

PHILADELPHIA SECTION, ACS 2005 CALENDAR OF EVENTS

Date	Event	Location
October 1	American Institute of Chemical Engineers Premcor Refinery Tour	Delaware City, DE http://phillyspe.plastics.com/
October 3-5	VinylTec2005	Wyndham Franklin Plaza http://phillyspe.plastics.com
October 9	Sally Ride Science Festival	West Chester University www.SallyRide Festivals.com
October 10	DuPont Marshall Lecture Steven Chu, Dir., Lawrence Berkeley Labs	University of Pennsylvania
October 13	<i>Do Manufacturing Organizations Really Need to Relocate Overseas?</i> Mark C. Hehl, Hehl & Assoc.	Holiday Inn, Claymont, DE http://phillyspe.plastics.com/
October 14-15	Two Year College Chemistry Conference: <i>The History of Chemistry: From the Past Comes the Future</i>	Bucks Cty. CC., New town, PA, Contact: Dr. Michael Lee: leem@bucks.edu
October 16-22	National Chemistry Week	All over Delaware Valley
October 18	Chemical Consultants Network	Bala Cynwyd
October 20	American Institute of Chemical Engineers Sunoco Refinery Tour	Philadelphia, PA http://aiche-philadelphia.org/
October 20	Philadelphia Section Award Dr. Robert Pasternack	Swarthmore College
October 22	Expand Your Horizons Program for 6 th Grade Girls	Chestnut Hill College
November 7	Graduate School Forum	Villanova University
November 9	Ullyot Lecture Marye Anne Fox	Chemical Heritage Fdn. Philadelphia, PA
December 10	Chemical Demonstrations for Children	Rutgers Univ.-Camden



Fifty-year members at the luncheon honoring them at the Chaddsford Winery on June 16th, 2005. First row, l. to r.: John Nikelly, Jack Steel, Edward Maser, Alan MacDiarmid, Stanley Sandler; rear, l. to r.: Stanley Scheindlin, Sameeh Toukan, Mark Krakov, Lee Harper, Helen Gruber and Jose de la Vega. (Joel Perlish photo)

Section's Web Page: <http://membership.acs.org/p/philadelphia>

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the Catalyst

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October 2005



**October Speaker
Dr. Robert F. Pasternack**

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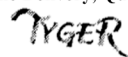
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the Catalyst

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ADVANCE NOTICE

NOVEMBER MEETING

ULLYOT PUBLIC AFFAIRS LECTURE

The American Workforce in the New Century: Perils and Promise

Dr. Marye Anne Fox

University of California, San Diego

WEDNESDAY, November 9th, 2005 (note change in day)

Chemical Heritage Foundation, Philadelphia, PA

See the NOVEMBER issue of *the Catalyst* for details,
call the Section Office at (215) 382-1589, email PhilaACS@aol.com

**From
The
Chair**

**Deborah H.
Cook**



Along with cooler weather, changing trees and Halloween decorations, October is the time to celebrate National Chemistry Week (NCW). This year's theme, "The Joy of Toys" should prove to be fun for children of all ages. This issue of *the Catalyst* lists many of the NCW events. Some of these include a Toy Drive during the Section meeting on October 20th, and the Graduate Student Forum on November 7th. Additionally, West Chester University is hosting the Sally Ride Science Festival on October 9th. Other events will be taking place, so be sure to check the web site and to respect National Mole Day on October 23rd.

Toys are wonderful for getting folks interested in chemistry. Just think of the possibilities. First, consider all the chemistry involved in the materials. Toys have to be safe, durable, colorful and appealing. Many toys are based on scientific principles, especially those that move. Some toys rely on chemical reactions. And don't forget the batteries that are "not included." So be sure to share the joy of the NCW events.

This month we honor Dr. Robert F. Pasternack, Professor of Chemistry at Swarthmore College. Dr. Pasternack is the recipient of this year's Philadelphia Section Award. We hope you can come to his lecture and remember to bring a toy for the NCW toy drive. Other Section events this fall include the Ulyot Lectureship hosted by the Chemical Heritage Foundation on November 9th and the Herb Bassow Chemical Demonstrations for Children of all Ages on December 10th at Rutgers University - Camden Campus.

Take some time away from your schedule, join us at one of these events, and share the joy!

JUMPSTART YOUR CAREER

Want a simple way to jumpstart your career? Then volunteer for a committee or two. The following are looking for a "take charge" person to develop the committee and it's program. Training (both formal and informal) is provided:

✓ **Public Relations**

The following committees are looking for new "take charge" chairs as well as members:

- ✓ **Career Services**
- ✓ **Chemical Health and Safety**
- ✓ **Diversity**
- ✓ **Industrial Relations**
- ✓ **Legislative Liaison**
- ✓ **Liaison**
- ✓ **Membership**
- ✓ **Planning**
- ✓ **Public Relations**
- ✓ **Social**
- ✓ **Student Affiliate Mentor**

The following committees are looking for new and returning members:

- ✓ **Awards**
- ✓ **Continuing Education**
- ✓ **National Chemistry Week Program**
- ✓ **Publications**
- ✓ **Tellers**
- ✓ **Web Page**
- ✓ **Younger Chemists**
- ✓ **Women Chemists**

And past volunteers, especially officers, are invited to work on the Section's Work Manual.

To volunteer to chair or to join a committee, email Deb Kilmartin at kilmartind@msn.com

or contact the Section Office at philaacs@aol.com or 215-382-1589.

Put "Volunteer" in the subject line or leave a detailed message including contact information and the committee or committees you'd like to try.



Attendees at the dinner honoring the 2005 Philadelphia Section Scholastic Achievement Award winners at Chestnut Hill College on April 21st, 2005. Seated, l. to r.: David Lindenmuth, Rosemary Stoertz, David Rowe, Tricia Sladicka, John Heckel, Michael Socki; standing, l. to r.: Claire Coleman, Melissa Stopyra, Alison Kim, Adanna Vardian, Ryan Wenrich, Kevin Sylvester, Evan Beard, Sarah Molinar, Santisree Tanikella (Joel Perlish photo)

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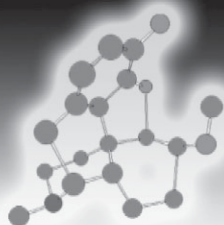


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OCTOBER MEETING

The Philadelphia Section,
American Chemical Society

presents the

2005 Philadelphia Section Award

to

Dr. Robert F. Pasternack

Department of Chemistry, Swarthmore College

*Supramolecular Arrays of Porphyrins on Biopolymer Templates—A
Paradigm for Biological Assembly Processes*

Thursday, October 20th, 2005
6:00 PM

Room 199 Science Center
Swarthmore College
Swarthmore, PA

Social Hour at 5:00 PM in the Science Center

Dinner following the lecture in the Scheuer Room of the Kohlberg Building

Dinner Cost: \$46; Students with Reservations and College ID: \$23

DINNER RESERVATIONS should be made by calling Mrs. Libby Harper at the section office, (215) 382-1589, or emailing PhilaACS@aol.com by **5:00 PM** on **Thursday, October 13th**. **Cancellations**, if necessary, cannot be accepted after **NOON** on **Tuesday, October 18th**. **UNCANCELLED RESERVATIONS WILL BE BILLED.**

PARKING is available on campus. For directions, see www.swarthmore.edu.

NATIONAL CHEMISTRY WEEK: The 2005 theme is "The Joy of Toys." Please bring a new, unwrapped toy for the Philadelphia Toys for Tots Organization. A collection site will be available at the meeting.

The Board of Directors will meet at 4:00 PM in Room 199 of the Science Center.

NEWS ATOMS

Tunnell Consulting announced the following promotions: **Ramon Abreu** from senior consultant to managing consultant, **Philippe Cini** from managing consultant to principal, and **Jason Kamm** from senior consultant to managing consultant. **Thomas McGurk** was named director of supply-chain practice, and **Joseph Templo** was named CEO.

DEATHS

David B. Arden, formerly with Houdry and Air Products, May 28th at 92. He headed up process design and technical service at Houdry Process Corp. from 1942 until 1960, when he was named director of Katalysatoren Werke Houdry-Heuls of Marl, Germany. From 1972 until his retirement in 1977 he served as assistant manager of the chemicals division of Air Products and Chemicals.

Ed Nodiff, retired research chemist, July 16th at 78. He was director of organic medicinal chemistry at the Research Institute of Temple University and then worked for Germantown Laboratories. He later joined Franklin Research Center labs as principal scientist, retiring in 1990. During his career he worked on compounds for the US Army, GlaxoSmithKline, the National Institutes of Mental Health, and the National Cancer Institute. He was a 50-year member of ACS.

John F. Gall, retired research chemist, July 25th at 92. He was a physical chemist and research director with Pennsylvania Salt Manufacturing Company, specializing in fluorine chemistry, and retired after serving the firm for 29 years. He then taught chemistry at Philadelphia College of Textiles and Science and St. Basil Academy. With John Bailor he started the ACS division of inorganic chemistry and later chaired the division. He served the Philadelphia Section as director, councilor, and Section chairman. John was a 50-year member of ACS. He and his wife Mary Kenly Gall were active in the Philadelphia Trail Club and were responsible

for maintaining a 10-mile stretch of the Appalachian Trail.

Arthur E. DeWald, chemist and retired vice president with Smith Kline & French, July 28th at 81. He served the firm as vice president of quality assurance and control, retiring in 1987 after 35 years. He then worked as a consultant.

George L. Schnable, research chemist formerly with Philco Ford and RCA, August 7th at 77. After working in the microelectronics division of Philco Ford for 17 years, he went to RCA Laboratories and developed microelectronic chips for military defense systems. His accomplishments earned him two RCA Gold Sarnoff Presidential awards. After retiring from RCA in 1991 he formed his own consulting firm of Schnable & Associates.

Note: News Atoms seeks to report new hires, significant promotions, honors and awards, and those who have recently passed away from the field of chemistry in the greater Philadelphia area. If you have a news item for this column, send it by email to philcatalyst@aol.com or by mail to the Philadelphia Section ACS office.

Philadelphia Section, American Chemical Society

Short Course

Principles of Bioprocess Engineering

When: 8:30 AM – 12:00 PM
(3 successive Saturdays)
January 7th, 14th & 21st, 2006

Cost: \$750 (includes text and coffee breaks)

Other details: PhilaACS@aol.com

Continued from page 125

arrays – depending upon derivatives used and solution conditions. For this last binding mode, the nucleic acid serves as a template for the organization of a porphyrin assembly. These assemblies have been investigated *via* standard spectroscopic methods and, in addition, we have developed a new technique (resonance light scattering, RLS) for their identification and characterization. The mass action expression for porphyrin aggregate binding to DNA is similar to that for micelle

formation, and the kinetics of assembly formation is characterized by a three-stage profile (lag period, growth burst, slow approach to equilibrium). A non-conventional analysis involving time-dependent rate constants (“rate factors”) was developed for the kinetics of the assembly process. The resulting equations prove useful for treating data for a number of biological/pathological growth processes including biomineralization and the formation of protein aggregates characteristic of prion disease states.

Guidelines for Student Affiliate Chapters to Request Funds to attend National ACS Meetings

Undergraduate students from ACS Student Affiliate Chapters in the Philadelphia Section are encouraged to consider attending National Meetings of the American Chemical Society. In this regard, a limited amount of funding will be provided to chapters requesting sponsorship based on the following general guidelines.

- 1) First consideration will be given to student(s) who wish to attend a National Meeting of ACS to give a presentation (oral or poster). Students attending for other purposes, i.e., to receive an award or attend a specific workshop, etc., are also eligible to apply.
- 2) The student(s) must have requested support from their college or university (including department and/or advisor) to assist in defraying the travel costs. Please attach a copy of the correspondence.
- 3) The student(s) should have a clear idea of the benefits of attending the conference. Please attach a short paragraph from each student indicating which sessions, including workshops, etc., which the student plans to attend and why these sessions will help them obtain their professional goals.

All applications must include an itemized list of the projected costs of the trip, i.e. registration, airfare, train or car expenses, hotel, etc., and indicate which of these costs (if any) are being provided by other sources.

An application for travel support can be made at any time to the Philadelphia Section, but for full consideration, the application must be received by the section office by January 31st for the Spring meeting and May 31st for the Fall meeting.

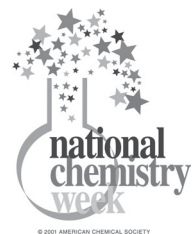
The Philadelphia Section will evaluate all applications received by the deadline and vote at the February meeting for the Spring ACS meeting applications and at the June meeting for the Fall ACS meeting applications. The amount of funding available may be influenced by the number of applications for a particular meeting and the costs of attending that meeting, i.e., where it is being held.

The successful applicant must submit a brief report highlighting the conference experience to the Philadelphia Section at the completion of the trip. The original receipts should also be submitted to the section office for reimbursement.

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The Philadelphia Section
of the
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Celebrates

National Chemistry Week



October 16 - 22, 2005

The Joy of Toys

- [Chemistry Poster Contest](#) for Students in Grades K–12 various locations throughout the Philadelphia Region
- [Graduate School Forum](#) – at Villanova University on November 7th
- [Expand Your Horizons – A Mini-Conference for 6th Grade Girls](#) at Chestnut Hill College on October 22nd from 9 AM–1:30 PM
- [Philadelphia Cares](#) – Philadelphia Schools, October 22nd from 8:30 AM–2:00 PM
- [St. Christopher's Hospital for Children](#) – monthly visits to perform demonstrations or hands-on activities for the children
- [Sally Ride Science Festival](#) – West Chester University on October 9th from 11:00 AM - 4:15 PM
- [Toys for Tots](#) – Please bring a new, unwrapped toy to the October Section meeting and we will see that it gets to the Philadelphia Toys for Tots Organization

571st BOARD OF DIRECTORS' MEETING Thursday, April 22nd, 2005 Chestnut Hill College Philadelphia, PA

This is the edited version of the minutes. A full copy of the minutes can be obtained from the Section Office.

Board Members Present: R. Acchione, B. Baker, C. J. Bruner, C. Carr, M. Cichowicz, E. Davis, A. DeMasi, D. Kilmartin, G. Preti, K. Shaginaw, J. Summers-Gates, T. Straub, V. Tortorelli, D. Voet.

Also: L. Harper, G. Cowperthwaite.

Excused: D. Cook, F. Goodson, G. Molander, J. Nikelly, G. Palladino.

Absent: C. Bentzley.

Chair-Elect Kilmartin called the meeting to order at 4:15 PM.

Minutes of March meeting were distributed previously and were approved unanimously.

COMMITTEE REPORTS:

National Chemistry Week

A. DeMasi reported that the theme for National Chemistry Week (NCW) is "The Joy of Toys."

Awards Committee

M. Cichowicz has filled two positions: Education: David Dalton, Temple, and Analytical Chemistry: Codrina Popescu. The Board approved these selections.

OFFICERS' REPORTS:

Chair-Elect

D. Kilmartin reported that Sally von Meyer from Abington School District will get the high school teaching award. The Merck undergraduate teaching award will go to R. Pasternack of Swarthmore. The Board approved the high school and Merck award candidates. The candidates will be nominated for the MARM educational awards. G. Arbuckle, the Section's Merck awardee last year is the E. Emmet Reid Awardee for this year.

Secretary

C. Carr reported on a Board member who has been absent for three consecutive meetings. A memo will be sent to the member as per the by-laws.

Treasurer

C. J. Bruner distributed the report previously. An Ullyot Fund line item has been added to the report but funds have not been transferred yet. The Board accepted the treasurer's report.

OTHER BUSINESS:

V. Tortorelli reported that the ACS MARM staff will make a site visit to Ursinus.

T. Straub reported that there were 17 high schools at the last Chemistry Olympiad, fewer than in previous years.

It was announced that Michelle Francl is organizing the Computers in Chemistry symposium in September.

K. Shaginaw announced that the last Expand Your Horizons meeting was quite successful with 107 girls and 48 volunteers.

Meeting was adjourned at 5:10 P.M.

Respectfully Submitted,
Carol Carr,
Secretary

572nd BOARD OF DIRECTORS' MEETING Thursday, May 19th, 2005 Chemical Heritage Foundation Philadelphia, PA

This is the edited version of the minutes. A full copy of the minutes can be obtained from the Section Office.

Board Members Present: C. J. Bruner, C. Carr, M. Cichowicz, D. Cook, A. DeMasi, D. Kilmartin, G. Molander, J. Summers-Gates, T. Straub, V. Tortorelli.

Also: L. Harper.

Excused: R. Acchione, B. Baker, F. Goodson, K. Shaginaw, J. Nikelly, G. Palladino, G. Preti, D. Voet.

Absent: C. Bentzley, E. Davis.

Chair Cook called the meeting to order at 4:10 PM.

Minutes of April meeting were distributed previously. A motion was made (DeMasi) and seconded (Tortorelli) to accept the minutes as corrected. Passed unanimously.

COMMITTEE REPORTS:

Nominations Committee

M. Cichowicz reported she has a partial slate.

MARM

V. Tortorelli reported that Michelle Gandy from ACS had made a site visit to Ursinus.

National Chemistry Week

A. DeMasi sent a letter to Merck asking for support for the Graduate School Forum.

OFFICERS' REPORTS:

Chair

D. Cook reported that a group will be formed to develop the Ullyot Lectureship.

Chair-Elect

D. Kilmartin asked for approval of the nominee for the Philadelphia Section Award: R. Pasternack. The Board approved this candidate.

Secretary

C. Carr reported on attendance at Board meetings.

Treasurer

The report was distributed after the meeting.

OTHER BUSINESS:

Sally Ride Science Festival

M. Cichowicz reported that the Festival organizers are looking for a local site and for organizations to co-sponsor the event. The Festival emphasizes getting girls involved in science, but not exclusively girls. West Chester University was approached to host the festival. The Festival has a street fair format, with various booths demonstrating and providing hands-on science experiments. The Board was enthusiastic about sponsoring the event. Melissa will investigate further how the Section can be involved.

Chemistry in the Classroom

D. Kilmartin reported that she has done 3 programs involving approximately 60 children in each. M. Cichowicz has also done 3 programs. Meeting was adjourned at 5:10 PM.

Respectfully Submitted,
Carol Carr
Secretary

CHEMICAL CONSULTANTS NETWORK

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Date & Time: Tuesday, October 18th, 2005. Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM.

Topic: *Upgrading Your Promotional Literature.*

Speaker: Martha Retallick, Western Sky Communications.

Abstract: Ms. Retallick will cover the hows and whys of upgrading your promotional literature. Both printed materials (e.g., business cards, stationery, and brochures) and Internet-based materials (e.g., websites, e-mail newsletters and blogs) will be discussed.

Location: The Cynwyd Club, 332 Trevor Lane, Bala Cynwyd, PA 19004.

Reservation: To make or cancel a dinner reservation, e-mail CCNReservations@aol.com or call the ACS office at 215-382-1589 (leave message on voicemail if necessary).

BIOGRAPHY

Dr. Robert F. Pasternack

Robert F. Pasternack received both his BA and PhD in Chemistry from Cornell University. He has had distinguished research and teaching careers at both Ithaca College, where he held the Charles A. Dana Endowed Professorship, and Swarthmore College, where he holds the Edmund Allen Endowed Professorship. He has received research grants from both the NSF and NIH. He is a Fellow of the American Institute of Chemists. He was the recipient of the University of Catania, Italy Commemorative Medal for Scientific Contributions, the American Institute of Chemists (Philadelphia Institute) Honor Scroll Award, and the ACS Award for Research at an Undergraduate Institution.

Research in Professor Pasternack's laboratory focuses on many areas within bioinorganic chemistry, especially porphyrins, supramolecular assemblies on biopolymer templates, kinetics of very rapid reactions in solution, the formation of amyloids from various proteins, and spectroscopic methods including Circular Dichroism and Resonance Light Scattering. Professor Pasternack has made seminal contributions to each of these research areas.

Porphyrim/Nucleic Acid interactions

Since 1982, Professor Pasternack's Swarthmore College laboratory has studied the dynamics of intercalation of porphyrins into DNA using circular dichroism spectroscopy and shown that the sign of the induced circular dichroism signal is a measure of intercalation (-) or groove binding (+). He has studied thermodynamics and kinetics of small molecule (porphyrin) interactions with DNA, their communication through the DNA molecule and their impact on DNA structure.

Supramolecular Assemblies

In 1994, Professor Pasternack observed huge bisignate circular dichroism signals on addition of salt to intercalated Porphyrim/Nucleic Acid systems and demonstrated that this effect is indicative of an extended helical array of porphyrins: an antenna effect.

Resonance Light Scattering

In 1995, while studying DNA and porphyrin aggregation with light scattering, Professor Pasternack discovered enhanced (3-6 orders of magnitude) Rayleigh scattering of aggregates at resonance, allowing the study of subnanomolar concentrations of aggregates. Stoichiometry of the aggregate can be determined from resonance light scattering as well. This technique can be used with existing fluorimeters and is now routinely employed in China, India, Brazil and other economically challenged countries in the Middle East to study the aggregation of potential drugs.

Kinetics and Amyloid formation

In 1998, Professor Pasternack and his colleagues observed that Porphyrim/Nucleic Acid aggregation display kinetics that suggest nucleation, and worked out a closed form equation to fit these data: an autocatalytic model that also fits data on actin, hemozoin and other aggregation phenomena, some of which have been in the literature for 25 years and never fit before. Pasternack and his students have demonstrated that this mathematical form also fits kinetic data involving prion aggregation and the formation of amyloids. They have studied insulin amyloid formation, using this as a model system to study the kinetics and thermo-dynamics of this general aggregation process, finding that some metalloporphyrins inhibit amyloid gel formation in a metal specific manner.

Speaker Abstract

Supramolecular Arrays of Porphyrins on Biopolymer Templates – A Paradigm for Biological Assembly Processes

We will describe our investigations of porphyrin interactions with nucleic acids involving the use of absorption, fluorescence, and circular dichroism (CD) spectroscopies. These studies demonstrate that porphyrin chromophores can bind to DNA in a number of ways - intercalation, external groove binding without aggregation, and formation of extended

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