Later that year, he moved to Niskayuna, New York and joined the staff of the GE Research Laboratory as a research chemist. In 1964, GE announced Dr. Hay's invention of "polymerization by oxidative coupling," a basically new chemical technique for synthesizing polymers which led to the development of GE's PPO® and Noryl® thermoplastic resins, one of the five major engineering plastics. PPO and its blends now have worldwide sales of over \$1.5 billion. In 1968 he was promoted to Chemical Laboratory manager, and in 1980 he was appointed Research and Development Manager, Chemical Laboratories at the GE R&D center in Niskayuna, where he directed the work of 220 scientists. At this time he oversaw the development and commercialization of ULTEM®, a high temperature polyimide resin.

He retired from GE in 1987 and started his second career as a professor of polymer chemistry at McGill University in Montreal, where he directed the research and supervised the training of several dozen masters, doctoral, and post-doctoral students. He held the GE/NSERC Chair of Polymer Chemistry (1987-95), and Tomlinson Chair in Chemistry (1997-2014). He retired from McGill in 2014 and moved back to Niskayuna. Dr. Hay has published over 300 papers in international peer-reviewed journals and was an inventor on over 100 U.S. patents. He received numerous awards over his career, including the prestigious Society of Plastics Engineers International Award and Gold Medal, and was a delegate to the First Bilateral Symposium between the U.S. and The Peoples Republic of China in 1979, the first group of western scientists to visit mainland China. He was a fellow of the New York Academy of Sciences, the American Association for the Advancement of Science, the Royal Society of London, and the American Institute of Chemists. He was also a long-standing member of ACS, POLY, and PMSE for over 65 years.

He was predeceased by his wife of 48 years, Janet Hay, in 2004, and is survived by his children, Randall (Theresa) Hay of Dayton, OH; Bruce (Nanette) Hay of Niskayuna, NY; Lauren (William Battaglin) Hay of Golden, CO; and Susan (Michael Becker) Hay of Portland, OR; sisters, Margaret Cameron and Denise (Walter) Schmidt of Edmonton; three nieces and nephews, and 10 grandchildren.

Dr. Hay had a clear passion for science and mentoring younger colleagues. He also loved spending time at his second home in Glenburnie on Lake George, where he enjoyed reading, gardening, hiking, and outdoor activities with family and grandchildren.

Annual Treasurer's Report

This table is a summary of the 2016 activity, the 2017 approved budget, and the 2017 income and expenditures for POLY as of July 31, 2017. POLY is a non-profit organization and as such, the Executive Committee is challenged to provide excellent services and growing benefits for its members, while keeping up with inflation, decreased income, and maintain a balanced annual budget.

	2016 Actual		2017 Budget		2017 Jan-July	
Budget Category	Income	Expense	Income	Expense	Income	Expense
Dues/ACS Allocations	161,324		164,500		140,585	-
National Meetings Activities	74,818	195,528	56,300	165,500	33,423	80,144
Workshop Activities	328,562	204,236	239,000	184,600	113,704	41,379
Administrative	125	162,725	-	167,500	-	88,544
Publications/Advertising	20,576	11,207	16,500	12,400	12,300	4,266
Committee/Awards Activities	41,549	55,322	39,300	59,500	30,950	24,005
Cashed Investments/Savings	3,977	3977	73,900			
Total Budget	630,931	632,995	589,500	589,500	330,961	238,338

In recent years, it has become challenging to find committed long-term sponsors to support

the key POLY awards. After much discussion and consideration, the Executive Committee voted to fund its major awards including the Carl Marvel-Creative Polymer Chemistry Award, Herman Mark-Polymer Chemistry Award, Paul Flory-Polymer Education Award, and the Industrial Polymer Science Award though the POLY investment fund. This change will take effect starting in 2018. As of January 1, 2017, POLY has 900k in investments which continues to support the budget annually.

The Executive Committee has recognized that the cost have grown significantly over the last 10 years for committee meetings, receptions, and other activities during the ACS National Meeting. As such, each committee chair was asked to reduce AV use, if possible. During 2017, POLY also reduced the poster session reception costs and changed the POLY Program Committee Meeting luncheon to a coffee session.

The POLY Elections process costs approximately \$4,500 last year. A portion of this expense supports printing and postage for post-cards mailed to members with inactive e-mail addresses. The POLY Executive Committee has chose to post the election announcement and directions in the Fall Newsletter, which is circulated during the election period, and discontinue the post-card mailing. This change should reduce the Election cost by 1/3 of the budgeted expense for 2017.

POLY continues to seek sponsors for receptions, coffee sessions, awards, newsletters, and workshops to help offset growing expenses. Please contact Derek Patton, derek.patton@usm.edu, or Kathy Mitchem, kathyL@vt.edu for further information about these opportunities.

The 2018 POLY budget is developed during December 2017 and approved during the POLY Executive Committee Meeting in January 2018. Please submit requests for funding for committee activity, symposium support, and other POLY related activity directed to the POLY Treasurer, Derek Patton, derek.patton@usm.edu, by December 1, 2017.

ACS Division of Polymer Chemistry, Inc. Executive Committee

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On behalf of the POLY Executive Committee and Past Chair, Thank you for your continued membership!



POLY Executive Committee Dinner ACS National Meeting, Washington, DC





American Polymer Standards Corporation 8680 Tyler Blvd., Mentor, OH 44060 Phone: (440) 255-2211 * Fax: (440) 255-8397

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Newsletter Production and Advertising Opportunities

Editors: Erik Berda, Kathy L. Mitchem, and Emma Powers

The POLY Newsletter is sponsored by the ACS Division of Polymer Chemistry, Inc. It is published twice anually, in the spring and fall, and circulated to approximatly 5,000 POLY members. POLY also circulates an e-news to its members approximatly 15 times annually. If you are interested in including an article or advertisement, please contact the POLY Business Office for details.

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