



# polymer



**American Chemical Society**

Division of Polymer Chemistry, Inc.

Editors: Kathryn L. Beers and Neta L. Byerly



**Eric Amis**  
**2008 Chair**

## Renaissance in Polymer Science

Three years ago in writing my candidate statement for Vice Chair, I mentioned the “Medici Effect” – the explosion of innovation during the Italian Renaissance that was enabled by bringing together creative people who broke down traditional barriers between disciplines and cultures. At this intersection of established fields and concepts, people met, connected, clashed, and combined to create innovations and groundbreaking ideas. I applied this analogy to our field of polymer science, which likewise thrives at the intersection of boundaries between biological and physical sciences, chemistry, physics and engineering, academics and industry, basic and applied, and so on. The newsletter you are holding provides substantial support for this observation.

As you thumb through, you can read about awards presented to undergraduate and graduate students, as well as to senior leaders of our field, for their first class industrial and academic research. You can read about activities of our new student chapters reaching out to elementary students and in relationships with international colleagues. When you turn to the pages discussing upcoming programming, the range of topics is astounding: workshops on energy, optoelectronics, fluoropolymers, fuel cells, water purification, medicine, biology, and polyolefins; and programs for National meetings with even more diversity.

To carry this theme another step, take a look at the Councilors’ report on the new ACS Multidisciplinary Program Planning Group. POLY has been an early and active supporter of this activity, using our creativity and programming quality to reach across the broad chemistry community. On the same pages you can also read a great article about a decadal report on future directions in polymer science that was developed out of an NSF Workshop in Interdisciplinary, Globally-Leading Polymer Science and Engineering.

Another observation, and one that follows the leadership theme, is the breadth of participation by members of POLY. Across these pages, and throughout POLY, you will see members taking on the range of jobs that make the organization run. Whether, it is by serving on a committee, organizing a workshop, planning a program, or advising a student chapter, individuals from across our community supply their unique talents for our collective benefit. In this newsletter alone, over 60 individuals are mentioned for their contributions. Now, it would be easy to point out specific people for their special contributions, but instead I urge you to take a closer look and consider the breadth of participation. This is a Renaissance community.

If you have not yet found a way to get involved, I urge you to speak with any of the Board members, the Program Chairs, or our great Business Office team. This is an exciting time for polymer science and POLY is right in the center.

-- Eric Amis, 2008 POLY Chair



The POLY Executive Dinner, ACS National Meeting, New Orleans, March 2008

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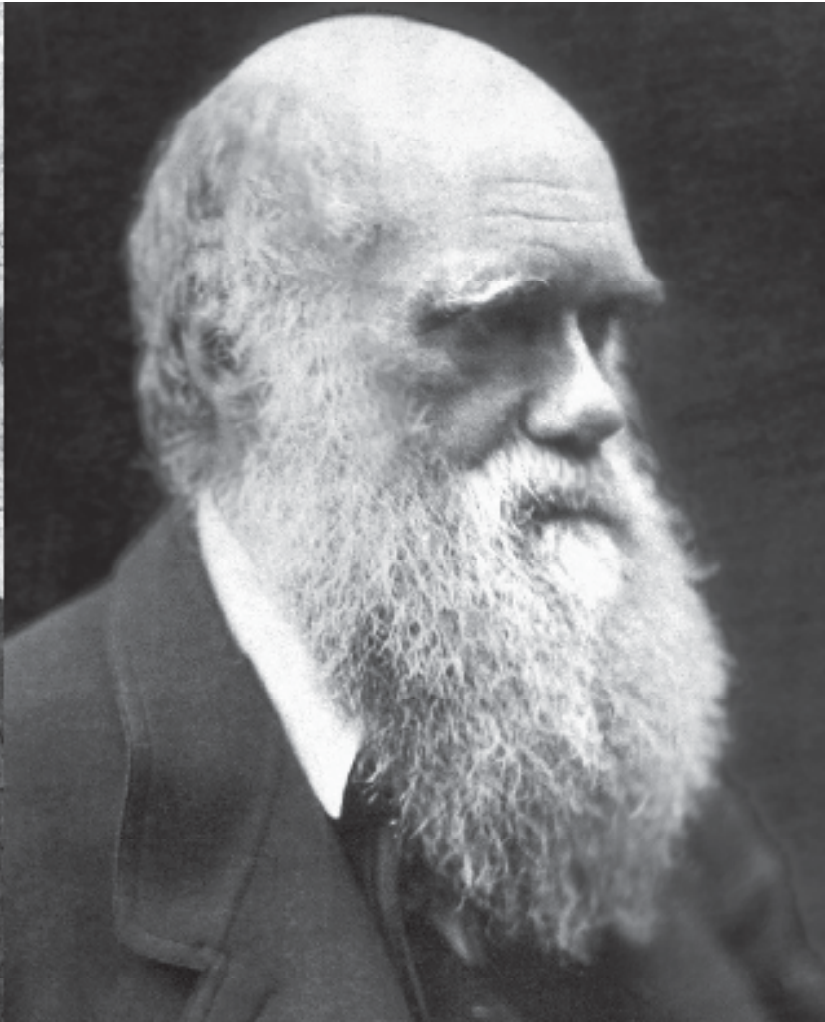
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# POLY Salutes the Best and Brightest!

The POLY/PMSE awards reception held at the ACS National Meeting in New Orleans, LA, honored outstanding achievements by its members. 2008 POLY Chair, Eric Amis, had the pleasure of congratulating this year's POLY award winners.

**ACS Award in Polymer Chemistry:** James E. McGrath was recognized for receiving the ACS Award in Polymer Chemistry. Prof. McGrath's many contributions to polymer chemistry include advances in high performance matrix polymers and structural adhesives, composite matrix and adhesive polymers with applications in aerospace, high-temperature polymer dielectrics, and sulfonated aromatic polymers for fuel cell membranes.

**The Graduate Student Travel Award:** This award was organized by the Polymer Division Membership Committee and sponsored by the POLY Industrial Advisory Board. The awards for the New Orleans ACS meeting were received by Brian Long (University of Texas-Austin) whose presentation was entitled "Photocross-Linkable Polymers for Electro-Optic Applications" and Joseph Lott (Case Western Reserve University) who presented his work on "Low-Power Upconversion in Solid Polymer Films".

**POLY Service Awards:** POLY saluted its invaluable volunteers as well. Janelle Hampton (Philip Morris USA) was recognized for her dedication as Secretary of the Division, Jimmy Mays (University of Tennessee) for his services as Awards Chair, and James A. Moore (Rensselaer Polytechnic Institute) for his outstanding service as 2007 Polymer Division Chair.

**Recognition Pins:** All members celebrating their 5, 10, 20, 30, and Inception year anniversaries of membership were recognized. The new Inception pin recognizes those who have been a member of POLY since 1970 and beyond, which includes 162 individuals. A full list of these anniversary members can be found on the POLY web site at [www.polyacs.org](http://www.polyacs.org). The evening successfully celebrated the individuals who are the present and future of Polymer Chemistry.



POLY friends join Dr. James E. McGrath (center) at the ACS Award Ceremony after receiving the ACS Award in Polymer Science



(left to right) Joseph Lott, Robert S. Moore, and Brian Long  
Student Travel Awardees and IAB Chair



Eric Amis presents Janelle Hampton the POLY Service Award for her dedication as Polymer Division Secretary



Dennis Smith Jr., Chair Elect, presents Eric Amis, current POLY Chair, with a special New Orleans hat and other accoutrements at the Executive Dinner.

## 4th Excellence in Graduate Polymer Research Symposium

POLY Industrial Advisory Board (IAB), Younger Chemists Committee (YCC), The Division of Professional Relations (PROF), ACS Committee on Education (SOCED), Office of the ACS President, Sabic Innovative Plastics, and Rohm and Haas Company sponsored the 4th Excellence in Graduate Polymer Research Symposium in New Orleans.

Co-organizers Timothy Long (Virginia Tech), H.N. Cheng (Hercules, Inc.), Erica Martin (Rohm and Haas Company) and Chris Ellison (Univ. of Minnesota) put together a day-long oral session on Monday April 7th preceded by poster presenters on Sunday evening. Each department (e.g., chemistry, chemical engineering, or polymer/material science) at any institution could nominate one outstanding graduate student to speak on his or her original research in this special symposium. The awardees were then selected to either present a talk or poster. Once again, there was a strong pool of students represented. The wide array of polymer-related topics along with the outstanding results and enthusiasm from the presenters provided a very stimulating evening and day full of the future leaders in Polymer Chemistry. The highlight of the event was the appearance of ACS Past President Catherine (Katie) T. Hunt who provided the participants with very motivating comments and who then joined everyone at the networking reception that immediately followed.

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. In our discussions with graduate students, they have indicated high levels of interest in scientific presentation, career development, and networking, both among members of POLY and with their peers. They wish to become more involved and integrated into the Division and the community of Polymer Chemistry as a whole. Our hope is that this symposium represents a step in the right direction.

## Undergraduate Research in Polymer Science Symposium

The third annual Undergraduate Research in Polymer Science Symposium was held at the New Orleans National Meeting. There were fifteen oral presentations and seventeen posters from students from twenty-one universities across the country, representing a 30% increase from 2007. The National Science Foundation Department of Materials Research sponsored travel awards for the top preprints. Additionally, we would like to thank our industrial sponsors, Sabic Innovative Plastics, Inc. and Rohm and Haas for sponsoring the awards for top student presentations at the conference. The program was co-sponsored by POLY, The Society Committee on Education and The University of Southern Mississippi, and culminated with a joint reception with the Excellence in Graduate Research Symposium. The two symposia were recognized as Presidential Events. The travel award winners for the oral session were: Amran Asai, U. Florida; Jordan Boulden, U. Colorado; David Lu, Georgia Tech; Brian Mohns, Virginia Tech; Benjamin Mohr, Colorado School of Mines; Natasha Piracha, Rutgers; and Sarah White, U. Massachusetts Amherst. The travel award winners for the poster session were: Eric Arndt, Case Western Reserve U.; Caesar Buie, Ohio State/IBM Almaden REU; Will Gray, III, U. Southern Mississippi; Rena Hammer, U. Alabama; Sunita Jagani, U. Alabama Birmingham; Alexandra Jones, Standfort; and Allia Lindsay, U. Akron. The symposium was organized by Sarah Morgan and Sergei Nazarenko of the University of Southern Mississippi.

### Oral Presentation Winners

1st Place Christy D. Petruczuk, Clarkson University  
2nd Place Jordan E. Boulder, University of Colorado

### Poster Presentation Winners

1st Place Jessica Carter, Georgia Tech  
2nd Place Meghan G. Liroff, University of Michigan



### Graduate Oral Presentations

Emily Anderson, Virginia Tech  
Christopher Hein, University of Nebraska  
Christopher Huebner, Clemson University  
Dahlia Haynes, Clemson University  
Stacey Kirkland, University of Southern Mississippi  
April M. Kloxin, University of Colorado  
Boyd Laurent, Tulane University  
Adam Meuler, University of Minnesota  
Kelly Perry, Rensselaer Polytechnic Institute  
Mark Roberts, Stanford University  
Andrew Vogt, Southern Methodist University  
Amanda Walker, Northwestern University  
Yan Yao, University of California, Los Angeles  
Guoqing Zhang, University of Virginia

### Graduate Poster Presentations

Kayode Adekunle, University College of Boras, Sweden  
Christina Baker, University of California, Los Angeles  
Joshua Bryson, University of Cincinnati  
John Howarter, Purdue University  
Tomasz Kreft, Tulane University  
Brian Long, University of Texas  
Douglas Mullen, University of Michigan  
Ramakrishna Ponnampati, University of Houston  
Rajesh Ranjan, University of Akron  
Rosimar Rovira-Truitt, North Carolina State University  
Eduard Stefanescu, Louisiana State University





## POLY Award Information

**Upcoming Deadline - 7/1/08**  
**Carl S. Marvel Creative Polymer  
Chemistry Award**

**Sponsored by: Rohm and Haas Company**

**Purpose:** To recognize and encourage accomplishments and/or innovation of unusual merit in the field of basic or applied polymer science by younger scientists.

**Upcoming Deadline - 11/1/08**  
**Herman F. Mark**

**Polymer Chemistry Award**

**Purpose:** To recognize outstanding research and leadership in polymer science.

**Upcoming Deadline - 11/1/08**  
**Herman F. Mark Scholars Award**

**Purpose:** To recognize excellence in basic or applied research and leadership in polymer science.

### Nomination Instructions:

For award instructions and additional information, please visit our web site  
<http://www.polyacs.org/>  
or contact:

**Robert B. Moore**, Virginia Tech  
540-231-0641  
rbmoore3@vt.edu

or  
**Thomas Seery**, University of Connecticut  
860-486-1337  
thomas.seery@uconn.edu

## IN MEMORIAM

### Norman G. Gaylord



*Norman G. Gaylord, a versatile industrial chemist and long time member of the Division of Polymer Chemistry, died September 18, 2007 in Boynton Beach, Fla. He was 84.*

*Dr. Gaylord developed a rigid material, siloxane-methacrylate, that was both permeable and suited to the production of contact lenses.*

*Joseph C. Salamone, a polymer chemist and former Vice President of Research for Bausch & Lomb, said that Dr. Gaylord's experiments had been "critical to the development of novel materials, and through them he became a pioneer at the beginning of a new field."*

*From the Gaylord Research Institute, his laboratory in New Providence, N.J., Dr. Gaylord also worked on rubbers and resins, films and fabrics for industrial and commercial applications.*

*With Norbert Bikales and Herman F. Mark and others in the 1960s and '70s, he edited a standard series of reference books for chemists, The Encyclopedia of Polymer Science and Technology: Plastics, Resins, Rubbers and Fibers.*

*Norman Grant Gaylord was born Norman Grant Goldstein in Brooklyn, and legally changed his name in the 1940s. He graduated from City College of New York and went on to earn a doctorate in polymer chemistry from the Polytechnic Institute of Brooklyn in 1950.*

*Dr. Gaylord conducted research for DuPont, the Western Petrochemical Corporation and the Interchemical Corporation before founding his laboratory. He later taught chemistry and advised graduate students at Drew University in Madison, N.J. In 1985, the American Academy of Optometry gave Dr. Gaylord its Founder's Award in recognition of his work on rigid contact lenses.*

*Many of the older members of our Division will remember seeing his signature purple shirt in the front row of the Gordon Conference on Polymers.*

Conveyed by  
Prof. James A. Moore  
Rensselaer Polytechnic Institute



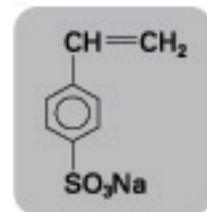
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US Patent: 5,898,083  
Japan Patent: 3601222

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## 2008 National Starch and Chemical Award for Outstanding Graduate Research in Polymer Chemistry



The recipient of the 2008 National Starch and Chemical Award for Outstanding Graduate Research in Polymer Chemistry is Dr. Nicolay (Nick) Tsarevsky who received his doctorate in 2005 from Carnegie Mellon University under the direction of Professor Krzysztof (Kris) Matyjaszewski.

Tsarevsky studied the synthesis of functional polymers by atom transfer radical

polymerization (ATRP). Various synthetic approaches were used to prepare polymers with polar functional groups, including post-polymerization modification of the repeating units or the end groups. Efficient chemical transformations employed included the nitrile-azide and alkyne-azide cycloaddition ("click" chemistry) and the reversible redox coupling of thiol to disulfide groups.

Tsarevsky also studied mechanistic aspects of ATRP, emphasizing the development of rules for rational catalyst selection for "challenging" reaction media, including water-borne systems. He established that several side reactions of the copper-based ATRP catalyst with protic/aqueous solvents led to poor polymerization control, namely loss of halide ligand from the higher oxidation state radical deactivator or disproportionation of the lower oxidation state activator. The ideal catalyst mediating well-controlled ATRP in protic media is characterized by i) a high ratio  $\beta^{II}/\beta^I$  of the stability constants of the Cu(II) and Cu(I) states of the catalyst to guarantee high catalytic activity; ii) high halidophilicity of the Cu(II) complex, which is related to the degree of control; and iii) a low ratio  $\beta^{II}/\beta^I$  to avoid disproportionation. His mechanistic studies led to the development of two new initiation techniques, ICAR and ARGET ATRP, that allow the process to be carried out with very low amounts of catalyst. The scope of ATRP has now expanded significantly, particularly with regard to aqueous solvents and coordinating monomers. Importantly, ATRP has become a truly "green" method with markedly increased utilization in industry.

The award will be presented at a symposium honoring Nick Tsarevsky in the PMSE Division of ACS during the American Chemical Society National Meeting in Philadelphia, August 17-21, 2008.

**POLYED**  
National Information Center for  
Polymer Education

<http://www.uwsp.edu/chemistry/polyed/>

## Dr. Otto Vogl is Recognized with Plaque at his 80th Birthday Celebration



The Polymer Institute in Bratislava, the city where Otto Vogl was born, organized activities in honor of his 80th birthday.

Otto Vogl is a Herman F. Mark Professor Emeritus of the Polytechnic University and Emeritus Professor of Polymer Science and Engineering at the University of Massachusetts.

As a part of the celebration, Attila Pavlath, on behalf of James A. Moore, 2007 POLY Chair, presented Dr. Vogl with a plaque recognizing his outstanding work in polymer chemistry and his decades of contribution to the activities of the Division.

## Clifford K. Schoff Named Winner of the Roy W. Tess Award



Dr. Clifford K. Schoff formerly of PPG Industries and now a private consultant will receive the Roy W. Tess Award in Coatings for 2008. The announcement was made by the Officers and the Award Committee of the Division of Polymeric Materials: Science and Engineering (PMSE) of the American Chemical Society.

Dr. Schoff is recognized as one of the world's leading experts in the area of coatings defects, electropaint-substrate interactions, paint flow and rheological measurements, mechanical properties and cure of coatings. He has contributed over 40 papers, articles and chapters to

the coatings literature and recently published his 40th one-page "Coatings Clinic" in JCT Coatings Tech. Dr. Schoff has led ASTM Subcommittee D.01.24 on Physical Properties of Liquid Paints for over 20 years, has written numerous ASTM test procedures and has championed the use of ASTM standards. He currently is Secretary of ASTM Committee D01 on Paints and Related Coatings, Materials and Applications. Dr. Schoff is Chair of the Federation of Societies for Coatings Technology (FSCT) Publications Committee, a member of the Editorial Review Board, one of the technical editors of the Journal of Coatings Technology and Research and is active in the Pittsburgh Society for Coatings Technology.

Dr. Schoff will receive the Tess Award from Dr. Dean Webster, Chair of the PMSE Division, on Monday, August 18, 2008 during the 236th National Meeting of the American Chemical Society in Philadelphia, PA. Dr. Schoff will present an Award Address at that time. An evening reception sponsored by the PMSE Division will follow the Award Symposium.



# Clemson University POLY Chapter Visits Ravenel Elementary

*Submitted by Stephen Budy*

The Clemson University's POLY/PMSE University Chapter has been formed by Stephen Budy (President) and Prof. Dennis Smith, Jr. (Advisor). On October 10, 2007, the CU POLY/PMSE students volunteered for an educational outreach program at Ravenel Elementary School, along with the chemistry graduate student organization (CGSO). They provided an introduction to basic polymer science and materials properties by using show n' tell examples; "Are polystyrene (PS) cups used for water or acetone?", "How cold is liquid nitrogen for rubber hoses, balloons, and flowers?", "Does potassium burn in water?", "Flame hands!!!", "Elephant toothpaste", and "Zeppelin balloons". This University Chapter is seeking to collaborate with other groups on campus, including the Center for Optical Materials Science and Engineering Technologies (COMSET), Center for Advanced Engineering Fibers and Films (CAEFF), Materials Research Society (MRS) Clemson Student Division, and Optical Society of America (OSA) Clemson Student Division. Future events are planned to be traveling and presenting at the American Chemical Society (ACS) national meetings.



Back Row (left to right): Akhilesh Singh, Madan Banda, Evy Colon-Garcia, Dennis Smith, Jr., Katie Hilbert, and Stephen Budy

## University of Michigan POLY Chapter

*Submitted by Richard M. Laine*

The University of Michigan University Chapter of POLY ACS has held multiple student events during the 2007-2008 school year and has gained the interest of students from numerous departments on campus in addition to the University of Michigan's Macromolecular Science and Engineering Center including the Materials Science and Engineering, Chemical Engineering, and Chemistry Departments. In the fall, they had both an ice cream social and a pizza dinner during which graduate students shared their research with chapter members. During the winter semester they were fortunate to have two University of Michigan professors speak at a chapter luncheon. Prof. Kenichi Kuroda presented slides about the anti-bacterial polymers that have been developed in his lab and Prof. Rick Laine shared his lab's research on silsequioxane nano-building blocks. At the chapter's next meeting they plan to have a speaker from the technology transfer office explain how to form a company and hope that professors at the university will share their start-up company experiences. Overall we are satisfied with the chapters' ability to provide information, food and a relaxed learning environment for our members!

Many of the students in the campus chapter have also achieved major accomplishments this year. Four students from the Macromolecular Science and Engineering program – Jiseok Lee, Ed Palermo, Laura Povlich and Santy Sulaiman – were able to attend conferences at Nagoya University and Kyoto University in Japan where they shared their research through posters and oral presentations and also helped start an exchange program between the University of Michigan and Nagoya University. In addition, Douglas Mullen was given an award for Excellence in Graduate Polymer Research at the Spring 2008 ACS meeting, Jeffrey Raymond received a DoD SMART fellowship and Laura Povlich received a fellowship through the Tissue Engineering and Regeneration at Michigan program. The University of Michigan University Chapter has recognized the importance of sharing research with other academic communities, both inside and outside the United States, and hope that students continue to receive the opportunity to travel abroad and be awarded for their hard work and dedication to scientific research.

## POLY/PMSE Hospitality Event a Success

*Submitted by Jeffery P. Youngblood*

As is custom, during the spring meeting of the American Chemical Society in New Orleans, LA, POLY hosted the hospitality suite, which was a resounding success. The POLY Membership Committee involved the newly formed University Chapters at the University of Michigan, and Clemson University, as well as graduate students from Purdue University and University of Southern Mississippi in the organization of the Hospitality suite at this meeting. Turnout was so high, refreshments and food actually ran out and more needed to be ordered half-way through the event. This helped cleanup immensely! Hopefully having the University Chapters involved will make future hospitality suites as successful.

## ACS POLY Travel Award

The Division of Polymer Chemistry, Membership Committee, would like to congratulate Mr. Brian Long of the University of Texas-Austin and Mr. Joseph Lott of Case Western Reserve University for winning \$500 to attend the ACS National Meeting in New Orleans, 2008.

We received many applicants for this competitive award and would like to thank those who applied. In addition, we encourage graduate students who are in POLY to apply for future travel awards. See [polyacs.org](http://polyacs.org) (under student section) for more details on the application deadline.



# 25th Anniversary of the Polymer Division Business Office (1983-2008)

It was during the year 1982 when Joe Salamone was the Chairman, Stan Israel was the Treasurer and Guy Donaruma was the Chairman Elect of the Polymer Division that the concept of a "Business Office" for the Polymer Division was conceived. With the membership growing, the established programs expanding and the plans for new programs, such as workshops to promote Polymer Science throughout the U.S. and abroad, it became apparent that a central office for operation and communication was essential for the efficient, effective functioning of the Polymer Division. The Executive Committee of the Division of Polymer Chemistry, Inc., ACS, approved the proposal of establishing a Business Office in late 1982 and Jane Vogl was invited to become the "manager" of this new office.



Jane Vogl, first Business Office Manager  
and Stan Israel, POLY Treasurer-1983

In January of 1983, Otto Vogl accepted the position of Herman F. Mark Professor at the Polytechnic Institute of New York in Brooklyn where Guy Donaruma was then the Provost. It was decided by both Guy and Otto that office space for the Polymer Division Business Office could be located within the complex of Otto Vogl at "Poly". For the first time in its history, the Polymer Division had a "permanent" central office and indeed began functioning in January of 1983.

The Business Office soon became involved in the numerous activities of the Division: assisting the Treasurer, Stan Israel, to whom the Business Office was directly responsible, assisting Division officers and committee chairmen particularly in workshops and symposia, interacting with the ACS on many of the Division's programs, providing information and material related to the various programs such as the Industrial Sponsors and Education Committee. Space was found at "Poly" for housing the old records and Preprints of the Division. The Business Office acted as a clearing house for correspondence and calls related not only to the numerous Divisional activities, but also to events in Polymer Science throughout the U.S. and many other countries.

The years of 1983 through 1988 were years of growth and accomplishment for the Division: old programs were improved and expanded while new programs were implemented. An increased number of highly successful Workshops and Symposia to promote Polymer Science gave the Division more visibility at home and abroad and contributed to its financial stability. Jane Vogl was recognized for her contributions to the Division and was presented the Distinguished Service Award in 1990. Jane was succeeded by Judith Pearce in 1989. The Business Office continued its growth and presence at Polytechnic University.

Under the leadership of James E. McGrath, 1986 POLY Chair, the Polymer Division Business Office moved to Virginia Tech where Diane Morrill was the Business Manager from 1990 to 1996. She lost a long battle with cancer in 1996, yet even during that battle she was working until the end. Her pleasant and constant smile, and cheerful voice will always be remembered. During Diane's final year, Neta Byerly was hired to assist her with her duties.

Neta took over as the Business Office Manager in 1996, and capably manages the complex Polymer Division business dealings with skill and confidence. At that time the Business Office mainly served its membership on-site at the ACS meetings by signing up new members and selling ACS Books. In 2001, Lesia Linkous and Kathy Mitchem joined the POLY Business Office to assist with the increasing work load. The office staff continues to provide technical support at two ACS National Meetings. The Business Office not only provides a membership booth during the ACS meeting, but also assists



(L-R) Kathy Mitchem, Neta Byerly, and Lesia Linkous  
Current POLY Business Office Staff

the Program Chairs, Session Chairs, and attends a majority of the committee meetings during the ACS Meeting. Due to this active roll in the meeting the staff can better serve each committee throughout the year. The Business Office also provides support to the Divisions Workshop Chairs including four to six technical workshops each year. The Business Office provides programming support, fiscal support, workshop registration, AV assistance, hotel management, and many other tasks to make the workshops run smoothly. The Business Office Team serves the Polymer Division's approximately 7,000 members by creating and circulating informative newsletters, workshop announcements, and election ballots under the supervision of the POLY Board. They are also always there to assist its members with questions and concerns.

The Polymer Division Business Office played and continues to play an important role in the success of many of the Divisional activities. Since the Business Office moved to Virginia Tech it has certainly thrived, playing a major role in the success of numerous activities of the Division of Polymer Chemistry, Inc.

## POLY Business Office Managers

Jane Vogl (1983-1988)

Judith H. Pearce (1989-1990)

Diane M. Morrill (1990-1996)

Neta L. Byerly (1996-present)



Diane Morrill, Business Office Manager  
1990-1996

*Special thanks to Jane Vogl  
for her contribution to this article.*



## Two grayscale globes are shown side-by-side. The globe on the left is centered on the Americas, showing North and South America in light gray against a dark background. The globe on the right is centered on Europe and Africa, showing these continents in light gray against a dark background. Both globes feature a grid of latitude and longitude lines.

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### Columns & Standards

# Upcoming Polymer Division Workshops and Meetings

## US-Japan POLYMAT 2008 Summit

*Innovations and Opportunities in Polymer Materials for Energy and Optoelectronic Devices*

August 10-13, 2008

Four Points Sheraton  
Ventura Beach, California, USA

[www.polyacs.net/Workshops/08JapanSummit/japanhome.htm](http://www.polyacs.net/Workshops/08JapanSummit/japanhome.htm)



### Organizers:

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<a href="mailto:radvincula@uh.edu">radvincula@uh.edu</a>	<a href="mailto:nishide@waseda.jp">nishide@waseda.jp</a>

### Topics:

- \* Energy-Harvesting Related Polymer Materials
- \* Photonic and Optoelectronic Polymers
- \* Hierarchical Conjugated Polymers
- \* Hybrid and Nanocomposite Polymeric Materials
- \* Nano-Structured Polymers for Electro-Optics
- \* Energy-Related Polymer Materials: Batteries, Fuel Cells, and Solar Cells
- \* Polymers for Batteries and Capacitors
- \* Polymers for Printed Electronics
- \* Photovoltaic Polymers
- \* Polymers for Sensors

## FLUOROPOLYMER 2008 Current Frontiers and Future Trends

October 19-22, 2008

Charleston Doubletree Suites  
Charleston, South Carolina, USA

[www.polyacs.net/Workshops/08Fluoropolymer/fluorohome.htm](http://www.polyacs.net/Workshops/08Fluoropolymer/fluorohome.htm)

### Chair:

**Prof. Dennis Smith**  
Department of Chemistry  
Clemson University  
Clemson, SC 29634  
Phone: 864-656-5020  
E-mail: [dwsmith@clemson.edu](mailto:dwsmith@clemson.edu)



### Session Topics:

- \* Fundamental and advanced technology tutorials
- \* Polymer and copolymer synthesis and mechanisms
- \* Structure / property relationships
- \* Coatings and surfaces
- \* Biological and biomedical applications
- \* Membrane and energy conversion applications
- \* Photonic, optical, and electronic applications
- \* Industrial elastomers and plastics
- \* Composites, hybrids, and interphases
- \* Semi-fluorinated polymers for emerging applications
- \* Supercritical fluid processing
- \* Environmental impact and regulatory status

## MACROMEX 2008

Inaugural Mexican-American Conference on  
Advances in Polymer Science

December 7-10, 2008  
Crowne Plaza-Grand Faro  
Los Cabos, Mexico

[www.polyacs.net/Workshops/08Macromex/home.htm](http://www.polyacs.net/Workshops/08Macromex/home.htm)



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### PROGRAM TOPICS

- \* Precision polymer synthesis
- \* Dispersion media polymerization
- \* Biomaterials
- \* Block copolymers
- \* Membranes (water purification and fuel cells)
- \* Optoelectronic materials
- \* Nanocomposites and blends
- \* Polyolefins

## Advances in Polymer Electrolyte Membrane Fuel Cell Systems - 2009

<http://www.polyacs.net/Workshops/09FuelCells/home.htm>

February 15-18, 2009

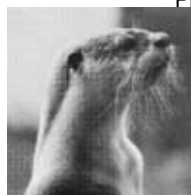
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Pacific Grove, California, USA



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**Advances in Materials and Processes for  
Polymeric-Membrane-Mediated-Water-Purification**

**February 22-25, 2009  
Pacific Grove, California, USA**

<http://www.polyacs.net/Workshops/09WaterPurification/home.htm>

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The purpose of this workshop is to bring together a broad range of stakeholders in the area of membranes for water purification. One objective is to establish a constructive dialogue between government, academic and industry representatives so that a robust, shared vision of the opportunities and challenges facing this field can be formulated. Another objective is to bring together leading research scientists and engineers in this field from all over the world to foster networking that can stimulate collaborative research to solve the most challenging problems in the field today. The final objective of this workshop is to provide a series of state-of-the-art presentations outlining the status of membrane materials for various separations critical for the purification of water and to set forth the challenges that must be resolved to reduce next generation water purification systems based on membranes to practice.

**Advances in Polyolefins: 2009**

**September 20-23, 2009**

**Hilton Sonoma Wine Country  
Santa Rosa, California  
USA**

[www.polyacs.net/Workshops/09Polyolefins/home.htm](http://www.polyacs.net/Workshops/09Polyolefins/home.htm)

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**Pal Arjunan**

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**Session Topics:**

- Polyolefins Catalysis/Processes
- Advanced Characterization Tools/Techniques
- Solid State Structure/Properties/Mechanical Behavior
- Stabilization
- Blends/Alloys/Composites
- Applications/Markets
- Environmental Compatibility-Recycling/Sustainable Development/Biodegradation

**6th Annual**

**Polymers in Medicine and Biology: 2009**

**June 14-17, 2009  
Hilton Sonoma Wine Country  
Santa Rosa, California  
USA**

[www.polyacs.net/Workshops/09Biomed/home.htm](http://www.polyacs.net/Workshops/09Biomed/home.htm)

Biomaterials and medical devices are the central focus of a research endeavor and \$100B industry that saves lives and improved the quality of life for millions. Polymers comprise about 70% of all biomaterials. Creative synthetic and physical polymer chemistry are the hallmarks of this field. The Polymer in Medicine and Biology workshop showcases outstanding research, development and clinical practice in the application of polymers to medical problems.

**Topics of Interest**

Synthesis of biomedical polymers  
Clinical application of biomedical polymers  
Commercial development of biomaterials  
Surface modification  
Controlled release  
Biomolecule adsorption and immobilization  
Blood interaction with surfaces  
Polymer nanotechnology  
Biodegradable polymers  
Tissue engineering and scaffolds  
Diagnostics, sensors and arrays  
Non-fouling surfaces  
other topics relevant to biomedical polymers

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**Polymer Chemistry Courses**

ACS Office of Continuing Education is offering two exciting courses in their acclaimed Lecture/Laboratory Series in 2008, Polymer Chemistry: Principles and Practice and Introduction to Polymeric Adhesives and Composites, both held at Virginia Tech in Blacksburg, Virginia and taught by distinguished faculty.

In Polymer Chemistry: Principles and Practice, registrants will receive hands-on training in diagnosing and solving their polymer R&D problems in both a classroom and laboratory setting. The course will be held Sunday-Friday, August 3 – 8 and December 7 – 12, 2008.

Introduction to Polymeric Adhesives and Composites offers participants the opportunity to catch up on late-breaking developments and obtain solutions to their adhesives and composites problems in both a classroom and laboratory setting. This course is only held once in 2008: Sunday – Friday, October 12-17.

Both courses are strictly limited to 30 participants – don't delay, register now at [www.acs.org/short\\_courses](http://www.acs.org/short_courses).

# POLY/ACS National Meeting Activity

## Future ACS Meetings

236th - Philadelphia, PA  
August 17-21, 2008

237th - Salt Lake City, UT  
March 22-26, 2009

238th - Washington, DC  
August 16-20, 2009

239th - San Francisco, CA  
March 21-25, 2010

240th - Boston, MA  
August 22-26, 2010

241st - Anaheim, CA  
March 27-31, 2011

242nd - Denver, CO  
August 28 - September 1, 2011

243rd - San Diego, CA  
March 25-29, 2012

244th - New York, NY  
September 9-13, 2012

245th - New Orleans, LA  
April 7-11, 2013

246th - Indianapolis, IN  
September 8-12, 2013

247th - Washington, DC  
March 16-20, 2014

248th - San Francisco, CA  
August 24-28, 2014

249th - Denver, CO  
March 22-26, 2015

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

## 236th ACS National Meeting, Philadelphia, PA August 17-21, 2008

### Program Meeting Chair: Christine Landry-Coltrain

- 2008 Industrial Polymer Scientist Award in Honor of S. Richard Turner
- 5th Controlled/Living Radical Polymerization Symposium
- 8th International Biorelated Polymers Symposium
- Aerogels, Foams and Other Nanoporous Materials
- Carbohydrate-Polymer Hybrids; Biomaterials and Therapeutics
- Conducting Polymers, Molecular Wires, and Devices: A Tribute to Alan MacDiarmid
- Formulating Polymeric Materials in Consumer Products
- General Papers: New Concepts, Polymer Synthesis, Polymer Characterization, Nanomaterials, Functional Materials
- Heroes of Chemistry in Materials Advanced Applications
- Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications
- Microwave-Assisted Chemistry: Organic and Polymer Synthesis
- Organic Thin Films for Photonics Applications
- Paul J. Flory Polymer Educational Award in Honor of Frank Kelley
- Polymeric Delivery for Therapeutics
- Polymers in Flat Panel Display Technologies

## 237th ACS National Meeting, Salt Lake City, UT March 22-26, 2009

### Program Meeting Chairs: Kristi Kiick, Jeffrey Linhardt, & Greg Tew

- Ion-Containing Polymers for New Technologies
- Active Surface Structures
- Polymers in Photonic and Energetic Materials
- Polymerization in Nanostructured and Nanocomposite Systems
- Polymers and Carbon Nanotubes
- Nanostructured Polymeric Gels and Networks
- General Papers: New Concepts, Polymer Synthesis, Polymer Characterization, Nanomaterials, Functional Materials
- Career Options/Areas in Polymer Science
- Impact of Nanotechnology and Nanocenter Overviews
- Carl S. Marvel Creative Polymer Chemistry Award: TBD
- Undergraduate Research Symposium
- Excellence in Graduate Polymer Science Research Symposium

## POLY SESSION INFORMATION

<http://www.polyacs.org/main/natlmeet.shtml>

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## POLY Election Information

### Upcoming Election Slate

The slate of candidates has been selected by the nominating committee under Dr. Kathleen Havelka, approved by the Executive Committee, and listed below. The biographical information and ballots will be distributed in the Fall.

#### Vice-Chair:

Robert B. Moore, Virginia Tech  
Richard Laine, University of Michigan

#### Treasurer:

Janelle Hampton, Philip Morris, USA  
Mark Dadmun, University of Tennessee

#### Councilor:

William H. Daly, Louisiana State University  
Rigoberto Hernandez, Georgia Tech

#### Alternate Councilor:

Rigoberto Advincula, University of Houston  
Mark Watson, University of Kentucky

#### Alternate Councilor:

Mary Ann Meador, NASA  
Al Crosby, University of Massachusetts

#### Alternate Councilor:

Christine Landry-Coltrain, Eastman Kodak Company  
William Coggio, 3M Company

### Congratulations to the New 2008 Officers

#### Vice-Chair:

Barry Farmer, Air Force Research Lab

#### Secretary:

Kathryn L. Beers, National Institute of  
Standards and Technology

#### Councilor:

John M. Pochan, Cornell University

#### Councilor:

Theresa M. Reineke, University of Cincinnati

#### Alternate Councilor:

Diana J. Gerbi, 3M Company



# POLY Councilors' Report

Reported by Bill Daly, H. N. Cheng, John Pochan, and Greg Tew

1. Council Actions – Previously published in *Chem. & Eng. News*, 4/14/08, p.8.
2. Meeting of the Division Activities Committee (DAC) - John Pochan
  - a. DAC considered a petition for division status by the Catalyst Secretariat. This petition will be voted on in Council if certain objections by other divisions are overcome.
  - b. The Multidisciplinary Programming Planning Group (MPPG) elected John Pochan as the 2008 Chair and Mike Morello the 2009 Chair. The themes for the two 2010 national meetings were proposed and sent to ACS Divisions for comment: "Green Chemistry for a Sustainable World" (San Francisco), and "Chemistry of Mediation and Prevention of Disease" (Boston).
  - c. MPPG is looking for creative methods to improve the quality and effectiveness of national meetings through enhanced networking and exchange of technical information. If you have ideas, contact Pochan (johnpochan@hotmail.com) or Morello (mike\_morello@quakeroats.com).
3. Meeting of the Committee on Committees (ConC) – H.N. Cheng
  - a. ConC monitors the activities of ACS committees and provides recommendations on committee assignments. H.N. now serves as ConC liaison to M&E and NOM committees.
  - b. Among its activities, ConC met with the Board of Directors to discuss the enhancement of ACS committees and possibly to reclassify all Board committees as either Standing or Special.
4. Meeting of the Committee on Meetings and Expositions (M&E) – Bill Daly and H.N. Cheng
  - a. To facilitate communication, M&E will conduct a survey on a statistical sample of attendees after every national meeting to assess satisfaction and uncover possible problems.
  - b. M&E is making an effort to make the meetings more "green".
  - c. M&E and technical divisions have noticed a disturbing trend of decreasing attendance on Thursday. A proposal has been made to exempt Thursday afternoon from programming.
  - d. A continuing issue is the number of "no-shows" at oral and poster sessions. The instruction to authors on OASys has been altered to emphasize the consequences of failing to present the paper. Repeat offenders will be subject to penalties including possible rejection of future submissions.
5. Meeting of the Committee on Nomenclature, Terminology and Symbols (NOM) – H.N. Cheng
  - a. This committee provides advice and consulting to ACS publications and liaises with other organizations and divisions relating to nomenclature. (<http://membership.acs.org/N/NOME/>)
  - b. NOM organized a symposium in New Orleans on the possible redefinition of Avogadro's number.

## Organic/Inorganic Hybrid Materials Workshop Highlights

The recent workshop on Organic/Inorganic Hybrid Materials was held March 2-5, 2008 in Ventura, California. Frank Blum (Missouri Institute of Science and Technology) and Richard M. Laine (University of Michigan) chaired the event which included 46 participants. Adrian Accurso (Scripps Research Institute) was recognized for best poster at the event. The meeting brought together researchers from industry, government and the academy who focused on a variety of hybrid materials including those with nanoparticles of metals and glass formers. These materials have applications in a variety of fields including structures, photocells, and lithography.



## NSF Polymers Workshop Report

Submitted by Chris Ober

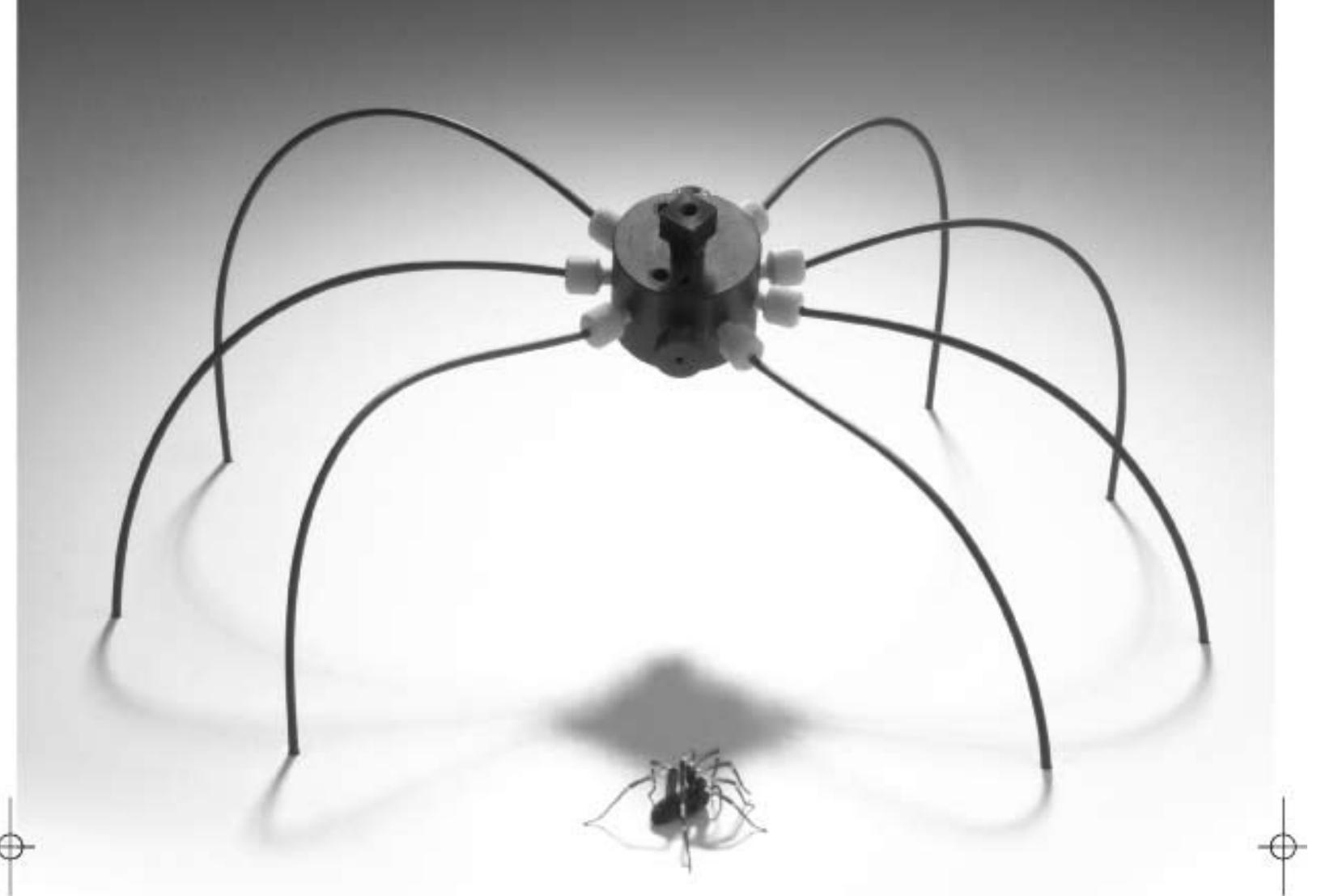
The Workshop on Interdisciplinary, Globally-Leading Polymer Science and Engineering was held at NSF Headquarters in Arlington, VA on August 15-17, 2007. Given the importance of polymer science and engineering, it seemed timely to consider the many changes that have occurred since that last event. The purpose of the workshop was to explore emerging research opportunities and areas that are ripe for innovation in the field of polymer science and engineering over the next decade and to examine the critical issues of competitiveness, education, and diversity in the polymer community.

Special thanks goes to the co-organizers Dean Stephen Z. D. Cheng, Prof. Paula T. Hammond, Prof. Murugappan Muthukumar, Dr. Elsa Reichmanis, and Prof. Karen L. Wooley, who began this effort many, many months before the workshop was held and who worked long hours on their sections of the report. Also, acknowledgements and thanks to the many workshop members, plenary speakers, panelists and student participants who brought a special freshness and excitement to the proceedings.

The committee identified six topics for the workshop: Polymer Synthesis and New Polymeric Materials; Complex Polymer Systems; Modeling and Theory of Polymers; Processing and Assembly; Characterization; and Technology and Societal Applications of Polymers. We felt that these themes broadly reflected the key areas of polymer science and engineering and that important future advances in research and education will require contributions from or consideration of each area.

It is clear from the animated discussions held at the workshop during the plenary talks, the breakout sessions and the panel discussion that the field of polymer science and engineering holds the key to developing many new and significant materials needed for many important technological breakthroughs. Common emerging themes include the growing importance of: i) complex, multi-component polymeric systems (biological and hybrid) used to achieve new materials properties; ii) *in situ*, real time, multidimensional characterization

(continued on pg 15)



## The BI-MwA Molecular Weight Analyzer – it's small, tough and scares off the competition.

The Molecular Weight Analyzer from Brookhaven has all the outstanding qualities expected from an instrument that approaches polymer and protein characterization from every direction.

The fibers of the optical 'spider' gather scattered light from seven angles to determine the absolute molecular weight, size and shape of polymers and proteins. Even more detailed information can be obtained by integrating the MwA into a GPC/SEC system.

The only thing it can't do yet is spin webs.... but we're working on it.



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# NSF Polymers Workshop Report

(continued from page 13)

as important tools for understanding and refining complex polymer-based materials; iii) polymer synthesis and its role in the design and development of new polymers with exquisite control over molecular size, architecture, and chemical composition; iv) the need for processing with 2D and 3D structural control of polymers down to dimensions of a few nanometers; and v) computational modeling of new polymeric structures, predicting the influence of processing, and the resulting properties of polymer systems. The following 10 points describe the crosscutting recommendations and goals from the workshop.

- Develop in concert the synthetic, analytical, theoretical/computational, and processing capabilities needed to master the structural control provided by new polymers and processes. A common theme in all breakout groups was the significant need for theory and simulations performed in synergistic collaboration with researchers in synthesis, characterization, and processing to provide guidance for these efforts.
- Be able to tailor make polymers. In order to provide the needed materials for future

breakthroughs, new synthetic methods with exquisite control over molecular structure and function must be developed. In particular, new materials including complex, hybrid materials with very specific properties made in small quantities will be needed for many of the future applications envisaged by participants in this workshop.

- Develop real-time, high throughput, non-destructive, in-situ, multi-scale techniques and streamline current analytical methods. Such advances will be especially important if we are to gain the full benefit offered by precision processing and new materials capable of self-assembly.
- Be able to process polymers and complex hybrid materials with 2D and 3D structural control down to dimensions of a few nanometers using both directed and self-assembly. Polymers will increasingly be key enabling components in advanced technologies as the ability to precisely tailor their properties expands their use.
- Accelerate research in technology-focused, performance-based polymer materials. A common theme in the breakout sessions was the vital and growing role

that polymers will play in the energy, life science, microelectronics, information and communications technology fields.

- Reduce the environmental impact of polymer materials during their preparation, processing, and use.
- Provide sufficient staff and infrastructure to support central analytical facilities over the long term. Increasingly, we are not investing enough in facilities to provide polymer researchers access to the best equipment possible.
- Increase efforts to create a sound multidisciplinary modern curriculum in polymer science and engineering.
- Create and enhance outreach and education programs for K-12 students to prepare diverse future generations of globally leading polymer scientists.
- Maintain an emphasis on diversity. Our nation is built on diversity—diversity in thought, interests, gender, religion, culture and ethnicity, etc..

For more information on the workshop and the report, please visit:

<http://people.ccmr.cornell.edu/~cober/NSFPolymerWorkshop/index.html>

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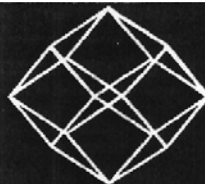
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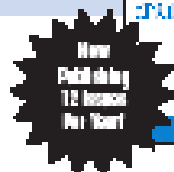
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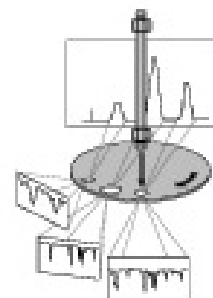
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