

Spring 2015

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# polymer



American Chemical Society

Division of Polymer Chemistry, Inc.

Editors: Cher Davis and Kathy L. Mitchem

## Chair's Address



**Rigoberto Advincula**  
(2015 Chair) and his daughter,  
Abigail (Polymer Major at Case)

Hello POLY members! As I lead the Division as Chair this year and look to the future, I would like to recognize the countless efforts of dedicated volunteers and officers that are truly advancing our goals. I would first like to thank you the members of the Division for continuing to be a part of the POLY family and contributing your precious time and resources. The goal of POLY leaders is to provide important and unique benefits to the membership, and also help make you proud to be a POLY member. Our primary mission is to foster a venue within the larger ACS body for all involved in polymer research and education to meet and connect. This does not have to happen only at national meetings, but can be done by e-mail, social networking, or via POLY Workshops (often in very interesting locations!). Working along with the Industrial Advisory Board (IAB), we would like to invite even more involvement from our industry colleagues within POLY. At the same time, we have dedicated precious resources to reach

out to the growing student membership at both the graduate and undergraduate level. We hope that they will become POLY members very early in their careers (like my children Abigail and Paul who are both polymer majors at CWRU (and POLY members?!)).

I would like to remind you of several benefits the POLY Division provides to members:

1. POLY List Server as a way to communicate with other members regarding important announcements and questions.
2. POLY website, Facebook, and LinkedIn as portals for information and job postings.
3. POLY workshops are on cutting edge topics of relevance to both industry and academia.
4. Awards, recognitions, and social networking activities during the ACS National Meetings.
5. High quality programming at the ACS National Meetings. Outstanding symposia and poster sessions and access to graphical abstracts from POLY contributions.
6. Partnerships and international events for our membership

I would like to thank the officers of the Division for their spirit of volunteerism and can-do attitude. I would also like to thank our business office for providing a smooth running operation that enables us to carry out planned programs with amazing efficiency.

Finally, please note that a large international meeting, The Pacific Polymer Conference (PPC), will be held the week before PacifiChem (December 9-13, 2015, in Kauai, HI) and will be hosted by POLY. This meeting is held only every 10 years, so don't miss this special opportunity. I look forward to seeing you there!



POLY Executive Dinner, ACS National Meeting  
Denver, CO - March 2015



## Now for my next trick: Essential Macromolecular Characterization™ *without* SEC-MALS

If you're not using Wyatt Technology's Multi-Angle Light Scattering detectors coupled with Size Exclusion Chromatography (SEC-MALS) or Field Flow Fractionation (FFF-MALS), you must *really* believe in magic! When you use a Wyatt MALS detector with your polymers or biopolymers, you'll be able to determine *absolute* molar masses and sizes, look at branching, study aggregation and stability — all completely independent of the typical legerdemain of ancient analytical techniques that involve column calibration and reference standards. Your colleagues will definitely be amazed.



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# POLY Elections Information

The on-line POLY election was held Fall 2014 with a success of over 20.5% membership participation (858 voters).

The slate of candidates for the fall election has been selected by the nominating committee and approved by the Executive Committee and listed below for your review. An e-mail will be sent to all voting members this fall which will contain a web site address and login instructions for the on-line election.

If you do not have an e-mail address on file, a postcard with the information will be sent by mail. If you would like to update your membership address or e-mail contact information, please contact ACS membership services at 1-800-333-9511 or e-mail: [services@acs.org](mailto:services@acs.org).

## 2015 Election Slate

### Vice Chair:

Diana Gerbi, 3M  
Michael Meador, NASA Glenn Research Center

### Councilor:

Christine Landry-Coltrain, Eastman Kodak Company  
Mary Ann Meador, NASA Glenn Research Center

### Member-At-Large:

Kevin Cavicchi, University of Akron  
Mark Dadmun, University of Tennessee

### Alternate Councilor:

Mike Hickner, Pennsylvania State University  
Toby Nelson, Oklahoma State University

# Membership Committee Report

Membership is the heart of the POLY Division. Yet it has been in slow decline for a few years. As such, the Membership Committee is holding a membership drive during 2015 offering a one-year FREE POLY MEMBERSHIP to new members. The goal is to give individuals an opportunity to sample POLY. Through this one year experience we hope polymer scientists will come to desire an ongoing membership in POLY. Approximately 50 individuals took advantage of this opportunity during the recent ACS National Meeting. We call out to all POLY members to discuss the benefits of POLY with colleagues who may not already be a member and encourage them to take advantage of this membership drive. This one-year membership will give individuals the opportunity to gain access to POLY graphical abstracts, receive newsletters about upcoming activities, receive reduced POLY Workshop registrations, and access to award opportunities, just to name a few of the many benefits.

Over twenty percent of the membership responded to the membership survey conducted in Fall 2015 carried out in concert with last year's elections. The survey asked questions about member benefits, engagement in POLY activities, attendance at meetings and what members would like to see in POLY programming and workshops among other things. Results of the survey show that members are enthusiastic about the monthly e-mail newsletter and reports from the national meeting and are more engaged than previous years with social media. Members attending the national meetings also enjoy networking events like the plenary lecture and awards reception on Wednesday nights, the IAB reception and the student reception. Member retention and engagement are still in need of improvement. The results of this survey provide helpful information to the Executive Committee as they look to the future. Thanks to all who took the time to complete the survey.

POLY is wrapping up a successful Innovative Project Grant (IPG) that was funded by the ACS Council Committee on Divisional Activities. The IPG on badge scanning that we conducted at the ACS San Francisco meeting in Fall 2014 helped us to identify who from outside POLY attended our technical sessions and poster session. During the meeting, 704 badges were scanned (with 400 energy bars and 200 bottles of water handed out with POLY contact information on them). 69% of the badges scanned were not POLY members. 50% of the scanned badges were from academia (non-students), 28% of the badges were from students, and 15% of the badges were from industry with 6% government. 20% of those scanned had interests in polymers, 18% with interests in inorganic, 16% materials, and 11% Colloid & Surfaces. We made contact with a lot of non-members and scientists and engineers that do not have their primary affiliation with the field of polymers. Clearly POLY's programming is proving a draw to people outside of our immediate field and POLY is making a valuable contribution to ACS National Meetings and the chemistry community at large. A free one-year membership was offered to all non-POLY members as part of this program. Mike Hickner (Penn State) would like to thank the POLY Executive Committee for facilitating the IPG process with ACS, the division office for helping

## Congratulations New 2015 Officers

### Vice-Chair:

Marc Hillmyer  
University of Minnesota

### Treasurer:

Derek Patton,  
University of Southern  
Mississippi

### Councilor:

Robert B. Moore  
Virginia Tech

### Alternate Councilor:

Christine Landry-Coltrain,  
Kodak Research Laboratory

with badge scanning during the meeting, and students Doug Kushner (Penn State), Katrina Knauer (U. S. Miss.), Kaushik Mishra (U. Akron), and Kelli Stockmal (Clark U.) for doing badge scanning during the conference. We had a great time and helped POLY with some critical data collection which will pay off as we move forward recruiting POLY members from outside our field.

The Membership Committee awarded the University of Southern Mississippi the POLY/PMSE Student Chapter award at the ACS National Meeting in Denver, CO. The Chapter plans to use the award to support their chapter activities including bringing in outside speakers from industry, academia and government, running a science café on polymer science and the role of polymers in technology, and participating in Recyclethon 2015 to promote better recycling practices.



### POLY/PMSE Outstanding Student Chapter:

(l-r) D. Patton and A. Fogel (Univ. of Southern Mississippi), R. Advincula (POLY Chair), and Sergio Granados-Focil (Clark Univ.)



# POLY Recognizes Outstanding Members in Denver



**Carl S. Marvel Award:**  
(l-r) J. Strickler (Albemarle), T. Emrick (UMass), and  
R. Advincula (POLY Chair)

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**POLY Distinguished and Service Award:**  
(l-r) S. Morgan (USM), R. Advincula (POLY Chair),  
H. N. Cheng (USDA)



**Plenary Lecture:**  
(l-r) R. Advincula (POLY Chair), K. Wooley (Texas  
A&M Univ.), Sergio Granados-Focil (Clark Univ.)

The POLY/PMSE awards reception, held at the ACS National Meeting in Denver CO, honored outstanding achievements by its members. 2015 POLY Chair, Rigoberto Advincula, (Case Western Reserve University) had the pleasure of congratulating this year's award winners. This special event was sponsored by ACS MacroLetters, Macromolecules, BioMacromolecules, and 3M.

**2015 Carl S. Marvel Creative Polymer Chemistry Award:** The Division was delighted to present the Carl S. Marvel Creative Polymer Chemistry Award to Professor Todd Emrick from the Polymer Science and Engineering Department at the University of Massachusetts Amherst. He is a notably accomplished polymer chemist, and pioneer in nanoparticle functionalization, polar and zwitterionic polymers, and polymers for biology. He received his PhD from the University of Chicago in 1997 and spent two years at the University of California at Berkeley as a post doctoral fellow. He is a researcher with demonstrated vision and accomplishment over a broad range of fields using polymers. His recent work shows the impact and benefits of novel polar polymers he designed (such as polymer zwitterions), extending across polymer therapeutics (as injectable drugs), self-healing structures (as delivery vehicles), and electronic materials (in solar cells). To augment the distinct academic importance of his work, in several cases his work carries a viable practical applicability. This is evident from the number of his issued patents, licensed technology on polymer-drug conjugates for chemotherapy, and thermoplastics that are non-flammable.

The Carl S. Marvel Award is sponsored by *Albemarle* and POLY was honored to have Jamie Strickler in attendance to present the award. The award was established in 1980 to recognize and encourage accomplishments and/or innovation of unusual merit in the field of basic or applied polymer science by younger scientists.

**POLY Fellows Award:** Six outstanding POLY members were honored recipients of the 2015 POLY Fellows Award for their outstanding achievements and contributions to polymer science and their profession. Recipients included: Robert Allen (IBM), Jianjung Cheng (University of Illinois), Richard Gross (Rensselaer Polytechnic Institute), George Odian (City University of New York), Kenneth Shea (University of California-Irvine), and Thomas Zawodzinski (University of Tennessee-Knoxville).

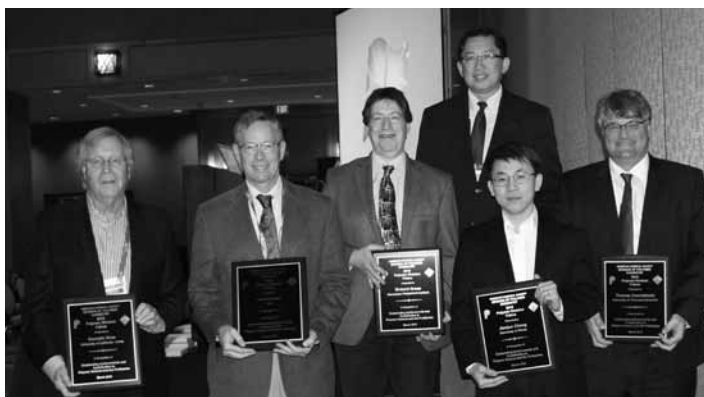
**Distinguished Service Awards:** Sarah Morgan (University of Southern Mississippi), received the 2015 Distinguished Service Award in recognition of "*Outstanding Polymer Division Programming & Undergraduate Education*". H. N. Cheng (USDA Agricultural Research Service) received the 2015 Special Service Award for, "*Outstanding and Sustained Leadership in Workshop Organization and Coordination*".

**Past Chair:** POLY honors Past POLY Chairs for their outstanding leadership to the Division with a special plaque and lapel pin. Kathryn Beers (2014 Chair).

**Plenary Lecture:** The awards reception featured Plenary Lecturer, Karen Wooley (Texas A&M University), who presented, "*A Celebration of the Award Winners*". She received a plaque and honorarium for this special technical presentation.

In addition to these, several awards including Excellence in Undergraduate Polymer Research, Student Chapter Award, POLY IAB Travel Award, and the Outstanding Poster Awards were presented and are highlighted throughout this Newsletter.

The reception was extremely well attended by approximately 300 POLY and PMSE members and provided an opportunity to better recognize the excellence and community in both the POLY and PMSE Division. The evening successfully celebrated the individuals who are the present and future of Polymer Chemistry. Congratulations again to all!



**POLY Fellows:** (l-r) K. Shea (Univ. of California-Irvine), R. Allen (IBM), R. Gross (Rensselaer Poly Tech. Inst.), R. Advincula (POLY Chair), J. Cheng (Univ. of Illinois), T. Zawodzinski (Univ. of Tennessee-Knoxville)

# Congratulations POLY Awardees

All awards will be presented at the POLY/PMSE Awards Ceremony on Wednesday, August 19, 2015. A symposium to honor several of these awardees will be held during the 2015 Fall ACS National Meeting. Additional details can be found in the ACS National Meeting Program this summer.

## Biomacromolecules/Macromolecules

### Young Investigator Award

Sponsor: *ACS Journals Biomacromolecules, Macromolecules, ACS Macro Letters and the Division of Polymer Chemistry*



**Matthew Becker**  
University of Akron



**Brent Sumerlin**  
University of Florida

## Mark Award Series

Sponsor: *Elsevier the publisher of the journal POLYMER*

### The Herman F. Mark



**Timothy Lodge**  
University of Minnesota

### Mark Scholar



**Stuart Rowan**  
Case Western Reserve University

### Mark Young Scholar



**Bradley Olsen**  
MIT

## Overberger Award

Sponsor: *ACS MACRO, PMSE, and POLY*



**Kris Matyjaszewski**  
Carnegie Mellon University

## POLY Distinguished Service Award

Sponsor: *Polymer Division*



**Buddy Ratner**  
University of Washington



**Kenneth Carter**  
University of Massachusetts-Amherst

## Graduate Student Travel Award

Sponsor: *Industrial Advisory Board*



**Olivia Durham**  
Clarkson University



**Keren Zhang**  
Virginia Tech

## Henkel Award for Outstanding Graduate Research in Polymer Chemistry

Sponsor: *Henkel*



**Jessica Kramer**  
UCLA Graduate

# Upcoming POLY Award Deadlines

## The Paul J. Flory Polymer Education Award

Deadline – 7/1/15

Sponsored by: *Albermarle*

Purpose: To recognize, encourage, and stimulate outstanding achievements by an individual or team in promoting undergraduate and/or graduate polymer education.

## POLY Video Award

Deadline – 7/20/15

Sponsored by: *POLY Division*

Purpose: To prepare young chemists to present their research and interact with a broad range of audiences, including more senior scientists and the general public. It should be understood that the presentation should be geared toward a lay person.

## Industrial Polymer Scientist Award

Deadline – 7/31/15

Sponsored by:

*POLY Industrial Advisory Board*

Purpose: To recognize outstanding industrial innovation and creativity in the application of Polymer Science, conducted by individual scientists or research teams.

## POLY Fellows Award

Deadline – 11/30/15

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.

## POLY Graduate Travel Award

Deadline – 10/15

Sponsored by:

*POLY Industrial Advisory Board*

Purpose: To provide funding for polymer graduate students to travel to the National ACS meeting to present the results of their research.

## Award Information:

<http://www.polyacs.org/AWARDS.html>

or contact:

Kathy Mitchem  
POLY Business Office  
540-231-3029

# Industrial Advisory Board

The Polymer Division Industrial Advisory Board (IAB) continues to support on-going polymer-related programs, and also provides a forum to make the needs and views of the industrial community known to POLY. In particular, we are providing recommendations to POLY on future programming topics and structure, future educational initiatives, and future directions for industrial awards.

In addition to programming, the currently funded activities of the Board include the Industrial Polymer Scientist Award, Student Travel Awards, Undergraduate and Graduate Research symposia, and special events.

In particular, the Industrial Polymer Scientist Award (IPS) nomination process is now open until July 31, 2015. The purpose of the IPS Award is to recognize outstanding industrial innovation and creativity in the application of Polymer Science, conducted by individual scientists or research teams. More details are available online at: <http://www.polyacs.org/256.html>. The evaluation of all award packages will be coordinated by POLY Awards Chair, Kenneth Carter (University of Massachusetts) and committee members. The nomination and its accompanying material for the 2016 award must be received by the Awards Chair via the POLY Business Office no later than July 31, 2015. Please e-mail nomination material to [KATHYL@VT.EDU](mailto:KATHYL@VT.EDU) at the POLY Business Office (540-231-3029).

The Graduate Student Travel Awards are organized by the Polymer Division Membership Committee and sponsored by the POLY Industrial Advisory Board. The Travel Awards are given at each ACS meeting to provide funding for polymer graduate students to travel to the National ACS meeting to present the results of their research. Congratulations to Xiangtao Meng (Virginia Tech), Title: Olefin Cross-Metathesis, a Mild, Modular and Efficient Approach Towards Functionalized Cellulose Esters", and Yiheon Yeom (University of Michigan), Title: Chiral Transmission to Self-Assembling Nanostructures from Circularly Polarized Light". The deadline for future Travel Awards are spring and fall prior to each ACS meeting. For specific dates and information visit: <http://www.polyacs.org/649.html/>.

The IAB continues to grow its programming in an effort to increase value of ACS Meetings for its industrial members. For the 2015 Fall ACS Meeting in Boston, MA, a Monday Morning session is planned on "Value of Basic Research to Industrial Polymer Science", organized by S. Eastman and C. Radano, followed by a Monday Afternoon session on "Industrial Innovations in Polymer Chemistry", organized by C. Lipscomb and L. Stratton. Programming continues on Tuesday with "Value of Basic Research to Industrial Polymer Science – A Senior Chemists Perspective", organized by S. Eastman and R. S. Moore. We continue to plan valuable events and are already looking forward to the 2016 ACS Meeting.

The IAB concludes a successful day of programming at each ACS Meeting with a Monday night networking social event. The IAB Meeting is held Tuesday morning (7:30am – 9:00am).

We are always interested in new ways to serve the POLY industrial community and welcome your suggestions and attendance at our networking event or Tuesday morning board meeting.

For more information regarding this thriving program, contact Co-chairs: Travis Baughman (DSM) [travis.baughman@dsm.com](mailto:travis.baughman@dsm.com) or Diana Gerbi (3M) [djgerbi@mmm.com](mailto:djgerbi@mmm.com).



**Travel Awards:**


(l-r) T. Baughman (DSM), X. Meng (Virginia Tech), Rigoberto Advincula (POLY Chair), and Diana Gerbi (3M)

*Sponsored by Industrial Advisory Board*

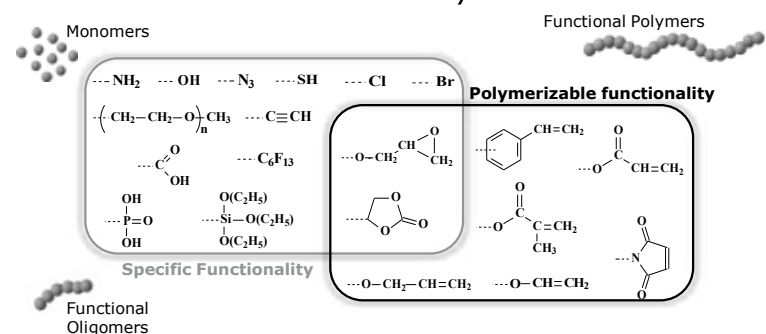
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# :GPC2015



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**Fairmont Washington, D.C.,**  
**Georgetown**

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Both lectures and poster presentations will cover the following areas:

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- New developments in polymer and polyolefin characterization for GPC and High Temperature GPC
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# 11th Excellence in Polymer Graduate Research Symposium

The 11th symposium on “Excellence in Polymer Graduate Research” took place at the national ACS meeting at Denver, Colorado on March 22-26, 2015. The purposes of this symposium are to provide recognition to outstanding graduate students in polymer science and engineering, to foster networking and exposure, and to help develop the careers of future leaders in our field. We publicized this symposium via the POLY list server, POLY web page, and direct e-mail messages to over 100 departments that are active in polymer research. We requested that each department nominate one outstanding graduate student to speak on his or her original research in this special symposium. Each student should fill out an application form and have a nominating letter from the research advisor and a letter from the department head.

This year we received 27 submissions, and we were pleased with the quality of the papers. The symposium was organized into two oral sessions with 16 papers and a poster session with 11 papers. Both the oral and the poster sessions went very well. There were a lot of stimulating questions during the talks. The traffic was also heavy during the poster session.

As part of the recognition, each student received a certificate plus a cash award. We were pleased that Dr. Diane Grob Schmidt, the 2015 ACS President, made this symposium a Presidential-Recommended event, personally visited the symposium, and spoke to the students. Diane compared a student's career path to a polymerization process, including initiation (where the student is introduced to polymer chemistry in grad school), propagation (where he or she does research or practices polymer chemistry in the workplace), transfer (i.e., change of jobs or fields), and termination (when he or she retires). A group photo was taken with Dr. Schmidt and Dr. Gobet Advincula, the 2015 Chair of the ACS Polymer Chemistry Division.

This symposium was organized by the ACS Polymer Chemistry Division (POLY), and cosponsored by Presidential Event (PRES), Young Chemists Committee (YCC), Division of Professional Relations (PROF), and Society Committee on Education (SOCED). The symposium had the generous support of POLY and Industrial Advisory Board of the Polymer Division (IAB). The symposium participants are listed below.



## Symposium Organizing Committee:

H. N. Cheng, USDA  
Christopher Ellison, University of Texas  
Christine Landry-Coltrain, Eastman Kodak Company  
Timothy E. Long, Virginia Tech

Tobin Brown, Univ. of Colorado  
Sourav Chatterjee, Louisiana State Univ.  
Anting Chen, Binghamton Univ.  
Sunandini Chopra, MIT  
Jordan Corinne Theriot, Univ. of Colorado  
Joseph Michael Dennis, Virginia Tech  
Benjamin Dexter Naab, Stanford Univ.  
Philip Thomas Dirlam, Univ. of Arizona  
Jonathan Garrett Weis, MIT  
Eric Gharakhanian, UCLA  
Natalie Girouard, Georgia Tech  
Ariana Hall, Univ. of Michigan  
Hongkun He, Carnegie Mellon Univ.  
Emily A. Hoff, Univ. of Southern Mississippi

## Presenters:

Prathamesh M. Kharkar, Univ. of Delaware  
Yoonseob Kim, Univ. of Michigan  
Xiangtao Meng, Virginia Tech  
Soma Mukherjee, Univ. of Florida  
Lisa Renee Murray, Purdue Univ.  
Michael Otley, Univ. of Connecticut  
Nicholas A. Rorrer, Colorado School of Mines  
Amrita Sarkar, Univ. of South Carolina  
Deborah K. Schneiderman, Univ. of Minnesota  
Shengchang Tang, MIT – Chem Eng  
Jihyeon Yeom, Michigan-Macro  
Jukuan Zheng, Univ. of Akron  
Tianyue Zheng, Univ. of Chicago

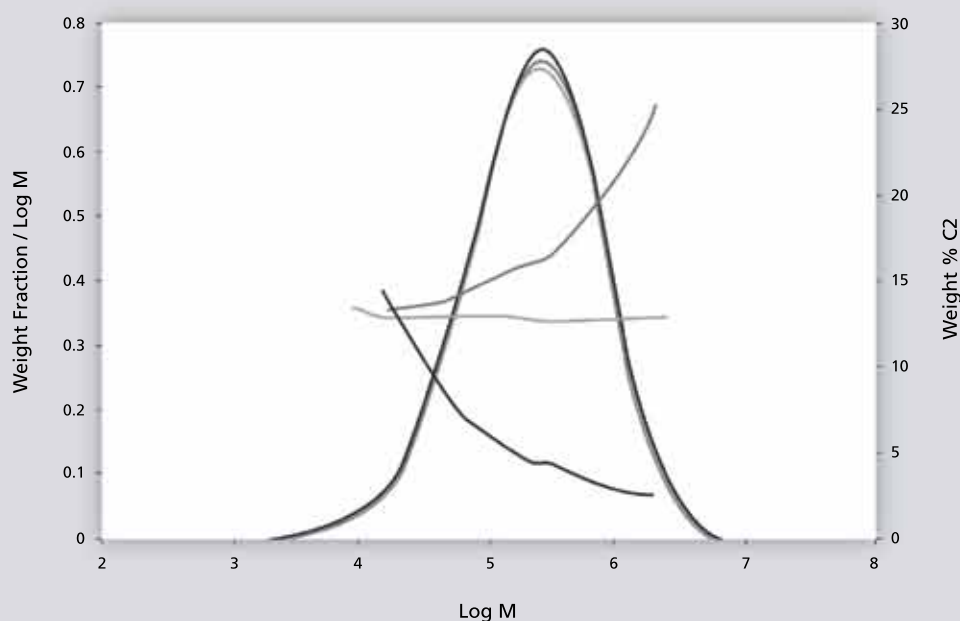
## Calling Web Designers

The Polymer Division is looking for a volunteer who would be willing to give the POLY Web Site a new updated look. We welcome your assistance. POLY is also looking for someone who would be willing to assist with the weekly updates. If you are interested in either or both of these items, please contact [christine.landry-coltrain@kodak.com](mailto:christine.landry-coltrain@kodak.com)





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## Polymers in Medicine and Biology 2015

September 14 - 17, 2015 (Monday-Thursday)  
Hilton Sonoma Hotel \* Santa Rosa, California USA  
<http://polyacs.net/Workshops/15Biomed/home.htm>

### Organizers:

Prof. Buddy D. Ratner, University of Washington  
Prof. Kathryn E. Uhrich, Rutgers University  
Prof. Judy S. Riffle, Virginia Tech



### Confirmed Speakers

Anna Balazs (U Pitt)	Huinan Liu (UCR)
Cole Deforest (U Washington)	Andrew Marshall (Healionics)
Joe Desimone (UNC/NC State)	Yukio Nagasaki (Univ. of Tsukuba, JAPAN)
Dave Grainger (U Colorado)	Judit Puskas (U. Akron)
Rich Gross (RPI)	Martina Stenzel (U New South Wales)
Eva Harth (Vanderbilt)	Bob Ward (ExThera Medical Corp)
Ali Khademhouseni (Harvard)	Stephanie Willerth (Univ. of Victoria)
Michelle Khine (UC Irvine)	Natalie Wisniewski (Perfusa Corp)
Jeffrey Linhardt (Google)	Kim Woodrow (U Washington)

## 10th Advances in Polyolefins: 2015

... in tribute to James E. McGrath

September 21 - 24, 2015 (Monday-Thursday)  
Hilton Sonoma Hotel \* Santa Rosa, California USA  
<http://polyacs.net/Workshops/15Polyolefins/home.htm>

### Organizers:

Dr. Pal Arjunan  
Dr. Jerzy Klosin, The Dow Chemical Company  
Prof. Kenneth B. Wagener, University of Florida  
Prof. Geoffrey W. Coates, Cornell University



### Confirmed Speakers

Rufina Alamo (Florida State Univ.)	Steve Diefenbach (Albemarle Corp.)
Hamid Almegren (KACST, SAUDI ARABIA)	Srivatsan Iyer (Braskem Europe)
Gregory Arzoumanidis (Oakwood Consulting)	Richard Jordan (University of Chicago)
Sebastian Babik (Evonik Industries AG)	Jan Kalfus (ExxonMobil Chemical)
Eric Baer (Case Western Reserve Univ.)	K.S. Kapur (IOCL, India)
Don Baird (Virginia Tech)	Rick King (BASF Corporation)
John Bercaw (CalTech)	Jerzy Klosin (The Dow Company)
David Bergbrieter (Texas A&M Univ.)	Raj Krishnaswamy (Braskem Americas)
Christophe Boisson (Lab Chimie Catalyse Polymeres)	Clark Landis (Univ. of Wisconsin-Madison)
Pat Brant (ExxonMobil Chemical Co.)	Bob Maughon (Dow Chemical Co.)
Jeffrey L. Brinen (ExxonMobil Chemical)	Tim F.L. McKenna (ESCAPE-LYON)
Robert Bruell (Fraunhofer-Institute)	Kotohiro Nomura (Tokyo Metropolitan Univ.)
Joel Carr (Braskem Americas)	Yves Ramjoie (Ineos Polyolefins)
T. C. (Mike) Chung (The Pennsylvania State Univ.)	Richard Schrock (MIT)
Geoff Coates (Cornell University, Baker Lab)	Joao B. P. Soares (Univ. of Alberta, Canada)
Christophe Coperet (ETH Zurich)	Hans VanBrackle (ExxonMobil Chemical)
Raphael Crawford (Albemarle Corp.)	Kenneth Wagener (Univ. of Florida)
Paul DesLauriers (Chevron Phillips Chemical Co.)	

## 14th Pacific Polymer Conference - PPC-14

December 9-13, 2015  
Grand Hyatt Resort and Spa \* Kauai, Hawaii USA  
<http://ppc14.org>

### Chair and President, Pacific Polymer Federation

Krzysztof Matyjaszewski (Carnegie Mellon University)

### Treasurer and Secretary of Pacific Polymer Federation

William H. Daly (LSU)

### Program Committee Chair

Rigoberto Advincula (CWRU)

### Organizing Committee

Kenneth Wynne (VCU)  
Peter Zarras (US Navy)  
Robert B. Moore (VT)  
H. N. Cheng (USDA)  
Greg Tew (UMASS)  
Tim Lodge (UMINN)



### Sessions

1. **Polymer Synthetic Chemistry**
  - a. Precision synthesis by controlled techniques: Karen Wooley, Craig Hawker
  - b. Hybrids: Ken Wynne, Yoshiki Chujo, Rick Laine, Frank Blum
2. **Bio-related Polymers**
  - a. Drug delivery tissue/bone engineering: Carmen Scholz, Greg Tew, Martina Stenzel, Semra Colak
  - b. Bio-conjugates: Brent Sumerlin, Heather Maynard
3. **Polymer Physics/Processing**
  - a. Computation/simulation/theory: Anna Balazs, Michael Rubinstein
  - b. Advanced processing: Joe DeSimone, Paul Nealey
  - c. Gels and networks: Tim Lodge, Chris Bowman
4. **Energy**
  - a. Membranes, batteries, and fuel cells: Benny Freeman, Mike Hickner
  - b. Photoconductive, OLEDs, solar, and others: Alex Jen, John Reynolds
  - c. Graphene & carbon nanocomposites: Gobet Advincula, Liming Dai
5. **Environment**
  - a. Sustainable systems and renewable resources: Marc Hillmyer, Chuanbing Tang
  - b. Specialty coatings for marine and aerospace environments: Peter Zarras, Jamil Baghdachi, Ken Wynne, James Callow, Maureen Callow
6. **Special topics**
  - a. Polyolefins: Phil Hustad
  - b. Smart, responsive and self-healing and shape memory: Marek Urban, Stuart Rowan
  - c. Fluorine and silicon containing polymers: Joe Mabry, Scott Iacono

# Chemistry Division Workshops

## 2016 Sustainable Polymers

<http://polyacs.net/Workshops/16SustainablePolymers/home.html>

May 22 - 25, 2016

Safety Harbor Conference Center, Florida USA

### Co-Organizers:

Dr. Dylan J. Boday, IBM Materials Engineering  
Prof. Marc A. Hillmyer, UMN



### Invitation

This conference will bring together researchers from academia, industry, and government to present and discuss their activities in the broad area of sustainable polymers. Recent research in new materials, new processes, and new technologies that focus on sustainable practices in polymer science and technology will be presented.

## 2016 Polymer Composites and High Performance Materials

<http://polyacs.net/Workshops/16Composites/home.html>

July 25 - 28, 2016

Hilton Sonoma Hotel, Santa Rosa, CA USA

### Co-Organizers:

Prof. Sarah E. Morgan, USM  
Prof. Daniel A. Savin, University of Florida  
Dr. Mary Ann Meador, NASA Glenn Research Center  
Michael A. Meador, National Nanotechnology  
Coordination Office  
Dr. Jeffrey W. Gilman, NIST  
Dr. Frederick R. Phelan Jr., NIST



### Proposed Topics Include

Sustainable Polymer Composites  
Surfaces and Interfaces  
Nanocomposites  
Nanocellulose  
Multi-scale Modeling  
Polymer Matrix Development  
Composite Performance  
Aerospace Applications  
Defense Applications  
Infrastructural and Transportation Applications  
Composites NDE  
Fracture in Composites  
Thermoelectric Nanocomposites  
Novel Functional Polymers and Nanoporous Polymers

### Workshop Chair:

H. N. Cheng

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hncheng100@gmail.com

### Additional Workshop Information

**WWW.POLYACS.NET**

or

Lesia Linkous

POLY Business Office

Phone: 540-231-3029

E-mail: LESIAR@VT.EDU

Further information coming soon....

Fall 2016  
Fluoropolymer 2016

Fall 2016  
Polymers for Global Oil and  
Gas Applications

## 2016 National Graduate Research Conference

June 12-15, 2016

University of Akron  
Hosted by: Eric Amis

### Organizing Committee:

Nicole Zacharia (nzacharia@uakron.edu)  
Abraham Joy (abraham@uakron.edu)  
Toshi Miyoshi (miyoshi@uakron.edu)  
Younjin Min (ymin@uakron.edu)



# POLY/ACS National Meeting Activity

<http://www.polyacs.org/8.html>

**250th ACS National Meeting - August 16-20, 2015, Boston, Massachusetts**

**Primary Program Chair: Dylan Boday**

**ACS Theme: Innovation from Discovery to Application**

- Biomacromolecules/Macromolecules Young Investigator Award (Paulomi Majumder)
- Celebrating 50 years of Polymer Science and Engineering (Bryan Coughlin, Todd Emrick, Greg Tew, and Kenneth Carter)
- General Topics: New Synthesis and Characterization of Polymers (Dana Garcia)
- Henkel Award for Outstanding Graduate Research in Polymer Chemistry Honoring Jessica Kramer (Joint POLY/PMSE) (Warren Ford)
- Henry A. Hill Centennial Symposium: Innovation in Polymer Science (Malika Jeffries-EL, Lashanda Korley, and Gregory Tew)
- Industrial Innovations in Polymer Chemistry (Corinne Lipscomb and Laura Stratton)
- Ionic Liquids in Polymer Design: from Energy to Health, (Yossef Elabd, Timothy E. Long, and Jiayin Yuan)
- The Herman Mark Award Symposium in Honor of Timothy Lodge (Frank Bates)
- Mark Young Scholars Award Symposium in Honor of Bradley Olsen (Paula Hammond)
- Mark Scholars Award Symposium in Honor of Stuart Rowan (Jeff Pyun)
- Multi-Component and Sequential Reactions in Polymer Science: Efficient Synthesis of Structural Diverse Polymers (Patrick Theato and Michael Meier)
- Overburger Award in Honor of Krystoff Matyjaszewski (Richard Laine)
- POLY/PMSE Plenary Lecture & Awards Reception (Dylan Boday, Malika Jeffries-EL)
- Protein-Like Structure and Activity in Synthetic Systems (Erik Berda, Johan Foster, and Yoan Simon)
- Ring Opening Polymerization
- Silicones VII (Steve Clarson and Joseph Mabry)
- Surface Modification of Polymeric Materials (Christopher J. Wohl and Kenneth J. Wynne)
- Value of Basic Research in Solving Industrial Polymer Science (Scott Eastman and C. Randano)
- Value of Basic Research to Industrial Polymer Science – A Senior Chemist's Perspective (Robert Moore and Scott Eastman)

**251st ACS National Meeting - March 13-17, 2016, San Diego, California**

**Primary Program Chair: Dylan Boday**

**ACS Theme: Computers in Chemistry**

- Applications of Polymer Surfaces and Interfaces
- Anionic Polymerization – Still Living After 60 Years
- 'Click' reactions for producing advanced materials
- Controlled Depolymerization
- Excellence in Graduate Polymer Research
- General Topics: New Synthesis and Characterization of Polymers
- Industrial Innovations in Polymer Chemistry
- Polymer Science for Everyday Things: Polymers for Beauty, Sports and Leisure
- Polymeric Materials as Imaging Agents and Theranostics
- Responsive Nanostructures and Nanocomposites
- Supramolecular polymers: from structure to advanced functionality
- Sustainable Polymers, Processes, and Applications
- Synthetic and Biological macromolecules for engineering and nanotechnologies
- Undergraduate Research in Polymer Science

## POLY Program Chairs

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**Timothy White**

Air Force Research Laboratory  
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**Malika Jeffries-EL**

Iowa State University  
malikaj@iastate.edu

## Future ACS National Meetings

250th - August 16-20, 2015  
Boston, Massachusetts

Theme: Innovation from Discovery to Application

251st - March 13-17, 2016  
San Diego, California

Theme: Computers in Chemistry

252nd - August 21-25, 2016  
Philadelphia, Pennsylvania  
Theme: Chemistry of the People, by the People and for the People

253rd - April 2-6, 2017  
San Francisco, California

254th - August 20-24, 2017  
Washington, DC

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

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

## Abstract Submission

ACS POLY National Meeting abstract submission can be completed on-line 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.

## Organize a POLY Symposium

"Interested in organizing a POLY symposium at ACS National Meetings? Just follow 3 easy steps:

- 1) Download the symposium proposal template at <http://www.polyacs.org/8.html#nationalmeetingpreprintabstract>.
- 2) Fill in your and your co-organizers names and contact information as well as details about the symposium.
- 3) Email to the POLY program chairs

# POLY Poster Awards at ACS

Since its establishment in 2013, POLY has been presenting two Outstanding Poster Awards at each national meeting. This award was 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 again, at the Spring 2015 National Meeting held in Denver, CO, more than 30 nominated posters were reviewed by the POLY Poster Awards Panel on-site during the Sci-Mix poster session, and two winners were selected. Nominees were judged on the basis of their contribution to the work, the quality and impact of their research, and their poster presentation and communication skills. The winners were announced at the POLY's Awards Reception on Wednesday night and presented with a \$250 monetary prize each, which was sponsored by Albemarle.

## **Congratulations Spring 2015 POLY Outstanding Poster Award Winners:**

### **Dahlia Amato**

School of Polymers and  
High Performance Materials  
University of Southern Mississippi  
Poster Title: "Thiol-alkyne  
photopolymerization in miniemulsion: A facile  
route to functional polymer nanoparticles"

### **Nicholas Godman**

Chemistry and Biochemistry  
University of Oklahoma  
Poster Title: "Development and  
characterization of layer-by-layer assembled  
ferrocene polymer/enzyme films for usage as  
biofuel cell anodes"

# POLY Councilors' Report

*by F. Blum, M. A. Meador, R. B. Moore, & J. Pochan*

At the Spring ACS National Meeting in Denver, CO (March 22-26, 2015), all four councilors attended the ACS Council Meeting. The following account summarizes some selected activities in the Council and in committees and task forces in which POLY Councilors are involved.

**General Topics:** The Denver National Meeting attracted a total of 13,940 registrants, including 7,307 regular attendees and 5,141 students.

The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2016: G. Bryan Balazs, Allison A. Campbell, David J. Lohse, and Christopher J. Welch. By electronic ballot, the Council selected G. Bryan Balazs and Allison A. Campbell as candidates for 2016 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

The ACS Council Policy Committee (CPC) based on Society's Bylaws, total paid membership in the Society and membership in each division, has reallocated the number of councilors per division. On the basis of these determinations, one division – Catalysis, Science & Technology – will gain three Councilors for 2016-2019, and two divisions – Cellulose and Renewable Materials and Chemical Information – will each gain one Councilor for 2016-2019. Six divisions – Business Development & Management, Carbohydrate Chemistry, Colloid & Surface Chemistry, Computers in Chemistry, History of Chemistry, and Professional Relations – will each lose a Councilor for 2016-2019. There will be no change in the number of Councilors for any other division.

Committee on Economic and Professional Affairs reported the 2014 New Graduate Survey Results which show the unemployment rate for new graduate chemists has dropped from 14.9 percent in the 2013 survey to 12.4 percent as of 2014. The drop is principally due to more new bachelor's degree chemists finding employment. ACS members experienced three successive years of lowered unemployment, which could hint at a positive outlook for chemists in coming years.

Following a discussion on the revenue supporting National Meetings, the ACS Council requested that the Board of Directors delay the implementation of the technical meeting additional fee to the meeting registration fee, until the Board presents an analysis (preferably at the Boston national meeting) of the projected break even fee, including and excluding the net revenue from the National Meeting Exposition.

**Council Policy Committee (CPC) (Frank Blum):** CPC is working to develop new procedures for expulsion of members and Councilors for good cause. They also reset the divisors for Council representation based on membership. As a result, some divisions lost and some gained Councilors. CPC is also exploring making Council more green through electronic agendas.

**\*Poster Presenters\***  
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## **Division Activities Committee (DAC)**

**(Mary Ann Meador):** The DAC voted to fund ten Innovative Project Grants (IPG) totaling \$54,000. The committee will consider another set of IPG proposals during the Boston National Meeting in August, 2015; the deadline for that round of submissions is July 1, 2015.

A new Communications and Technology Subcommittee was formed in DAC to work on ways to help divisions communicate with their members and among divisions.

National meeting attendees were recently surveyed for their views on the Society's policy governing the use of devices to capture and/or disseminate content delivered at our meetings. While expressing support for the policy, the respondents also expressed interest in amending the current policy to permit presenters – at their discretion – to authorize audience members to capture and disseminate content.

**Meetings and Expositions (M&E) (John Pochan):** M&E recommended that the Early Member Registration Fee for 2016 national meetings be \$415, per the National Meeting Long-Range Financial Plan.

As part of the continuing ACS sustainability effort and to encourage the use of the ACS mobile app and online program, M&E has decided to discontinue free distribution of the hard copy program book starting in 2016. Those who pre-register for the meeting may purchase a copy of the program book for \$10 (pick up on site), and copies will be available at the meeting for \$20. The PDF version of the national meeting program will be more prominently displayed on the ACS website for those who would like to print portions for themselves.

# 10th Undergraduate Research in Polymer Science Symposium

The 10th annual Undergraduate Research in Polymer Science Symposium was held at the Denver National Meeting, with 18 oral and 24 poster presentations from 26 universities across the country. Sabic Innovative Plastics sponsored travel awards for the top eight abstracts. The POLY Industrial Advisory Board sponsored \$500 awards for the best paper and the best poster presentation. POLY provided travel awards for the four runners-up. The symposium featured an IAB panel discussion on Careers in Industry with representatives from national lab, academic, and industrial laboratories. The program was co-sponsored by POLY, Sabic Innovative Plastics, and The University of Southern Mississippi School of Polymers and High Performance Materials. The IAB Best Paper Award was presented to Allison Linehan, University of San Diego and the IAB Best Poster Award to Douglas Smith, Pacific Lutheran

University. SABIC Travel Award winners were Daniel Zamorano, The University of Texas at Dallas, Samantha Fuchs, University of Illinois at Urbana-Champaign, William Horn, Ashland University, Patrick Thomas, University of Akron, Michael Roth, University of Southern Mississippi, Erik Crenshaw, California Polytechnic University San Luis Obispo, Tom Kolibaba, Pacific Lutheran University, Kara Geremia, Wright State University, and Megan Seymour, The University of Texas at Dallas. POLY Travel Award winners were Dylan Barber, Williams College, Nicholas Ostrovsky-Snyder, Western Washington University, Matthew Carlson, University of Texas, and Carl Thrasher, USAF Academy. The symposium was organized by Sarah Morgan and Sergei Nazarenko of The University of Southern Mississippi.



**Best Poster Award:**

(l-r) D. D. Smith (Pacific Lutheran Univ.), S. Morgan (Univ. of Southern Mississippi), R. Advincula (POLY Chair), T. Baughman (DSM), and D. Gerbi (3M)



**Undergraduate Travel Awardees**



**Undergraduate/Industry Panel Discussion**

## In Memory of James Crivello

*It is with great sadness that we report the passing of James Crivello, professor of chemistry and chemical biology on February 25, 2015.*

*Dr. Crivello joined Rensselaer in 1988 after completing a very successful industrial career of 22 years at the General Electric Research and Development Center, where he was elected a Coolidge Fellow. Throughout his career at Rensselaer, he has been a valued and productive researcher and teacher in the areas of organic chemistry and synthetic polymer chemistry. His contributions in the field of additive manufacturing and 3D printing remain very influential; his invention of a new class of photoinitiators, also known as 'Crivello Salts,' designed for inducing cationic polymerization of epoxy resins, opened the door for the first wave of additive manufacturing systems. Most of the current 3D imaging and printing technology in use today employs epoxy resin technology and cure chemistry based on work done in his laboratory. A measure of his scholarly activity is demonstrated by more than 330 publications, 144 patents, 15 book chapters, and three books to his credit.*

*During his industrial career, Dr. Crivello received numerous awards recognizing the importance of his work, including two IR-100 awards by Research & Development magazine. For the 50th anniversary of the Journal of Polymer Science, the editors selected Dr. Crivello's paper on*

*the photodecomposition of sulfonium salts as a means for microelectronic patterning and additive manufacturing as one of the 50 most influential papers that had been published in that journal since its inception.*

*In addition to his research activities, Dr. Crivello also served the polymer community through his participation as a member at large of Polymeric Materials: Science and Engineering (PMSE) in the American Chemical Society (ACS), and by organizing and teaching several short courses and workshops on radiation curing of coatings. For many years, he served as an Associate Editor for Chemistry of Materials, a flagship ACS journal in the interdisciplinary area of chemistry and materials. He was elected a fellow of the PMSE and also named a fellow of the ACS. In 2014 he was honored with the Tess Award at the annual ACS meeting for his significant contributions to coatings science technology and engineering.*

*Dr. Crivello received his B.S. in chemistry from Aquinas College and his Ph.D. from the University of Notre Dame for his work in organic chemistry.*







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To post items on the web site contact  
Christine Landry-Coltrain  
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