

## 2005 Spring Reports

### Awards - T. J. Pacansky

The **Carl S. Marvel Creative Polymer Chemistry Award** recognizes and encourages accomplishments and/or innovation of unusual merit in the field of basic or applied polymer science by younger scientists. The winner is Timothy M. Swager. The award symposium is during the current Spring meeting. Previous recipients of this award include Louis J. Fetters, Wayne L. Mattice, Edward L. Thomas, Garth L. Wilkes, Robert S. Langer, David A. Tirrell, Sukant Tripathy, Krzysztof Matyjaszewski, Bruce Novak, Joseph M. DeSimone, Craig J. Hawker and James L. Hedrick. POLY sponsors the award.

The **Herman F. Mark Polymer Chemistry Award** recognizes outstanding research and leadership in polymer science. The winner is Professor Donald R. Paul (University of Texas, Austin). The award will be presented at the 2005 Fall ACS Meeting. Previous recipients of this award include Paul J. Flory, Carl S. Marvel, Maurice L. Huggins, Herman F. Mark, John D. Ferry, Charles G. Overberger, Walter H. Stockmayer, Michael Swarc, E. J. Vandenberg, Harry R. Allcock, James E. McGrath, James Economy, Murray Goodman, Robert Grubbs, Henry K. Hall, Jr., Robert W. Lenz, Leo Mandelkern, Otto Vogl and William J. MacKnight. POLY sponsors the award.

Actively Seeking Nominations for the Flory Education Award and the Industrial Polymer Scientist Award for year 2006

The **Paul J. Flory Polymer Education Award** recognizes outstanding achievements by an individual in promoting undergraduate and/or graduate polymer education. The next award will be presented at the 2006 Spring ACS meeting. The deadline for nominations is July 1, 2005. Please refer to the Division website or a recent newsletter for the nomination requirements. Previous recipients of this award include Herman F. Mark, Carl S. Marvel, Paul J. Flory, Maurice Morton, Charles G. Overberger, George B. Butler, Eli M. Pearce, Leo Mandelkern, Eric Baer, Roger Porter, James E. Mark, U. W. Suter and the team of James E. McGrath, Thomas C. Ward and Garth L. Wilkes. POLY sponsors the award.

The **Industrial Polymer Scientist Award** recognizes outstanding industrial innovation and creativity in the application of Polymer Science, conducted by individual scientists or research teams. The next award will be presented at the 2006 Fall ACS meeting. The deadline for nominations is November 1, 2005. Please refer to the Division website or a recent newsletter for the nomination requirements. Previous awardees have included W. H. Mandeville, S. R. Holmes-Farley, A. D. English, L. M. Robeson, Bill M. Culbertson and Craig J. Hawker. The Industrial Sponsors Group sponsors the award.

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### **Business Office - N. Byerly**

The Business Office assisted with five meetings and workshops during 2004 with another five schedules in 2005 as listed in the attached information. The total overhead received for 2004 is +\$79K.

The 2004 Spring and Fall issues of the Polymer Newsletter were mailed out to the membership in June and October. The next Newsletter is drafted. Suggestions for changes and additional articles for the Spring issue can be accepted through April 2005. Eight companies continue to advertise in the POLY Newsletter contributing +\$9K to assist in defraying Newsletter costs.

Ballots were distributed to the membership in October 2004 from the Business Office and counted by Ken Wynne. Letterhead is available both electronically and in hard copy.

A total of 31 new members joined the Polymer Chemistry Division at the ACS meeting in Philadelphia PA. The POLY membership booth will be set up near the POLY sessions in the Marriott in San Diego.

The Business Office staff works closely with several committees of the Polymer Chemistry Division. Financial records are maintained on the Industrial Sponsors activities including invoicing companies as appropriate. Various mailings are sent out to these Sponsors throughout the year. An up-to-date mailing list is maintained on all libraries that subscribe to the Polymer Preprints. The membership committee has implemented a program to recognize the 5, 10, 20, and 30 years of Polymer membership. This year's lapel pins were sent out about 10 days ago to the membership as appropriate.

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### **Circulation** - F. Dammont

We are pleased to report that with the conversion to all CD-ROM format, the circulation office was able to pack and distribute Vol. 46-1 to all library subscribers from the premises in Newark. This resulted in considerable saving as compared to the expense of contracting the services to the printers. The net current cost to the Division per address is about \$2.50 for AIRMAIL overseas delivery and 83 cent for domestic addresses. To this must be added 24 cent/CD for packaging materials. Using USPS AIRMAIL and FIRST CLASS service, will hopefully, eliminate most non-delivery claims and related costs.

Regrettable, we must also report the, hopefully, only temporary loss of about 15% of library subscribers, possibly due to adjustment to the new format. The total initial shipment to fully paid-up and good-risk subscribers was 302 copies of Vol. 46-1. The prevalent loss was from not yet renewed agency subscriptions which may very possibly be renewed by direct orders, at a slight delay. We did not receive any official cancellations of accounts.

We still hope to get instructions from the Board regarding the production of archival copies of back issues Vols 1-40, which becomes more urgent with the ever progressing degradation of the hard copy paper. Full archival sets on microfilm or other durable material may be attractive for purchase by libraries and a possible source of income for the Division.

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**Graduate Student Meeting:**

University of Massachusetts  
June 15-19, 2005

**Goals for the conference:**

Bonding of future polymer scientists All technical programs (oral and poster) are students oriented  
Maximum time for interaction (nights are free) Leisure activities planned Help our future professionals with career development Career night (Thursday night) Informal discussions with industrial representatives Many moderators have signed up [Hoagland (UMass), Tirrell (Cal Tech), Chu (Stonybrook), Ober (Cornell), Cheng (Akron) and others]

Solve pipeline issues- how to get more students into polymer science Several organizations involving in minority student recruiting have joined effort to recruit students to attend this conference Several community colleges with materials interest have been contacted

**Progress to date:**

Program has been set Website is active (<http://www.pse.umass.edu/gradresearch/>) Budget- fund raising is on schedule (ACS, NSF, UMass, Industrial laboratories have all contributed) Mailings have been sent out

Help needed Mailings have been sent out- very little response. Personal appeals are necessary. I need help on this. We need woman and minority moderators



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And finally in 1980, POLY participated in the IUPAC International Symposium on Macromolecules in Florence, Italy, at which the 25th anniversary of the stereospecific polymerization of propylene was celebrated.

## Industrial Sponsors - R.S. Moore

### Background:

The Industrial Sponsors Group of the Division of Polymer Chemistry consists of the members listed below. In the past each member contributed \$1,000 per year to support polymer education and other polymer development activities. Thanks to the substantial efforts of H.N. Cheng, J. DiBattista, and K.O. Havelka the list was expanded to include small companies with less than 500 employees, which contribute \$500. Cheng has also led the effort to provide each Sponsor with a reference book of detailed information on the Industrial Sponsors Group. Through the efforts of Lesia Robertson in the POLY Division Office an updated version of these books was printed and distributed to the Members and to the Coordinating Committee.

Industrial Sponsors Coordinating Committee (ISCC): This committee, which consists of members of the Industrial Sponsors Group (ISG) and the Division of Polymer Chemistry, coordinates the activities of the Industrial Sponsors Group. Current members are: R.S. Moore, H.N. Cheng, W. Daly, A. English, K. Havelka, R. Ottenbrite, T.J. Pacansky and C. Smith. The ISCC will meet in San Diego at the Spring ACS Meeting on Monday, March 14th at 11 a.m. in the San Diego Marriott, Anaheim Room.

A special committee (which includes H.N. Cheng and A. Salamone) has been formed in order to update and expand the list of Industrial Sponsors during 2005. In the interim, the list of sponsors for 2004 is given below.

### 2004 Industrial Sponsors

3M Company Air Products and Chemicals, Inc. Ashland Specialty Chemicals Co. Atofina Chemicals, Inc. Basell, Inc., R&D BASF Corporation Bayer Corporation Chevron Phillips PPG Industries, Inc Dow Chemical Company E.I. Du Pont de Nemours & Co Eastman Chemical Company ExxonMobil Company GelTex Pharmaceuticals, Inc. General Electric (GE) Genesee Polymers Corp.	Genzyme Hercules, Incorporated Honeywell, Inc. ICI R&D International Specialty Products Johnson Polymers Kosa, Inc. Lubrizol Corporation Polymer Chemistry Innovations, Inc. Polymer Source, Inc. Procter and Gamble Company Raychem/Tyco Electronics Rohm and Haas Company WyattTechnology Corporation
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The Twenty-fifth Annual Meeting of the Industrial Sponsors Group (ISG) was held at the Philadelphia ACS Meeting. As an alternative to an Industrial Sponsors Symposium, one of the major events for the Industrial Sponsors Group for 2004 was co-sponsorship of the workshop and two-day symposium on "The Polymer Science of Everyday Things" (PSOET). In addition to the

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ISG as an entity, a number of ISG member companies also provided financial support. Sponsors included: Royal Society of Chemistry, National Science Foundation, University of Akron Global Polymer Academy, Department of Chemistry-University of Pennsylvania, Department of Chemistry-University of Arizona, ACS Committee on Science, ACS Polymer Division, Intersociety Polymer Education Council, ATOFINA, ICI, and ACS Division of Polymer Chemistry's Industrial Sponsors Group.

The Industrial Sponsors Group is proud to have participated in these events because of their several novel features, as described below. This innovative symposium and workshop format provides the opportunity to explain how fundamental polymer science and technology form the basis for things that people encounter and use everyday. Moreover, it provides a special, innovative approach to scientific education through long-distance learning via remote sites for the workshop. In addition, the workshop continues the highly successful Intersociety Polymer Education Council (IPEC) program of teachers teaching teachers about the use of polymers. Additional details of the first workshop and symposium are given in the ISG Report for Fall, 2003. The themes for the half-day workshop and the full-day symposium in Philadelphia were: "Musical Instruments" and "Polymers in Communications & Entertainment". The popular workshop was held on Saturday afternoon, August 21st, and the well-attended symposium occurred on Sunday, August 22nd. Details were given in the Philadelphia ACS Program. A notable feature of this event was the "Music and Cocktails" reception on Saturday evening, with music provided by polymer chemist musicians.

At the Philadelphia meeting the ISG also supported the POLY symposium on "Excellence in Graduate Polymer Science Research". This symposium was also an ACS Presidential Event, and was co-sponsored by YCC. This event was heavily attended, as was the reception which followed. ACS President Charles P. Casey gave the introductory remarks.

Other major activities which are currently supported by the Industrial Sponsors Group, many in cooperation with PMSE via POLYED, include workshops at schools to help to introduce polymer education, the Undergraduate Summer Scholarship Program, the Curriculum Development Award, tutorials, and free short courses on polymer science at national and regional meetings. The competitive grants program initiated in 1991, "Improving the Public Perception of Polymers", has been completed; over \$55,000 was administered through this program. In its stead the ISG has agreed to fund a new program of graduate-student travel grants to present papers on polymer science in POLY at national ACS meetings. This program is being administered through a committee of the POLY Member-at-Large, and awards will commence with the spring 2005 meeting in San Diego. The plan, at present, is to provide four travel grants of \$500 each. Our hallmark award, the "Industrial Polymer Scientist Award", is described below, as well as some future projects.

### **INDUSTRIAL POLYMER SCIENTIST AWARD**

THOMAS J. PACANSKY

This award was initiated in 1998 to recognize outstanding industrial innovation and creativity in the application of Polymer Science, conducted by individual scientists and research teams. The award consists of a plaque and an honorarium in the amount of \$2,000. The award is usually presented at the Industrial Sponsors program during the Fall National ACS Meeting. The recipient is expected to present an address at a symposium organized in his/her honor. Travel expenses to

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the symposium are paid in addition to the honorarium. Commencing with the award for 2002, the award will be given every two years. Further details can be obtained from Dr. Thomas J. Pacansky, Chairman of the POLY Awards Committee (Tel. 908-953-9488).

Because of the high quality of the candidates, this award was given twice in 2004. The recipients were: Dr. Bill W. Culbertson and Dr. Craig J. Hawker, each of whom was honored at the Fall Meeting with a symposium and a joint reception in their honor. The symposia were very well attended, as was the reception and the accompanying award ceremony.

Future projects of the Industrial Sponsors Group include editing and distribution of the K-12 Polymer Educational Materials Kits developed by Dr. Melvin I. Kohan and the Science Alliance in Delaware. This project was supported via an ISG \$10,000 three-year grant for 1994 through 1996 as part of the "Improving the Public Perception of Polymers" program. We also plan to provide certificates to member companies in recognition of their years of support of the ISG, (e.g., 25, 15, or 10 years, as appropriate).

### **INTERSOCIETY POLYMER EDUCATION COUNCIL (IPEC) - F. Jones**

IPEC ([www.uwsp.edu/chemistry/ipec/home.htm](http://www.uwsp.edu/chemistry/ipec/home.htm)) promotes and supports teaching about polymers and polymeric materials in the K-12 curricula. IPEC's programs have proven to be an excellent way to interest students at all grade and ability levels in polymers and, more broadly, in science and technology. Students' interest can be sparked because they are familiar with polymeric materials.

Most of IPEC's activity involves the Polymer Ambassadors. The Ambassadors ([www.polymerambassadors.org](http://www.polymerambassadors.org)) are about 18 talented and dedicated K-12 classroom teachers, located coast-to-coast. The Ambassadors conduct workshops at regional and national teachers' conventions, where they teach other teachers to use polymers in classroom instruction. About 100 such workshops are presented to 4000 - 7500 teachers each year. These workshops are popular with teachers, who obtain practical and effective materials for use in their classes. Since the start of the program in 1992, more than 50,000 teachers attended these workshops.

In recent years, the Ambassadors have extended their reach using electronic media. Examples of materials developed by the Ambassadors can be found on the website. The Ambassadors also serve as informal consultants and advisors (often without pay) for other organizations and companies who are mounting educational efforts. Polymer Ambassadors have received numerous major awards including five Presidential Awards for Excellence in Math and Science Teaching.

Akron Partnership. In 2002, IPEC and the Polymer Ambassadors formed a partnership with the Akron Global Polymer Academy (AGPA), whose mission is to use synchronous and asynchronous distance learning to support K-12 science instruction. Ambassadors have played an important role in establishing the program, participating in teacher training workshops and developing over 50 new lessons, some with film clips.

Chemical Laboratories with Video Enhancement (CLVE). In 2004 four Ambassadors created web based laboratory experiments and movies for first year high school students. The movies generate interest, show procedure, and address safety issues but do not provide the results. The first two laboratories and movies can be viewed on the PA website (See above.). This project was partly funded by a grant from the SPE Foundation. More funds are needed to make more laboratories and movies.

Disney Epcot "Fantastic Plastic Works." Joyce Brumberger, the Chair of the Polymer Ambassadors, helped train cast members for the "Fantastic Plastics Works" exhibit recently opened at Disney's Epcot Center. This exhibit was organized by the Society of the Plastics Industry with major sponsorship by GE and Du Pont. Approximately 25 cast members were trained directly in three separate 3-hour sessions. The sessions were videotaped for future cast member training. Ambassadors Mary Harris and Wayne Goates and IPEC Board Member Charles Carraher prepared a notebook of training materials for the Disney training library.

"Polymer Science of Everyday Things" (PSOET) Workshop and Symposium, Philadelphia, August 21-22, 2004. The second (PSOET) workshop and symposium was highly successful. The goal is to explain how the things that people encounter and use every day depend on polymer science. Do scientists, teachers and students realize that polymers are essential for transportation, computers, DVDs, the internet, musical instruments, and sports equipment? PSOET events gather

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and disseminate reliable information on such topics, especially to teachers. The Philadelphia PSOET was modeled after a highly successful PSOET held in 2003, with all-new material. Topics for 2004 were Musical Instruments (Saxophones, Drums) and Chemistry and Batteries for Cell Phones and Laptops. The Saturday workshop was attended by middle school and high school science teachers, live at Philadelphia and at remote, interactive sites at the Universities of Akron and Arizona. The workshops were conducted by two Polymer Ambassadors, an academic expert, an industrial expert, and a saxophonist. The Sunday symposium (POLY) featured eleven papers on the science and technology of musical instruments, high-fidelity speakers, communications equipment, and batteries.

IPEC also sponsors other workshops for high school teachers, including Discovery in Plastics Processing at Eastern Michigan University and PAWS for Polymers, at Clemson University. Polymer Ambassadors often attend both to gain knowledge and to participate in the presentations.

IPEC is a 501(c) not-for-profit corporation. IPEC supporting organizations are the American Chemistry Council/American Plastics Council and the American Chemical Society Divisions of Polymer Chemistry, Polymeric Materials Science and Engineering, and Rubber. Its Board of Directors comprises two voting representatives from each member organization. Organizations are encouraged to appoint additional Board representatives. IPEC runs on volunteer energy. Board members are not paid.

IPEC's core activities are constrained by a shortage of funds. The original idea was to pay expenses for Polymer Ambassadors for one training year and three active years. Now there is a growing pool of Emeritus Ambassadors have completed their three years but want to continue doing workshops and other IPEC activities. These master teachers are recognized to be among the finest in their profession, and they want to work with IPEC. However, IPEC's budget permits only very limited support of their travel expense, and no other sources of travel funds appear to be available to the Ambassadors. A top priority goal for IPEC is to find sufficient funds to keep the Emeritus Ambassadors active.

Retaining member organizations is essential, and recruiting new member organizations is vitally important. Member funding is the flywheel that drives IPEC's ongoing core activities. Support of Polymer Ambassador travel expenses accounted for about 85% of IPEC's 2003 and 2004 budgets. The 2005 budget is similar. With more dues-paying members, the corps of Ambassadors could be enlarged and activity could be expanded. In addition, more member organizations would add more members to the IPEC board, increasing its capacity for new initiatives and fund-raising.

IPEC continues seeking supplementary funding from grants. For example, the Society of Plastics Engineers Foundation provided \$7400 for Chemical Laboratories with Video Enhancement (See above.). Aid from such sources is greatly appreciated and is important in augmenting IPEC's efforts. However, such grants are usually tied to specific projects and can not be used to fund the most pressing need - more Polymer Ambassador workshops.

IPEC member organizations can be proud of what IPEC accomplishes and can look forward to more high-impact activities.

The next meeting of the IPEC Board of Directors will be at San Diego in conjunction with the spring national meeting of the American Chemical Society. It will be Tuesday, March 15 in the

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Anaheim Room of the San Diego Marriott, 9:30 - 3:00. As always, the meeting is open to all; representatives of member organizations are especially encouraged to attend.

### **IPEC Mission Statement:**

To significantly increase student interest and participation in science and technology subjects by incorporating the teaching of polymers and polymeric materials into K-12 curricula by utilizing the combined resources and infrastructures of the participating scientific societies.

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### **Membership** - A. Donnalley and A. Hopkins

The Membership Committee currently consists of the following members: 1. Andrew B. Donnalley (Exxon Mobil) and Alan R. Hopkins (The Aerospace Corporation) Co-Chairs 2. Erica Martin (Rohm and Haas Co) - Member-at-Large 3. HN Cheng (Hercules) - Counselor 4. Pal Arjunan (Exxon-Mobil) - Membership Booth Co-Chair 5. Janelle Ulik (Bausch and Lomb) - POLY secretary 6. Nozar Sachinvala (USDA) 7. Deanna L. Pickel, (Eastman Chemical)-Membership committee 8. Joe Pickel, (ORNL)-Membership committee 9. Frank Blum (UMR)-POLY web editor 10. Harry Barraza (Univ of Oklahoma) - Student Membership 11. Yogesh Patel (Rutgers)-Student Membership 12. Jack Jin, (Clemson)-student membership 13. Nicolay Tsarevsky (Carnegie Mellon)--student membership

### **Noteworthy events for the San Diego meeting:**

1. POLY/PMSE hospitality suite - Tuesday night at the Marriott hotel immediately following the poster session. 2. Board member recruitment at the POLY table - - please sign up to volunteer time with new potential members at the table 3. POLY awards Banquet and Recognition, Convention Center, Hall D, 5:30-7:30 Sunday, March 13 4. Sci-Mix, Monday, Pennsylvania Convention Center -- Hall D, 8:00-10:00 pm.

### **Introduction:**

With 1 year under our belt, we have made some significant progress in continuing the 3R's in the Polymer Division's activities, particularly focusing on how POLY can engage more graduate and post-docs into the membership. This will be accomplished by actively recruiting new members at national meetings, retaining them by maximizing their benefits and finally recognizing their service and contributions to the division. Our current efforts under the three R's are:

1. **Recruitment of new members:** a. Continue the POLY/PMSE Hospitality Suite as an approach to recruit new ACS members, especially graduate and post-docs. Also this is an opportunity to reach out to current members of the division. b. With new display rack, we are able to get free ad space in polymer journals to recruit new POLY members. c. We have successfully completed the polymer preprints cover for Spring 2005 San Diego meeting. We look forward to possible contributions to designing future POLY preprint covers. d. Web membership: In response to many POLY student members, we have implemented a) student website that contains pertinent information (future meetings, deadlines etc.) and b) employment website that will only be accessible to POLY members. e. Sci-Mix poster session -POLY posters will be present at Sci-Mix. We are promoting networking among graduate/undergraduates

2. **Retention of current members:** a. Letters to 1st, 2nd yr members each fall encouraging renewal of membership letters to 1st, 2nd yr members each fall encouraging renewal of their membership. The recent e-mail by Andrew B. Donnalley was noticed by Denise Creech, Director of ACS Membership Division, who forwarded it to John C. Katz, Assistant Director, Dept. of Technical Division Advancement. After receiving permission from the POLY Division, he distributed the e-mail to all 33 technical divisions as a best practice for membership retention efforts with his comments as to why the letter should be very successful. b. Graduate Student focus: continue with Erica's travel award initiative. For Fall (2005) there will be three \$500 awards

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to be awarded for travel to San Diego to present a paper in a POLY symposium. Membership committee sent letters to key polymer faculty to promote this award.

3. **Recognition of members:** a. Letters/web page listing/ recognition event/ POLY pins for 5, 10, 20, 30 anniversary members every spring - positive response. b. There has been an extremely positive response with the pin recognition program. This program will be continued into the foreseeable future.

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### Poly List and WWW Pages - F. Blum

POLY LIST World Wide Web (www) Top 30 (bold denotes new to the list)

#### POLY LIST

There are about 1200 members on the POLY list. The volume of mail continues to be moderate and the number of complaints is low, almost negligible. I approve postings to the list. Things have gone pretty smoothly.

**World Wide Web** (www) The total number of hits on the old and new POLY pages is 279,000. We have had 2 years experience with the web pages at [www.polyacs.org](http://www.polyacs.org). It seems to have gone pretty well with this site. In March, we are averaging 900 (up by 300 over last year) visitors per day with 2600 page views (up from 1800). It might be interesting to note that 48% of the traffic is direct, 15% from Google, 3% from polyacs.org, 3% from Yahoo, and 1% from ACS.

The number of members who join the Division via the www and register for workshops continues to increase.

Since March 2004 Top 30 (bold denotes new to the list)

/index.html 49,527	/arcmeetings/boston.802.html 3,358
/index.html 51,429	/index.shtml 3,177
/main/jobs.shtml 42,373	/arcmeetings/biennial.1004.shtml 2,931
/main/polyspon.shtml 10,493	/nomcl/pmse.gpc.html 2,868
/main/preprintsonline.shtml 9,603	/arcmeetings/anaheim.304.shtml 2,788
/main/natlmeet.shtml 6,369	/arcmeetings/fluoro.1004.shtml 2,738
<b>/arcmeetings/fuelcell.205.shtml 5,353</b>	/main/awards.shtml 2,652
<b>/arcmeetings/neworleans.899.html 4,640</b>	/arcmeetings/polycond.904.shtml 2,590
/main/othermeet.shtml 3,911	/arcmeetings/chicago.801.html 2,572
<b>/arcmeetings/boston.898.html 3,360</b>	

Several individual job openings had over 1000 hits.

I solicit your help. Please send me things electronically by e-mail for inclusion on the web pages. <http://www.polyacs.org>

I also request help in soliciting advertising for the web page. Now that the pages are on a commercial site, we have no restrictions as far as they are concerned. It seems logical to do this for the web pages, newsletter and Polymer Preprints, with a coordinated effort.



Figure - Visitors by month (note MARCH 05 is an incomplete month).

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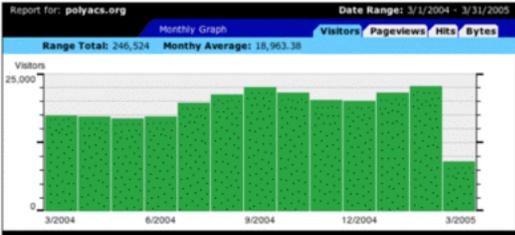


Figure - Visitors by month (note MARCH 05 is an incomplete month).

**Polymer Preprints - R. Venumbaka**

The San Diego issue of Polymer Preprints [46(1), 2005] is the first year of publishing only CD version in addition to posting the Preprints on the web. This issue contains the preprints from 6 Symposia plus General Papers for a total of 480 papers published 868 pages. It continues to be the goal of the editorial staff to elevate the stature of Preprints in the world of scientific publishing. The CD continues to evolve, incorporating new functionalities as technology advances. The current CD-Rom runs on an HTML/JavaScript interface. One benefit of this improvement is that the CD is a noninvasive operation because no installation on the user's computer is required to run it. We are continuing to add additional information of interest for POLY members to the CD version. The Division recognizes the importance of advertising to the future finances of the Preprints. It is our request that the division appoints a member to this role or negotiates additional resources to handle this essential task. Currently no one has volunteered or been assigned to coordinate this critical function resulting in the loss of potential income to the Division.

**Financial Status**

Due to streamlining and moving some of the production steps from Mira Digital Publishing to the Preprints editorial staff, we have made a significant savings cost in the delivery of the CD. Mira continues to be the best and most cost efficient vendor to produce Preprints. After serious negotiations, we signed for a 6 issue production contract with 7% discount to the total cost in addition to 5%. Texas State University-San Marcos will continue to sustain the in-kind support of the Polymer Preprints editorial functions. The Polymer Division's financial support of \$ 20,000/yr for the editorial operation of preprints has remained consistent up to the last issue. Due to the elimination of the print copy, the editorial costs (mailing and proofing) were reduced approximately \$1,000 a year. Thus, we would like to request funding at the level of \$19,000/year for 2005. The following table outlines the publication costs for Preprints:

	San Diego	Washington	New Orleans	New York	Anaheim	Philadelphia	San
						(Estimate)	(Projected)
# of CDs published	7,500		7,000	7,100	7,200	8,000	8,000
# of Books published	750		700	700	675	0	0
Preprints Pages	670		523	625	452	480	600
	1304		990	1220	899	868	1000
Cost							
Total for CD	\$35,327		\$32,988	\$31,010	\$30,478	\$25,251	\$27,500
Total for Book	\$30,590		\$22,840	\$26,451	\$14,107	0	0
Total Publishing Cost	\$65,917		\$55,828	\$57,461	\$44,585	\$25,251	\$27,500
Texas State Editorial Administration	\$10,000		\$10,000	\$10,000	\$10,000	\$9,500	\$9,500
<b>Total for POLY</b>	<b>\$75,917</b>		<b>\$65,828</b>	<b>\$67,461</b>	<b>\$54,585</b>	<b>\$34,751</b>	<b>\$37,000</b>

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The POLYED Subcommittee Reports are available on-line at <http://www.polyed.org> in the section Info for Committee Members.

The reports are organized within the four directorates below. Each heading represents one of POLYED's activities and gives the responsible person. Excerpts from some reports from the directorates also are included below. Contact information for all of the associate directors and subcommittee chairs may be found at the POLYED web site.

The chairs wish to thank all of the members of POLYED for their fine efforts on behalf of polymer education. These efforts would not be possible without the funding and strong support of both the ACS Division of Polymer Chemistry and the ACS Division of Polymeric Materials: Science and Engineering. We'd especially like to thank PMSE and POLY's chairs (past, present, and elect), treasurers, secretaries, industrial sponsors group, and other board members for their continued support and contributions to our efforts.

POLYED is successful because of the work of many individuals. Any members of POLY and PMSE who would like to become involved in POLYED's polymer education activities are welcome and should contact John Droske, POLYED Center, University of Wisconsin-Stevens Point, [jdroske@uwsp.edu](mailto:jdroske@uwsp.edu) or Charles Carraher, Jr., Florida-Atlantic University, [carraher@fau.edu](mailto:carraher@fau.edu).

### DIRECTORATES AND ASSOCIATE DIRECTORS:

- I. Precollege Directorate (D. COCUZZI, Associate Director)
- II. College and University Students Directorate (M. ZELDIN, Associate Director)
- III. College/University Faculty Directorate (R. ARCHER, Associate Director)
- IV. Industrial/Government Professionals Directorate (R. MOORE, Associate Director)

DIRECTORATE REPORTS (subcommittee chairs within each directorate are listed in parentheses):

Precollege Directorate (D. COCUZZI, Associate Director)

- 1. Award for Excellence in HS Teaching (Cocuzzi)
- 2. Teacher Outreach (Sherman/Woodward)
- 3. Intersociety Polymer Education Council (Droske/Salamone/Carraher/Padias/Mathias)

Mary Harris, Polymer Ambassador liaison to POLYED, announced that Jon Valasek, Texas, is the newest IPEC Polymer Ambassador. Marie Sherman and Mary Harris hosted a group of 10 Polymer Ambassadors who met in St. Louis. The group discussed possible polymer education activities related to sporting equipment, polymers in automobiles, and fibers. They also toured KNA Manufacturing in Fenton, MO to see Charity Bracelets being made.

The Polymer Ambassadors also presented about 12 workshops at the area conventions for NSTA in Fall, 2005. The conventions were held in Richmond VA, Seattle WA, and Indianapolis IN.

The IPEC report prepared by Frank Jones will be distributed at the meeting in San Diego.

- 4. MATR Activity Guides (Droske).

The Grades 6 - 9 Activity Booklet is now uploaded and available on the POLYED and IPEC web sites.

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If you would like a copy of the nearly 80 page booklet of Grades 6 - 9 polymer-related activities, contact John Droske at the POLYED Center, [jdroske@uwsp.edu](mailto:jdroske@uwsp.edu). The activities were written by middle school teachers after performing them at the MATR Institute workshops at the University of Wisconsin-Stevens Point. All activities were edited and in some cases extended, by John Droske and Sue Hall, a Polymer Ambassador and former elementary teacher.

The Grade 9 - 12 Activity Booklet is in final editing. Tim Corcoran, a high school chemistry teacher and MATR participant, has been assisting John with final editing of the Grades 9 - 12 Activity Booklet.

College and University Students Directorate (M. Zeldin, Associate Director)

1. Organic Student Award (previous chair Bill Feld / open as of Jan 05)

This award is being handled through the POLYED Center until a new chair of this award committee is named. The 2005 nomination packet will be sent this Spring to the 400 schools who have participated in recent years.

2. Polymer Graduates (Deanin)

Rudy Deanin has agreed to conduct an updated survey on the colleges and universities in the United States that are currently offering courses and programs in polymers. If you are aware of new programs, please forward this information to Rudy.

3. Undergraduate Summer Research Scholarships (Cohen)

This program has not been offered in the past two years. An alternate program is being considered.

4. Undergraduate Research Awards Program (open)

5. J. Chem. Ed. Preprints (Zeldin)

College/University Faculty Directorate (Ron Archer, Associate Director)

1. Textbook Authors (Ford/Krause/Sperling)

Les Sperling reports that letters encouraging the inclusion of polymer topics in chemistry, engineering, and materials texts were sent to 71 U.S. publishers and 24 from abroad. Les further reports that, while he has not done a formal survey, he has observed growth in the inclusion of polymer topics in these texts of about 25% since the project started. It is hard to discern how much of this is attributed to POLYED's efforts, but he concludes that it does appear that we are doing some good in this area.

2. Curriculum Development Award (open)

3. Visitation Program (Droske)

No POLYED workshops have been offered since the last meeting.

4. Award for Outstanding Graduate Research in Polymer Science and Engineering (Ford/Berry)

Warren Ford reports the excellent news that National Starch and Chemical Co. has agreed to support the award for 3 years, 2006-2008. We thank Warren and National Starch and Chemical for their efforts to recognize the outstanding work of polymer science graduate students with the establishment of this important national award.

5. ICI Student Award in Applied Polymer Science (Thomas Hahn, John Thomaidis)

Thomas Hahn reports that information on the applications for the Fall 2005 competition will be available in March and will be posted on the POLYED Web Site.

Industrial/Government Professionals Directorate (R. MOORE, Associate Director)

1. Short Course Directory

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Based on review of this program and discussion at the New York meeting, the Short Course Directory is no longer being published.

2. Audiovisual Aids (Meister)

3. Industrial Teachers

4. Collaboration with Education Committee of the North American Membrane Society (NAMS).

A possible collaboration with NAMS has been proposed by Benny D. Freeman. The focus most likely would be precollege level.

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## 2005 Spring Reports

### **Public Relations - D. A. Schorzman**

For the year 2005, Team Pub consisted of Pete Broske (Agilent Technologies), Anil Mahapatro (Diagnostic Systems Laboratories), and myself (Bausch & Lomb). As of December 2004, I have taken over as Public Relations Chair.

#### **Action items since the last meeting:**

- o The 2005 Carl S. Marvel Award was publicized in an announcement submitted to C&EN, and all Awards honored with symposia within the POLY division were publicized via email distribution and a presentation at the reception event in San Diego.
- o Posters were provided in San Diego for both the awards reception event and the graduate student travel awards for travel to the Fall 2005 meeting in Washington, DC.
- o Starting January 2005, a monthly mailing of POLY division announcements via the email list was initiated in order to remind members of upcoming events, workshops and meetings on a regular basis.
- o On a last minute suggestion, a slide with POLY division announcements was arranged and distributed to symposium organizers and to individual sessions for display before, after, and during breaks of sessions for use in San Diego. This advertisement mechanism will be further developed and implemented at future meetings.
- o Team Pub is anxious to explore and utilize new publicity mechanisms to increase POLY visibility. New ideas and/or suggestions will always be graciously accepted.

## 2005 Spring Reports

### **Regional Meetings - W. T. Ford**

The Division of Polymer Chemistry (POLY) will provide up to \$500 to support a well-planned regional meeting symposium. In turn POLY would like the opportunity to advertise its programs and recruit members at a table next to the room where the polymer chemistry sessions are held.

#### **The criteria for POLY support are:**

- 1) There must be a full day symposium devoted to polymer chemistry.
- 2) The program should include one or more invited speakers.
- 3) To apply for support, the Program Chair or symposium organizer must send (a) a copy of the technical program to the POLY Committee on Polymer Programs at ACS Regional Meetings and (b) a budget showing how the funds will be used to defray registration fees and travel costs of invited speakers.

Notice of the opportunity for POLY support was sent August 19, 2004 to the Program Chair and/or the General Chair of all 2005 and 2006 ACS regional meetings. So far the Middle Atlantic and Midwest regional meetings have requested support for 2005. The Western and combined Southeast/Southwest regional meetings are also planning polymer symposia but have not requested support yet. The Midland Local Section has also requested support for a one-day meeting.

## 2005 Spring Reports

### **Workshops - J. Riffle, D. Smith**

POLY off-site workshops continue to be strong technical meetings on contemporary topics with national and international invited speakers. They are well attended, and the POLY business office management and staff headed by Neta Byerly continues to provide excellent service to the members. The POLY business office, workshop co-chairs and POLY treasurer work together to budget funds appropriately for these meetings. We are in good shape for 2005. We have 2 workshops planned for 2006 with the possibility of a 3rd.

### **2005**

Advances in Materials for Proton Exchange Membrane Fuel Cells 2005

February 20-23, 2005

Asilomar Conference Ctr., Monterrey, CA

Co-Chairs: Jim McGrath (VA Tech), Tom Zawodzinski (Case Western Reserve)

This workshop was just completed with 180 attendees. Another great success!

Polymers in Photonics

June 5-8, 2005

Wyndham Orlando Resort, Orlando, FL

Co-Chairs: Kevin Belfield (U. Central Florida), Tom Smith (U. Rochester), Paul Armistead (ONR)

The program is available at the POLY desk in San Diego.

National Graduate Student Conference

June 12-16, 2005

U. Mass, Amherst,

Polymers in Biology and Medicine 2005 (4th workshop on this topic)

June 26-29, 2005

Sonoma Doubletree, Rohnert Park, CA

Co-Chairs: Buddy Ratner (U. Washington), Kathryn Uhrich (Rutgers), Judy Riffle (VA Tech)

This is the same site utilized for the 2002 Polymers in Biology and Medicine workshop which was well attended and well received. This was moved from 2004 to 2005 since POLY's biennial 2004 targets biomaterials/biology. Program is available at the POLY desk in San Diego.

Advances in Polyolefins 5

Sept. 25-28, 2005

Sonoma Doubletree, Rohnert Park, CA

Co-Chairs: Pal Arjunan (Exxon Mobil), E. Bryan Coughlin (U. Mass), James McGrath (VA Tech)

Description: Polyolefins is the 5th in the series held biennially. The program is almost complete for this one.

Pacific Polymer Conference 9

Dec. 10-14, 2005

Westin, Maui, Hawaii

Chairs: Jim McGrath (Pres. of PPF, VA Tech), Bill Daly (LSU)

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### Description:

- o Living Polymerizations
- o Polymeric Biomaterials
- o Batteries and Fuel Cells
- o Combinatorial Methods in Polymer Science
- o Polymers in the Marine Environment
- o Advances in Engineering Polymers
- o Novel Synthetic Routes
- o Polymeric Materials for Microelectronics
- o Magnetic Materials at the Interface of Polymer Science and Biology
- o Aerospace Materials and Structures

The PPF group will meet Sunday in San Diego. We are in good shape for this one. The program is coming along well and the budget has been approved, so we can process registrations.

### **2006**

#### Polycondensation 2006

Chair: Iskender Yilgor

Location: Koc University, Istanbul

We are working with the Chair to negotiate a POLY arrangement where we handle registrations but he handles everything else. This will be a fixed fee from Koc University to POLY, similar to the way we handled the meeting with Polytechnic University several years ago. POLY will not be liable for losses and we will not collect profits.

#### Fluoropolymers 2006

Chair: Dennis Smith, Clemson University

October timeframe.

Location not yet secured: Savannah or Charleston, SC

Need POLY approval in San Diego.

#### Biennial 2006, Polymer Innovation at Emerging Boundaries of Science and Engineering

Chair: Tim Long, Virginia Tech

May, 2006

Neta is working on locations, possibly Florida.

### **2007**

#### Current and Future Opportunities of Nanostructured Polymeric Materials for Microelectronic Applications

Chairs: Ken Carter, University of Massachusetts, Jim Hedrick, IBM Almaden

#### Macromolecules for a Safe, Sustainable and Healthy World

Chair: Kalle Levon, Brooklyn Poly, June, 2006. IUPAC sponsorship. POLY will handle the registrations.

A memorandum of understanding has been drafted. Kalle Levon (Polytechnic University) and Bob Moore (POLY) have reviewed the memo and recommended that it be considered for approval by the POLY Executive Committee. POLY will receive \$10K for services (overhead) and Polytechnic

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University will be responsible for profit/loss if approved. There is precedent for this arrangement with this particular group and it worked well in the past.

Polymers in Medicine and Biology

Advances in Proton Exchange Membrane Fuel Cells

Co-chairs: Jim McGrath, Virginia Tech and Tom Zawodzinski, Case Western Reserve University

Polyolefins 2007

**Treasurer - R. B. Moore**

### **Overview of Income and Expenditures - General Operating Fund**

The Division of Polymer Chemistry (POLY) has shown a remarkable recovery in financial health, over the last two years. Through the implementation of strict budgeting practices in divisional activities and workshops, we have experienced a second year of growth in fiscal sustainability. At the beginning of 2002, we set as a priority to repay a \$100,000 debt to our investment reserves by the end of 2005. Toward this goal, we were able to transfer \$60,000 from the operating account back to the investment reserves in the 4th quarter of 2004. This reinvestment (through a very favorable year of workshop activities and sound fiscal management) brings our total debt repayment to \$85,000, to date.

The 2004 recovery was realized through cost-cutting and reorganization measures including: a reorganization and cost-cutting plan for our business office, a standardization of workshop accounting and budgeting practices, a reanalysis of publication expenses (i.e., Polymer Preprints), a complete reorganization of the division accounting and budgeting operations through the development of a comprehensive Excel workbook, and a more proactive management of division expenses. Furthermore, this new coordination has greatly simplified our budgeting and planning processes for subsequent years, allowing us to accurately balance the budgets for 2003, 2004, and now 2005.

This year, we expect to see further cost-cuts in our publication expenses through the efforts of our Preprints staff and volunteers. Also, the reorganization of our workshops accounting and budgeting practices will significantly reduce our financial risk in these important divisional activities. We also expect another outstanding year of workshop profitability. In addition, the benefits we are now experiencing with increased dues and ACS allotment revenues will allow us to provide a much more valuable service to our members. The Division's annual financial report is enclosed for inspection by the executive committee. This report includes details of all transactions for the year plus a balanced budget (approved by the POLY executive committee) for the upcoming year. In the 2nd or 3rd quarter of this year, we expect to easily meet our goal of returning the final repayment of \$15,000 to our reserves (fulfilling our goal set in 2003). Moreover, with this repayment activity behind us, we look forward to returning our divisional profits to a number of specific membership benefits, including the establishment of an endowed awards fund and increased funding for activities aimed at attracting young scientists to our division.

### **Grants and Funded Activities**

The Division of Polymer Chemistry (POLY) keeps its committed funds separate from the general operating fund and accounted for on separate worksheets of the POLY Budget Workbook. The plan to obtain funding from external sources has been realized by the Division through successful proposals submitted to federal and private granting agencies and foundations (e.g., ACS PRF, ACS DAC, DOD, DOE and NSF). The symposium fundraising effort for our Spring and Fall National Meeting programs was successful, through the efforts of our volunteer symposia chairs, in raising \$60,295 in 2004. In addition, over \$50,000 was raised in 2004 in support of our Workshop programs. The funds raised through these efforts have been used to provide financial support (i.e.,

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travel assistance, meeting registration fees, etc.) for our invited speakers. These funds have enabled the Division to fulfill its mission of providing state-of-the-art technical programming in a format that best serves the polymer community and the ACS membership.

### Assets of the Division and Long Range Planning

POLY's total non-operating investments increased in value during the year 2004 from \$385,393 to \$484,657. This investment income of \$99,264 includes the \$60,000 cash transfer to investments and was higher than budgeted because of the strong stock market. With a continuation of our careful financial monitoring, cost-cutting efforts, and projected success of our workshop activities, we expect to realize another opportunity to transfer at least \$15,000 back to reserves in 2005 without compromising our key priority of providing the highest technical programming possible for the benefit of our membership. The Division enters the next fiscal year with \$516,501 in total assets. With an operating budget of \$690,100 in 2005, our total assets are well within the financial guidelines to maintain enough to cover operating expenses for one year. The Division continues to track its financial plan of keeping a balanced budget in 2005 and beyond.

Operating Fund	\$31,844
Commitments	\$0
Long Term Assets	\$484,658

<b>Summary of 2005 Operating Budget - ACS Division of Polymer Chemistry, Inc.</b>				
<b>BUDGET CATEGORY</b>	<b>2005 Approved Budget</b>		<b>Year-To-Date Actuals</b>	
	<b>INCOME</b>	<b>EXPENSES</b>	<b>INCOME</b>	<b>EXPENSES</b>
<b>ACS Membership Dues</b>	\$ 190,000.00		\$ -	
<b>Annual Division Allocation from ACS</b>	\$ 52,500.00		\$ -	
<b>Awards</b>	\$ 8,500.00	\$ 8,500.00	\$ -	\$ -
<b>ACS National/Regional Meetings</b>				
ACS Meeting Grants (Speaker Support)	\$ 60,000.00	\$ 62,500.00	\$ 8,000.00	\$ 3,300.00
2004 Fall & Spring National Meetings		\$ 19,000.00		\$ -
<b>Subtotal National Meetings</b>	<b>\$ 60,000.00</b>	<b>\$ 124,000.00</b>	<b>\$ 9,000.00</b>	<b>\$ 3,300.00</b>
<b>POLY Workshops</b>				
<b>Subtotal Workshops</b>	<b>\$ 290,000.00</b>	<b>\$ 230,500.00</b>	<b>\$ 61,273.12</b>	<b>\$ 4,656.35</b>
<b>Workshops Delta</b>	\$59,500.00		\$56,616.77	
<b>Administrative</b>				
Salaries		\$ 102,500.00		\$ 25,012.46
Business Office Expenses		\$ 30,750.00		\$ 1,317.30
<b>Subtotal Administrative</b>	<b>\$ 250.00</b>	<b>\$ 164,750.00</b>	<b>\$ -</b>	<b>\$ 31,185.83</b>

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<b>Publications</b>				
Library Subscriptions	\$ 40,000.00		\$ 10,075.00	\$ -
Preprints	\$ -	\$ 2,000.00	\$ 150.00	\$ -
Newsletter		\$ 125,000.00		\$ -
		\$ 12,000.00		\$ -
<b>Subtotal Publications</b>	<b>\$ 46,000.00</b>	<b>\$ 139,000.00</b>	<b>\$ 25,106.48</b>	<b>\$ -</b>
<b>Advertising</b>				
<b>Subtotal Advertising</b>	<b>\$ 20,000.00</b>	<b>\$ 600.00</b>	<b>\$ 3,200.00</b>	<b>\$ -</b>
<b>Committee Activities</b>				
<b>Subtotal Committee Activity</b>	<b>\$ 16,500.00</b>	<b>\$ 16,500.00</b>	<b>\$ 2,000.00</b>	<b>\$ 2,816.29</b>
<b>TOTAL BUDGET</b>	<b>\$ 690,100.00</b>	<b>\$ 690,100.00</b>	<b>\$ 100,814.34</b>	<b>\$ 41,958.47</b>
<b>TOTAL BUDGET DELTA</b>	<b>\$0.00</b>		<b>\$58,855.87</b>	

**Note:** Totals and Subtotals Reflect Sum of all Categories in the 2005 Full Budget.