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# *the Catalyst*

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February 2007



**February Speaker  
Dr. John R. Collier**

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# the Catalyst

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## ADVANCE NOTICE

### MARCH MEETING

Edgar Fahs Smith Lecture

Dr. David Tirrell

California Institute of Technology

University of Pennsylvania

THURSDAY, March 8<sup>th</sup>, 2007 (note this is the second Thursday)

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

## From The Chair

### David Cichowicz



Happy February everyone! As I write this column, we have yet to experience winter. In fact, it is 60° outside and I can only hope that as the February meeting approaches we will not be paying the price for a warm December and beginning of January.

This month's meeting will be held at my *Alma mater* Saint Joseph's University. Dr. John R. Collier from Florida State University will be speaking on the making of Scotch based on his experience at the Bruichladdich Distillery on Islay in Scotland and it should be a most interesting talk. Everyone to whom I have mentioned the talk has asked if there will be samples available. All I can say is come to the talk and find out!

In making the arrangement for this meeting I could not help reflecting on my days at Saint Joseph's and the influence that my Chemistry teachers had on me. To this day I remain in touch with many of them. Unfortunately, the one who influenced me most is no longer with us. I had the honor and privilege of taking classes with and doing research for Dr. George Nelson. "Captain Organic," as he was affectionately known to us, led me through the perils of organic and advanced organic chemistry lectures and laboratories. He had a real talent for making the subject material understandable and interesting.

Dr. Nelson's sophomore organic lab focused on the isolation of natural products like caffeine from tea leaves, eugenol from cloves, and cholesterol from gallstones. We also synthesized materials like sulfanilamide and then tested their effect on bacteria. It was during this period that I began my interest in biomolecules, leading to my career choice of biochemistry.

Dr. Nelson is also responsible for creating a flock of chemistry teachers who now all

ask the question "Well, what do you think?" as this was his favorite response to student questions. He helped us to analyze a problem and formulate a reasonable solution to it. Many of us now use this same approach with our students.

Finally, I will always be grateful to Dr. Nelson for arranging us alphabetically in lab. That placed me next to Melissa Betz, who is now my loving wife of 27 years!

See you on Hawk Hill in February and remember "The Hawk will never die!"

## NEWS ATOMS

Several Rohm and Haas employees won the annual Otto Haas Awards, given for technical excellence and scientific achievement. Recipients include senior scientists **André Egli**, **Griffin Gappert**, and **W. Jay Gregory**; distinguished engineers **James Elder** and **Robert Post**; along with **A. Scott Lawing**, applications engineering manager; **Dennis Stack**, distinguished scientist; and **Frank Stubbs**, lab manager.

Additional Otto Haas awards were presented to **Ted Tysak**, principal scientist; **Gerald B. Wayton**, project chemist; **Gregory P. Muldowney**, engineering research manager; and **James Thackeray**, technology fellow.

## DEATHS

**David Kritchevsky**, nutritional biochemist at Wistar Institute, November 20<sup>th</sup> at 86. He joined Wistar in 1957 and was associate director from 1975 to 1991. He was professor of biochemistry at the University of Pennsylvania medical school as well as its school of veterinary medicine, and also taught at the former Medical College of Pennsylvania.

Kritchevsky was born in Russia and educated in the United States. Before joining Wistar Institute he was a research scientist at the University of California at Berkeley as well as Lederle Laboratories. His major fields of contribution at Wistar were cholesterol and cancer research and he authored hundreds of technical articles. He also lectured in many countries in Europe, Africa and Asia. He was a 65-year member of ACS.

He was past president of the American Society of Nutritional Sciences and the Society for Experimental Biology and Medicine. Kritchevsky received several awards including the Auenbrugger medal of the University of Graz, a special recognition award of the American Heart Association's council on atherosclerosis, and the research achievement award of the American Institute of Cancer Research. The American Society of Nutrition announced in 2006 the establishment of the David Kritchevsky Career Achievement Award in Nutrition, to be awarded annually.

**John C. Fogg, Jr.**, chemical engineer with DuPont, December 5<sup>th</sup> at 87. He worked at DuPont's experimental station in Wilmington for 41 years, and served as deacon and Sunday school teacher at his church.

## SPEAKER ABSTRACT AND BIOGRAPHY

Dr. John R. Collier, Professor  
Chemical and Biomedical Engineering  
Florida State University/Florida  
Agricultural and Mechanical University

**Abstract:** *Making Scotch: Chemistry, Engineering, and Education.* During four successive summers my wife and I have led students, faculty, and alumni through a hands-on whisky-making class

at the Bruichladdich Distillery on Islay in Scotland. The undergraduate and graduate students who participated in each class earned academic credit either for the required senior laboratory or as a special topics course. In the future, the program will be broadened to include other institutions and academic disciplines. One master's thesis, a current doctoral dissertation, various undergraduate projects, classroom examples, and two grants have resulted from this involvement. For the master's thesis, samples were taken periodically



during the two stages of distillation. These samples, which were analyzed by GC/MS and HPLC, identified ethyl acetate and acetal as two minor constituents that decreased in the transformation of the distillate from the first cut (foreshots) to the second cut (spirits, i.e., product). HYSYS<sup>®</sup> software was adapted to the batch distillation processes using the samples for parameterization and validation.

The pot stills were modeled as having equivalent trays and internal reflux from condensation of the less volatile components on the copper walls of the stills. The PhD dissertation project relates to the physical and chemical interactions between the toasted, charred, and previously used casks and the maturing whisky. A team of four senior Chemical Engineering students won first place in green engineering for a project in the required design class on potential usage of the CO<sub>2</sub> generated during fermentation. The effect of transforming the boiling phenomena in the wash still (1st stage) from nucleate to film boiling to break the head is a good example of mechanisms for system responses. The enhancement of flavor by phase separation of these compounds and others formed during maturation caused by addition of water to whisky is also discussed in classes.

**Biography:** John R. Collier is a Professor in the Chemical and Biomedical Engineering Department of the FAMU-FSU College of Engineering at Florida State University in Tallahassee, Florida. His areas of specialization are Polymers, Textiles, Fluid Flow, and Whisky. He received his BS in Chemical Engineering from South Dakota School of Mines in 1961, his MS in Chemical Engineering from the University of Illinois in 1962 and his PhD in Polymer Science & Engineering from Case Institute in 1966. He became a Registered Professional Engineer in 1972. Dr. Collier has also spent time at the University of Tennessee, Knoxville, Louisiana State University and Ohio University and served as a Sigma Xi Distinguished Lecturer.

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## FEBRUARY MEETING

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### THE PHILADELPHIA SECTION, AMERICAN CHEMICAL SOCIETY

presents

#### *Making Scotch: Chemistry, Engineering and Education*

Dr. John R. Collier

Professor

Chemical and Biomedical Engineering

Florida State University/Florida Agricultural and Mechanical University

**Thursday, February 15<sup>th</sup>, 2007**

**7:00 PM**

Fifth Floor, Haub Executive Center

Saint Joseph's University

5600 City Avenue

Philadelphia, PA

The lecture is free

Dinner at 6:00 PM: \$25.00; students with reservation and ID: \$13.00.

**DINNER RESERVATIONS** should be made by calling Mrs. Libby Harper at the Section Office, (215) 382-1589, by **5:00 PM on Thursday, February 8<sup>th</sup>**. Cancellations, if necessary, cannot be accepted after **NOON on Tuesday, February 13<sup>th</sup>**. **UNCANCELED RESERVATIONS WILL BE BILLED.**

**PARKING** is available at the Haub Executive Center. **DIRECTIONS** may be found at [http://www.sju.edu/sjudirections\\_map.html](http://www.sju.edu/sjudirections_map.html). **MAP** at [http://www.sju.edu/sju/campus\\_map2/full\\_size\\_map.pdf](http://www.sju.edu/sju/campus_map2/full_size_map.pdf).

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

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## SCIENCE AND GOVERNMENT AFFAIRS

Every year Congress makes important decisions which affect American scientific enterprise, the environment, emerging technologies and science education. However, less than 5% of our 535 federal legislators have backgrounds in science or engineering. Legislation profoundly influences the careers of many chemists. Changes in science funding priorities will benefit some disciplines, expanding research and promoting employment. Other disciplines will be disadvantaged; funding will be diminished as will employment opportunities.

The American Chemical Society believes that America's scientific enterprise needs advocates who will speak for the scientific community to our legislators in Washington and the Society has been a non-partisan advocate on behalf of science for over 10 years. The Philadelphia Section has formed a Government Affairs Committee to strengthen the Society's program of advocacy and to help Section members to become advocates.

The Committee's objectives are to increase the Section membership's awareness of the impact that legislation and government regulations have on science and on our careers, to increase member participation in the Legislative Action Network, to improve liaison with our federal and state representatives and to provide Section members with opportunities to meet with their legislators locally on important issues.

Members who wish to become more involved in advocacy and government affairs should become members of the GAC. Government affairs are a new, but very important area of career development. Advocacy by chemists on behalf of chemistry is becoming increasingly important to the enterprise of chemistry and to science generally.

Any Society member can easily impact national issues integral to the chemical enterprise by becoming a member of the Legislative Action Network. The Network is the Society's electronic grass roots program for updating members on federal legislation

and facilitating contact with members of Congress. The Network focuses primarily on federal R&D policy and science education, but also addresses competitiveness, environment and workplace issues. Network members receive Monthly Legislative Bulletins—email updates of key federal issues. Several times per year, network members receive Legislative Action Alerts urging them to contact their legislators by email on issues of concern to the Society.

Members who are interested in the Government Affairs Committee or the Legislative Action Network should contact Alan Heldon at [alanheldon@comcast.net](mailto:alanheldon@comcast.net) and 215-657-5606 or Libby Harper at [PhilaACS@aol.com](mailto:PhilaACS@aol.com) and 215-382-1589.

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## BOOK REVIEW

*Modern Rhodium-Catalyzed Organic Reactions*, ed. P. Andrew Evans. 498 pages, case bound, 6 3/4 by 9 3/4 inches, Wiley-VCH Verlag, Weinheimer, Germany, 2005. ISBN 3-527-30683-6, \$185.

In recent years the use of transition metal-catalysts in organic synthesis has changed considerably. This book focuses on rhodium-catalyzed organic reactions. Many different authors were selected to write some 19 chapters on various reactions in this field.

Topics covered include rhodium-catalyzed asymmetric hydrogenation, hydroboration, asymmetric conjugate addition, olefin isomerization, carbonylation reactions, carbon-carbon bond formation, carbocyclization processes, alderene reactions, allylic substitution reactions, oxidative amination, and oxonium and ammonium ylides formation, among others.

Each topic begins with an introduction and background of previous work in the field. Then follows an extensive analysis of the current science and the roles played by rhodium catalysis. Every chapter concludes with a detailed bibliography.

The growing interest in rhodium-catalyzed reactions is reflected in the quickly expanding literature. This area of organic chemistry is of particular interest to the pharmaceutical and agrochemical industries. —Alan Warren



## THE MEMBERS' CORNER

*Editor's Note: Members of the ACS have varied careers, often in areas that you might not expect. The Philadelphia Section encourages all of its members to share their experiences with us in this forum. In the following essay, Mr. Atwood Davis of Apex Companies, LLC in Malvern, PA, writes about his work.*

A couple of years ago, I stood before a gathering of 50 PennDOT snowplow operators whom I was training to be environmental management system (EMS) internal auditors on my 50<sup>th</sup> birthday and a thought crossed my mind. How did my career bring me here as I passed the half-century?

Graduating from college in the tight 1970s job market, I was privileged to get a job in my "dream" field of environmental chemistry. The next seven years were devoted to environmental studies of rivers and estuaries with the nation's oldest scientific institution performing analyses of water, sediments and biota to evaluate ecosystem health. With the financial demands of a growing family, it was time to move on. Next, as a subcontractor to the USEPA assessing "Superfund" sites, I performed the (brain-numbing) validation of field sampling data. As my company's contract came to an end, there was no better time to expand my horizons. I was hired by an environmental engineering firm, just as the private sector began to perform their own investigation and remediation activities with government oversight. My work transformed to ensuring that results generated in our studies would be accepted by regulators. My responsibilities evolved into management of staff, agency negotiations, and working with the groups known as Potentially Responsible Parties. Along the way, there were promotions, company mergers and buy-outs, and a job change that brought me into upper management as a company officer and Corporate Director of Quality. All of which led to frustration and, eventually, soul searching about what I really enjoyed doing the most... working with clients and getting back to my roots in environmental services.

I now work for a full-service environmental firm, where I consult in establishing environ-

mental management systems. I help my clients evaluate the environmental "foot print" of their organization. From there, I assist them in identifying the areas where better control can improve their environmental performance, improve their relations with the regulators, improve their community standing, and actually improve their overall organization performance and profit. I continue to use my chemistry background to evaluate their environmental issues and my management background to design systems to improve and track environmental performance. I have helped PennDOT design, implement and maintain an EMS that encompasses their entire state-wide road maintenance programs. No other DOT in the US has implemented an EMS of this magnitude encompassing all maintenance personnel and all facilities. They have achieved 11 Maintenance District ISO 14001 registrations and are actively working to improve environmental performance in road salt usage and management, erosion and sedimentation control, and facility operations. I am proud of their achievement and proud of my contributions to their success.

After more than 30 years of membership in ACS and no longer working in the "chemistry" field, yes, I am a chemist and I use my experience to help my clients improve their business. My ACS membership benefits me by keeping me abreast of issues in our field, fairly reports unbiased industry and government perspectives, and helps me network with other professionals.

How did I get here? With some hard work, a few career twists and turns, and a little luck. And now, just the far side of 50, content with life, happy with work, it's been a heck of a ride and I cannot wait to see what happens next.

*Tell us about your work and how you use your chemistry expertise. Contact the Editor at: [PhilaACS@aol.com](mailto:PhilaACS@aol.com)*

## SURPRISE

our editor by calling and saying you appreciate the quality and content of our newsletter. Our editor works hard to maintain a publication of interest to our membership. Oh, and by the way you could also give credit to our advertisers who financially support us.

## CHEMICAL CONSULTANTS NETWORK

Visit our web page at [www.chemconsultants.org](http://www.chemconsultants.org)

### *Some Learnings of CCN Consultants: The Good, the Bad, and the Ugly*

**Date & Time:** February 7<sup>th</sup>, 2007 at the Cynwyd Club, Bala Cynwyd, PA; Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM.

**Abstract:** Some of our own members will share their experiences. They will focus on what they have learned as they have developed their consulting businesses. This will be an interactive program with time allocated for an in-depth dialogue on the chemical consulting business.

**Reservation:** To make or cancel a dinner reservation, email [CCNReservations@aol.com](mailto:CCNReservations@aol.com) or call the ACS office at (215) 382-1589 by 5:00 PM February 1<sup>st</sup> for the discounted price of \$25. Late reservations and walk-ins subject to availability.

## MID-ATLANTIC REGIONAL MEETING (MARM) VOLUNTEER OPPORTUNITY

The Philadelphia Section is sponsoring the 2007 Mid Atlantic Regional Meeting (MARM 2007). The effort is under the leadership of Vic Tortorelli and Sharon Haynie. The operating committee is now being formed and there are many opportunities to get involved in this exciting venture. We are particularly looking for individuals to help with fund-raising.

Want to become active in the Section and don't know how? Have a skill or talent you want to make use of? Willing to participate in or take care of just one project? This is the perfect opportunity to get involved and help yourself to the powerful networking opportunities provided by a Regional Meeting!

Most meetings of the operating committee are conducted by teleconference.

If you are interested just email or call Mrs. Libby Harper at the Philadelphia Section Office: [PhilaACS@aol.com](mailto:PhilaACS@aol.com) or 215-382-1589. See our website: <http://marmacs.org/>

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## NOMINATIONS INVITED FOR THE PHILADELPHIA SECTION, AMERICAN CHEMICAL SOCIETY, AWARD

The Philadelphia Section invites its members and regional and topical groups to consider recommending candidate(s) for the Philadelphia Section Award.

This Award recognizes an individual, "who, by conspicuous scientific achievement through research, has made important contributions to man's knowledge and thereby aided the public appreciation of the profession." Any member of the American Chemical Society, Philadelphia Section, may be nominated for this award. Recent awardees include: P. Walsh (University of Pennsylvania 2006), R. Pasternack (Swarthmore College 2005), M. Therien (University of Pennsylvania 2004).

### INSTRUCTIONS FOR SUBMITTING NOMINATION

(1) The nominator should provide detailed biographical data of the nominee, showing educational and employment data, a list of publications and a record of other accomplishments pertinent to consideration for this award.

(2) One or two seconding letters (at least one of which should be from a person in an organization other than that of the nominee) should be requested in support of the nomination.

(3) Nominators and seconders should be identified with addresses and telephone numbers so that they can be contacted, if necessary, for additional information.

(4) Unsuccessful nominees from previous years may be renominated. In fairness to the nominee, however, renominations must be accompanied by an updating of the nominee's biographical data and list of accomplishments in order to make the nomination competitive. Unsuccessful nominees who have been considered three years in a row should not be renominated for the fourth year in succession without prior consultation by the nominator with the chair of the Awards Committee.

Nomination forms are available from the Section Office. Contact the Administrative Secretary, Mrs. Libby Harper at: Philadelphia Section, ACS, Department of Chemistry, University of Pennsylvania, Philadelphia, PA 19104-6323, (215) 382-1589; email PhilaACS@aol.com.

The completed packet of nomination materials may be emailed to PhilaACS@aol.com or nine COMPLETE SETS may be sent by April 3<sup>rd</sup>, 2007 to Mrs. Ella L. Davis, Chair, Awards Committee, at the Section Office address above.

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## GOLF COURSE HEALTH RISKS

From *Environmental Science & Technology*

When golfers in the northeastern United States dream of returning to those greens and fairways next spring, they can have some reassurance that inhaling pesticides applied to the turf does not pose a serious human health threat, a new study suggests. Cornell University's Douglas A. Haith and Rebecca R. Murphy report results of the first systematic study of inhalation health risk for 15 pesticides typically applied to golf courses in the northeast.

Their report, scheduled for the February 1<sup>st</sup> issue of ACS' *Environmental Science & Technology*, a semi-monthly journal, concludes that the risk of cancer and other long-term health effects from inhaling vapors from the pesticides is "minimal." The researchers note, however, that a complete risk assessment for the pesticides would have to include ingestion and skin contact — intake routes not considered in their study.

The scientists also point out that the pesticides could pose significant health risks at other locations in the United States, where golfers may be exposed to higher concentrations of pesticide vapors due to warmer temperatures and lower wind speeds.

## FDA'S FREE EMAIL LISTS

**FDA Recalls** <<http://list.nih.gov/cgi-bin/wa?SUBED1=fda-recalls-l&A=1>>—Receive press releases about recalls of FDA-regulated products. (This list only covers Class I (life-threatening) recalls. A complete listing of recalls can be found on the FDA Enforcement Report /opacom/Enforce.html.)

**FDA Newswire** <<http://list.nih.gov/cgi-bin/wa?SUBED1=fdanewswire&A=1>>—Receive links to FDA press releases and other announcements when the agency issues them.

**FDA News Digest** <<http://list.nih.gov/archives/fda-newsdigest-l.html>>—A weekly listing of current FDA activities, with links to press releases, recall information, and more.

**MedWatch** <[medwatch/elist.htm](http://medwatch/elist.htm)>—Receive immediate notification by email of safety alerts on medical care products [drugs, biologics, medical devices, dietary supplements] and cosmetics regulated by the FDA.

**FDA Consumer** <<http://list.nih.gov/archives/fda-consumer-l.html>>—A summary of and links to articles in the latest issue of FDA's magazine.

**FDA HIV/AIDS** <[oashi/aids/email.html](http://oashi/aids/email.html)>—FDA HIV/AIDS related information including product approvals, significant labeling changes, safety warnings, notices of upcoming public meetings and alerts to proposed regulatory guidances for comment.

**Bioterrorism Act** <<http://list.nih.gov/cgi-bin/wa?SUBED1=fda-bioterrorismact&A=1>>—Updates on FDA activities related to the Public Health Security and Bioterrorism Preparedness and Response Act of 2002.

**Center for Drug Evaluation and Research** <[cder/cdernew/listserv.html](http://cder/cdernew/listserv.html)>—Daily or weekly notices of new additions to the CDER Website.

**FDA Drug Information** <<http://list.nih.gov/cgi-bin/wa?SUBED1=fda-druginfo&A=1>>—Sign up to receive drug information updates, including hot topics, frequently asked questions, and more.

**Medicines in My Home** <[https://list.nih.gov/archives/medicines-in-my-home.html](http://list.nih.gov/archives/medicines-in-my-home.html)>

—Notices of new additions to the "Medicines in My Home" program Web site.

**FDA Oncology** <<https://list.nih.gov/cgi-bin/wa?SUBED1=fda-oncology&A=1>>—Receive updates on drug approvals and other information from FDA's Office of Oncology Drug Products.

**CDER Consumer Education** <<http://list.nih.gov/archives/fda-cder-consumer-ed.html>>—Receive notice of new consumer-oriented FDA postings related to the safe use of prescription and over-the-counter medicines.

**Center for Devices and Radiological Health** <[cdrh/subscribe.html](http://cdrh/subscribe.html)>—Separate lists for CDHR news, medical device alerts, mammography, single-use devices, and CDHR TV broadcasts.

**FDA Patient Safety News** <<http://list.nih.gov/cgi-bin/wa?SUBED1=fda-psnews&A=1>>—Notifies subscribers when new programs in the FDA Patient Safety News series are available for viewing. FDA Patient Safety News is a televised series for health care personnel featuring information on new drugs, biologics and medical devices, as well as safety notifications and ways to protect patients when using medical products.

**Dietary Supplements/Food Labeling Electronic Newsletter** <<http://www.foodsafety.gov/~dms/infonet.html>>—Information and updates on dietary supplements, food labeling and nutrition issues.

**Food Safety Electronic Information Networks** <<http://www.foodsafety.gov/~dms/infonet.html>>—Lists for food safety educators and for other professionals interested in food safety issues.

**Center for Veterinary Medicine** <[cvm/CVMelList.htm](http://cvm/CVMelList.htm)>—Subscribe to lists for CVM Updates and weekly updates of information posted to the CVM Website.

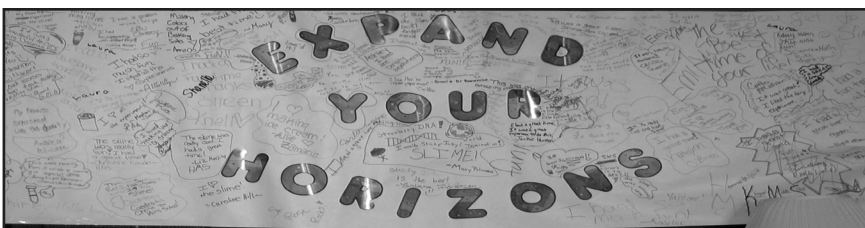
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## DELAWARE VALLEY SCIENCE FAIRS

The Delaware Valley Regional Science Fairs start in February and run until March, culminating in the Delaware Valley Science Fair April 2-5 at the Valley Forge Convention Center. Judges and mentors are always needed. Check the website [www.dvsf.org](http://www.dvsf.org) for more information and to volunteer.



## EXPAND YOUR HORIZONS



Pictures from the National Chemistry Week "Expand Your Horizons" program for sixth-grade girls held at Chestnut Hill College on October 21<sup>st</sup>.

## Directory of Services

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*The Catalyst* readership is greater Philadelphia's largest source for chemical and biochemical personnel. *The Catalyst* reaches more than 5,400 readers each month.

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## PHILADELPHIA SECTION, ACS 2007 CALENDAR OF EVENTS

Feb. 6	Madeleine Jacobs, CEO, ACS <i>Ten Lessons from a Lifetime of Communicating Science</i>	Berger Auditorium, Skirkanich Hall University of Pennsylvania Philadelphia, PA
Feb. 7	Chemical Consultants Network <i>Some Learnings of CCN Consultants—The Good, the Bad, and the Ugly</i>	Cynwyd Club Bala Cynwyd, PA www.chemconsultants.org
Feb. 12	Delaware Valley Mass Spectrometry Group: Jing-Tao Wu and Chris Petucci <i>Qualitative and Quantitative DART/MS</i>	Villanova University Villanova, PA http://science.widener.edu/svb/msdg/
Feb. 15	<b>Dr. John R. Collier, Florida State Univ. Making Scotch: Chemistry, Engineering and Education</b>	<b>Saint Joseph's University Philadelphia, PA</b>
Feb. 22	AIChE: Tour of Candy Factory (Valentine's Day Theme)	http://aiche-philadelphia.org/events/events.html
Feb. 22	Philadelphia Organic Chemists Club Alison Frontier, University of Rochester	TBA www.chem.temple.edu/main/pocc/default2.html
March 8 (2 <sup>nd</sup> Thurs.)	<b>Edgar Fahs Smith Lecture David Tirrell, California Institute of Technology</b>	<b>University of Pennsylvania Philadelphia, PA</b>
April 19	<b>Scholastic Achievement Awards USDA <i>The Chemistry of Everyday Food</i></b>	<b>TBA</b>
May 16-18	ACS Middle Atlantic Regional Meeting (MARM)	Ursinus College Collegeville, PA
May 17	<b>Teaching Awards at MARM Bassam Shakhshiri, U. of Wisconsin</b>	<b>Ursinus College Collegeville, PA</b>
June 21	<b>Fifty-Year Member Recognition</b>	<b>TBA</b>
Sept. 20	<b>Chemistry of Scents</b>	<b>TBA</b>
Oct. 18	<b>Philadelphia Section Award</b>	<b>TBA</b>
Nov. 15	<b>Ulliyot Lecture: Shirley Tilghman Princeton University</b>	<b>Chemical Heritage Foundation Philadelphia, PA</b>
Dec. 15	<b>Herb Bassow Memorial Chemistry Demonstration and Hands-on Program</b>	<b>La Salle University Philadelphia, PA</b>



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