



THE DAYTON SECTION

Fostering scientific education and research and promoting public understanding of science

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BULLETIN

Springtime in Paris Edition 2008

Meetings and Events

May 6: *Chemistry in Comics* by Al Hazari

May 22: Patterson Awards for Achievements in High School Chemistry with Keynote Address, *Finding the Right Chemistry for Discovery* by Prof. Tim Long, Virginia Tech

May 23: *Taking Advantage of Intermolecular Interactions* by Prof. Tim Long, Virginia Tech — Joint Seminar with Wright State University

Section News and Other Stuff

- Report from Council — pages 5-6
- Past Meetings — pages 6-9
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DATE MATERIAL - MEETING ANNOUNCEMENT - DO NOT DELAY

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American Chemical Society
Dayton Section
Eugene M. Kettering Center
140 East Monument Avenue
Dayton, OH 45402-1267

UPCOMING MEETING

MAY 6

CHEMISTRY IN COMICS

Venue: Oelman Hall, Room 449, Wright State University

Social: 3:30–4:00 PM

Talk: 4:00–5:00 PM

Speaker: Dr. Al Hazari, Chemistry Dept., The University of Tennessee

Times and venue are tentative. Any changes will be sent via email and posted on DaytonACS.org.

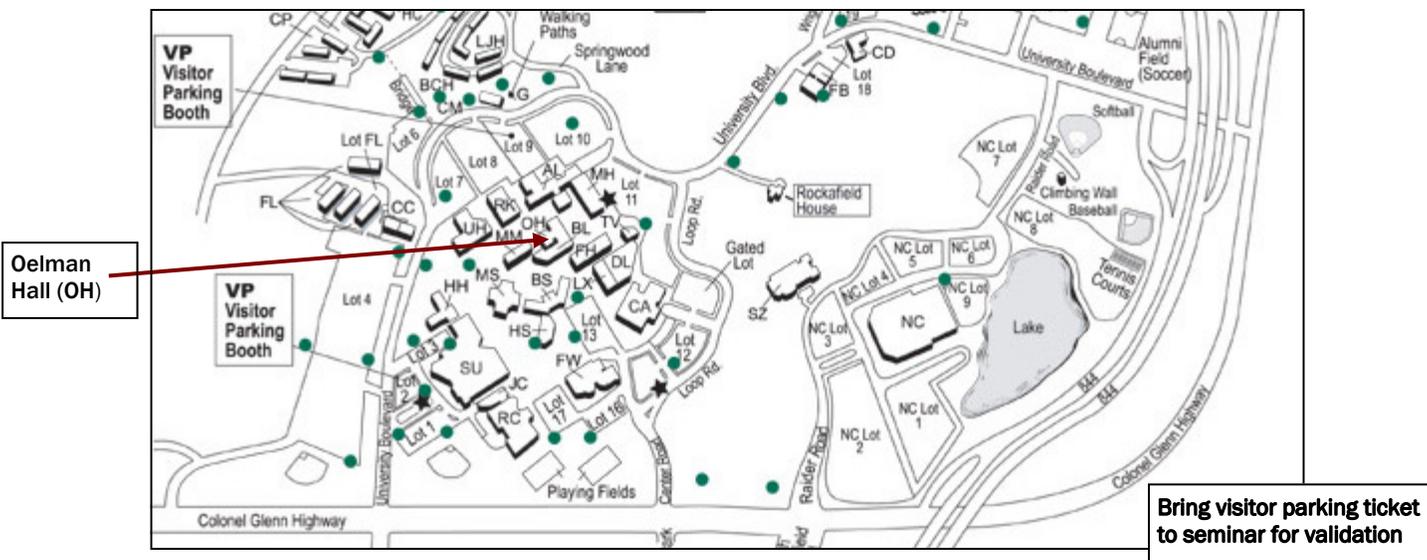


Abstract

Just as humor is most entertaining when its theme fits the topic of conversation, so too comics that depict chemistry situations and/or materials are most effective as a teaching strategy when they reinforce a topic or concept students are currently studying. A variety of chemistry comics will be presented, and the learning situations into which they best fit will be discussed.

About the Speaker

A 2000 recipient of the ACS Helen M. Free Award for Public Outreach and the 2002 Science Educator of the Year awardee from the Tennessee Science Teachers Association, Al Hazari, a native of Lebanon, attended the American University in Cairo and received a B.S. degree in chemistry in 1968. He also holds an M.S. degree in chemistry (1972) from Youngstown State University (Ohio) and a doctorate in science education (1997) from the University of Tennessee, Knoxville. From 1968 to 1971, Al taught middle and high school science, math, and chemistry here and overseas. He was a chemistry instructor and lab coordinator at Tougaloo College in Jackson, Mississippi, from 1973-76. This was followed by a 15-year stint as instructor in chemistry and director of labs at the University of Mississippi in Oxford. In 1991, he joined the University of Tennessee, Knoxville Chemistry Department as director of the undergraduate chemistry labs. In addition to his current appointment, Al is also an adjunct assistant professor of science education and regularly teaches science methods courses in the College of Education. Al has always been very excited about sharing his scientific and chemical knowledge with K-16 students and teachers. He has received many grants from government agencies, industry, and various organizations to improve undergraduate chemistry lab instruction and also to support precollege hands-on science and chemistry school visits and teacher workshops. Al is a very active member of the East Tennessee Section of the American Chemical Society. He is an affiliate of the Institute for Chemical Education and a member of the National and the Tennessee Science Teachers Associations. He has made several presentations and given talks to local, regional, and national chemical and science education conferences.



UPCOMING MEETING

MAY 22

PATTERSON AWARDS FOR ACHIEVEMENTS IN HIGH SCHOOL CHEMISTRY

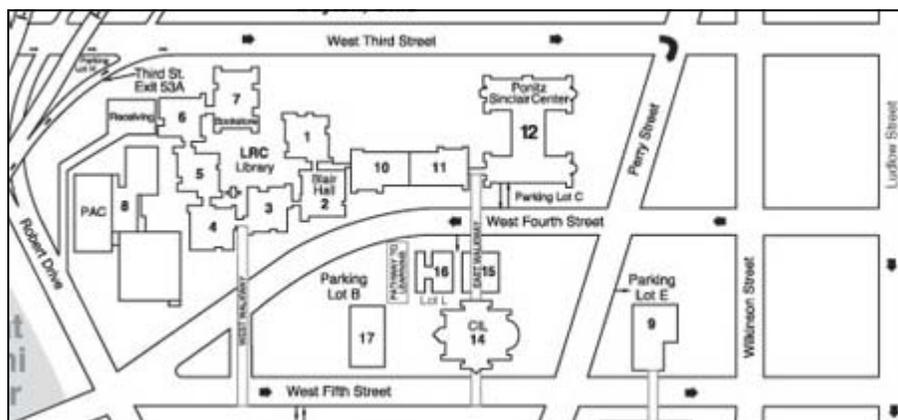
- Venue: Sinclair Community College, 444 West Third St., Dayton; Bldg. 12, Rm. 127
(Park in garage under Bldg. 12 off Fourth St. Get a pass at the meeting.)
- Social: 5:45–6:15 PM
- Awards: 6:15–6:30 PM
- Keynote Address: 6:30–7:00 PM *Finding the Right Chemistry for Discovery*
- Keynote Speaker: Professor Timothy E. Long, Department of Chemistry, Virginia Tech
(please see next page for speakers bio)

History of the Award

Originally established by Charles A. Thomas and Carroll A. Hochwalt, former Dayton chemists and Monsanto researchers, the top chemistry students in the area have been recognized under the auspices of the Dayton Section since 1943. In 1990, the family of the late Austin M. Patterson, also a prominent Dayton chemist, assumed sponsorship. All area high school students are invited to take an examination and the highest scoring applicants are then invited to write essays, which form the basis of the final judging. (These finalists, although only two from one school, are also invited to take the Chemistry Olympiad Exam.) In addition, teachers of the prizewinners receive awards and the top scoring student from each high school is awarded a plaque. The top three essayists are awarded first, second, and third prizes of \$1000, \$500, and \$250, respectively.

The finalists are:	Neel Patel*	Centerville High School
	Sean Behm	Centerville High School
	Paul Hoehn	Centerville High School
	Daniel Jacobs*	Miami Valley High School
	Tiantian Zhang*	Oakwood High School
	Julia Sizek*	Oakwood High School
	Jennifer Ward	Centerville High School
	Thomas, Nathan	Oakwood High School
	Danny Glaser-Garbrick	Centerville High School
	Maya Hughes	Oakwood High School
	Luke Sobota*	Beavercreek High School
	Tiffany Wang	Centerville High School
	Ziyang Xu	Centerville High School

Asterisks denote students who are invited to take the Chemistry Olympiad Exam along with Jonathan Lin (Centerville), Jeff Graetz (Miami Valley), and Kyle Hatton (Northmont).



UPCOMING MEETING

MAY 23

TAKING ADVANTAGE OF INTERMOLECULAR INTERACTIONS

A Joint Seminar with the Chemistry Department at Wright State University

Venue: Brehm Laboratories, Rm. 165, WSU (see map below)

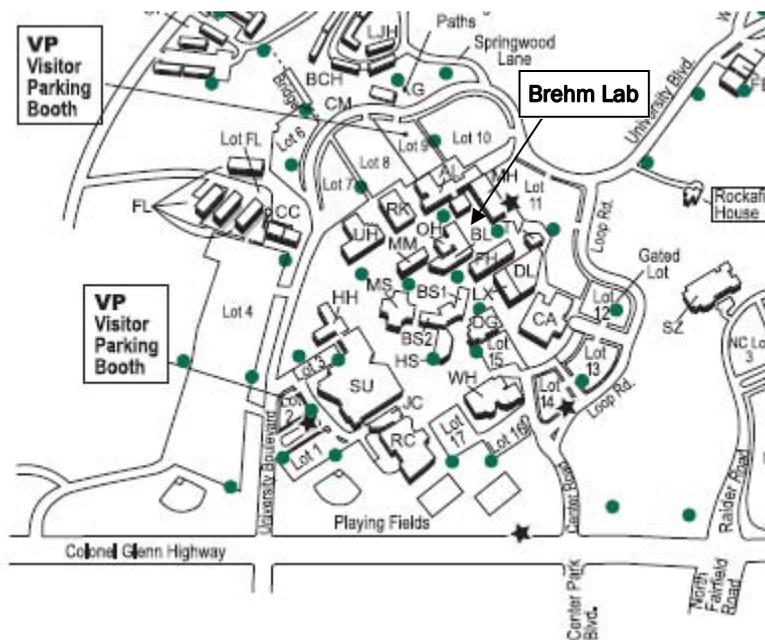
Time: 3:30 PM (but come early for refreshments)

Speaker: Professor Timothy E. Long, Department of Chemistry, Virginia Tech



Biographical Sketch: Professor Long received degrees in Chemistry from St. Bonaventure University (B.S., 1983) and from Virginia Tech (Ph.D., 1987). After graduate school he spent several years in industry working as a Research Chemist at Eastman (Kodak/Chemical) Company. In 1998, he returned to Virginia Tech on an Assistant Professor faculty appointment, where he continued to move up the academic ranks and is currently serving as a Professor of Chemistry. His honors include Faculty Awards from IBM (2002), the 3M Company (2000-2002) and GenCorp Co. (1999). He was the chair-elect for the ACS Division of Polymer Chemistry (2002-2005). He has 25 patents and over 225 publications. He has been invited to present over 50 lectures worldwide and has authored over 15 chapters/reviews/books.

Abstract: This seminar will highlight the roles of both electrostatic and hydrogen-bonding interactions in the formation of nanoscale fibers using electrospinning. Recent efforts have focused on the formation of tailored surfactants and their ability to form fibers during both solution and melt electrospinning. Complementary hydrogen-bonding in well defined block copolymers has enabled novel families of ion containing polymers and the introduction of ionic sites using molecular recognition. In addition to stable free radical polymerization methodologies, this lecture will also highlight the potential of step-growth polymerization as a means to prepare ion containing segmented copolymers which offer applications in gene delivery and water soluble elastomeric coatings for various membrane applications.



REPORT FROM COUNCIL

As I report to you on the goings on at Council at the 235th Meeting of the ACS, I note that some things never change. For example, there were again no tables at the Council breakfast and no Councilor sprouted a third hand with which to stuff pastry into his mouth while the other two held a plate and cup of coffee. Another example is that I again picked the two candidates for ACS president — Joseph S. Francisco and Josef Michl — from the slate of four nominees. Coincidentally, or perhaps not, one of the nominees in his address to Council promised that if he is elected there *will* be tables at the Council breakfast! The most noteworthy news, IMHO, is that Council passed by a two-thirds, recorded vote a petition that will have a large impact on the ACS; it will allow undergraduates to become full members, although they will not be allowed to hold national office. Because it involves changes in the ACS Constitution, it's passage will require approval of two-thirds of membership. On a personal note, I was named one of several subcommittee chairs in the Constitution & Bylaws Committee. My relentless climb towards the apex of ACS governance continues unabated. There's more, but I'm tired from all the eating, drinking, and carousing that go along with an ACS meeting in New Orleans. Thankfully, a proper summary, appended below, was provided by the nice staff at ACS. My comments are in italics.

Election Results: The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2009: Thomas J. Barton, R. Stephen Berry, Joseph S. Francisco, and Josef Michl. By written ballot, the Council selected Joseph S. Francisco and Josef Michl as candidates for 2009 President-Elect. These two candidates will stand for election in the Fall National Election.

Candidates for Directors-at-Large: The Committee on Nominations and Elections announced the selection of the following candidates for Directors-at-Large for a 2009-2011 term: William F. Carroll, Jr. (*currently the odds on favorite*), Richard L. Deming, Thomas R. Gilbert, and Marinda Li Wu. The election of two Directors-at-Large will be conducted in the fall. Ballots will be mailed to the Council on or before October 10.

Petitions (For Action)

The Council received three amendments to the ACS Bylaws (Petitions) for action: the Petition on Election Procedures for President-Elect and District Director, the Petition on Election Procedures 2006, Part 2, and the Petition on Membership Categories and Requirements.

- The Council VOTED to approve the Petition on Election Procedures for President Elect and District Director. This petition seeks to make the balloting procedure more uniform and to avoid the complications and expense of run-off elections.
- The Council engaged in a lively debate on the Petition on Election Procedures 2006, Part 2, and entertained two motions: to recommit and for a recorded vote. Both motions failed. The Council ultimately VOTED by a show of hands to approve the Petition on Election Procedures 2006, Part 2, which standardizes election processes for President-Elect and all Director positions based on percentages of voting members, and increases the number of required signatures.
- The Council also debated the merits of the Petition on Membership Categories and Requirements and ultimately VOTED to approve this petition via a recorded vote. This petition broadens qualifications for membership and creates a new category of student membership. The Board of Directors will vote within 90 days on whether to ratify the approved petitions. The Petition on Membership Categories and Requirements contains changes to the ACS Constitution, and not just the Bylaws. Therefore, these changes must be approved by ACS members in the fall to be valid.

Petitions (For Consideration)

The Council received one petition for consideration: the Petition on Society Affiliate Dues. This petition sets Society Affiliate dues equal to the (full) membership dues, and not subject to any of the discounts otherwise applicable to membership dues. Action is expected on the petition at the fall national meeting.

(continued next page)

Petitions (Withdrawn)

The Petition on Local Section and Division Election Procedures was withdrawn. This petition offers resolutions for handling tie votes in Councilor or Alternate Councilor elections in a local section or division.

2009 Member Dues: The Council VOTED to set the member dues for 2009 at the fully escalated rate of \$140. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws.

The Society's Finances: The Society ended 2007 with a net from operations of \$9.6 million, which was \$2.2 million favorable to the approved budget. This was based on total revenues of \$444.2 million and total expenses of \$434.6 million. The Society ended the year in full compliance with the Board established financial guidelines.

Attendance Report: As of April 9, 2008, the ACS spring national meeting had attracted 13,302 registrants as follows: Regular attendees 6,681; Students 4,659; Exhibitors 1,156; Exposition only 374; and Guests 432.

Revision of the Division Funding Formula: After considerable discussion, the Council VOTED to recommit the revised division funding formula, as presented by the Divisional Activities Committee, to the committee for further action at the fall national meeting.

Local Section Name Change: The Council VOTED to change the name of the University of Kansas Local Section to the Wakarusa Valley Local Section. Although many of the section's members work for the University of Kansas, supporters said that the geographically and occupationally diverse interests of the members would be much better represented under the name Wakarusa Valley Local Section.

Member Statistics: At the close of 2007, Society membership totaled 160,052, despite a net loss of 439 members at the end of the year. Also, 2007 recorded the second highest number of new applications – 16,533.

Academic Professional Guidelines: The Council VOTED to approve the Academic Professional Guidelines as submitted by the Committee on Economic and Professional Affairs. These guidelines apply to those members of the academic community whose job function impacts directly or indirectly on scientists practicing the profession of chemistry.

Your faithful Councilor, Steve Trohalaki

PAST MEETING — ZYMURGY: THE ART & SCIENCE OF MAKING BEER

On March 19, about 30 Dayton Section members braved the stormy weather and traveled to the Great Wolf Lodge in Mason, Ohio, to attend the second annual joint meeting with the Cincinnati Section. The activities started promptly at 5:15 PM when a handful of members showed up for an hour-long discussion on ACS Career Services, which was lead by Dr. Aaron Burke, Chair of Dayton Section Career Program Committee. Quite a few more than a handful showed up about an hour later for beer tasting of Sam Adams Stout, Pale Ale, Heffeweizen, Double Bock, and other varieties. The scientific exchanges that started over beer were continued during a wonderful dinner. The audience was then enlightened by talks on "The Commercial Production of Craft Beers," by Ken Lee, Brewmaster at Boston Beer (Sam Adams) of Cincinnati and on "Zymurgy: The Art of Making Beer" by Prof. Tracy Hamilton from the University of Alabama at Birmingham. The attendees (numbering about 200) included members of the two sections, Sam Adams employees and Prof. Hamilton and his family.



It may have been a good idea to put all the designated drivers at the same table but it was just mean of the organizers to put a case of beer there, too.



It seems unfair that just the lines to the lavatories at a Cincinnati Section Meeting have several times as many attendees as the typical Dayton Section Meeting.

PAST MEETING — PATTERSON COLLEGE CHEMISTRY AWARDS

On February 19, the Dayton Section awarded the Patterson College Chemistry Awards to five area college students. The award recipients included Miami Valley natives Leah Makley and Tyler Auvil. Ms. Makley is a John W. Berry Senior Scholar at the University of Dayton, where she is President of the Student Affiliate Chapter of the ACS, and participates in several extra curricular activities. Mr. Auvil is pursuing fruitful research in medicinal chemistry at Wright State University in addition to his normal class work and serving on the Wright State House of Representatives for the Chemistry Club. Other winners were Elizabeth Collier, from Southern California attending Antioch University, Rachel Barnard, a Philadelphia native, attending Cedarville University, and Emily Daniels, who is from Grove City, Ohio, and is attending Wittenberg University. Recipients of the Patterson College Chemistry Awards are chosen by the faculty of Dayton-area colleges and universities from their juniors using the general criteria of scholarship, character, extra-curricula involvement, and potential for success after college. Using funds provided by Dayton's Patterson family and administered by the Dayton Section, the awards were first presented in 1984 and consist of a certificate of recognition and a check for \$300. The award recipients were introduced by a faculty member at their university and are pictured below (with our Chair, Rajiv Berry, of course).



Antioch University's Dr. Butamina with Elizabeth Collier.



Wittenberg University's Dr. Dudek (ponytail) with Emily Daniels.



Cedarville University's Rachel Barnard with Dr. Flentge.



Wright State University's Tyler Auvil manages to retrieve his award and check from Dr. Ketcha.



Keynote speaker, Prof. Bungay, scolds Dayton Section Officers Peter Mirau and Larry Drummy for not leaving any chicken wings for the students and their families.



University of Dayton's Leah Makley with Dr. Masthay.

PAST MEETING — TECHFEST 2008

On February 16th – 17th, TechFest was once again held at Sinclair Community College. Organized by Dayton Affiliate Societies Council of Dayton (ASC), which is composed of about 50 professional societies, the purpose of the event is to celebrate the past, present, and future of math, science, engineering, and technology and its contributions to the quality of life in Dayton and the Miami Valley. It targets adolescents in grades K-12 (and their parents) and informs them about academic and industrial career paths. It was a highly successful event both for the ASC and the Dayton Section of the ACS. We had 2600 students registered for the event with another 1300 parents attending.

This year the ACS booth prepared the wonderful concoction SLIME. We added a twist to it this year by adding to the mix a glow-in-the-dark phosphor, ZnS, and irradiating it with UV light. The slime glows a bright green color! We prepared slime with nearly 1500 children over the course of the weekend. Now *that* is a lot of slime!



Wright State University student Christina Rainey (left) and Dayton section member Melanie Poon (right) assist TechFesters in preparing a batch of slime. The boys on the right view glow-in-the-dark effects of their slime mixture under a black light. Off-camera, the back light reminds a few of the older parents of the make-out parties of their youth, with Led Zeppelin LPs playing on the stereo. *"There's a lady who's sure, all that glitters is gold. And she's buying a stairway to heaven ..."*



Any chemist worth his salt can pour any liquid from any vessel into another without any spillage. However, the same can *not* be said for your average TechFester. Thank goodness, therefore, for Wright State University chemistry student, Mindy Tehan, who pours some PVA mixture into a cup for a student to prepare his slime.

We are very thankful for the 29 volunteers who kept our booth going over the weekend. They include Ralph Froehlich, Doug Krein, Jon Slagle, Matt Morgan, Jeff Fogle, Patrick Craig, Midge Hall, Bethany Bellotti, Andrea Jarosz, Gary Kedziora, Peter Mirau, Wayne Cook, Jocelyn Woodason, Jessica Peterson, Aaron Burke, Paul Day, Natalie Melzer, Danielle McPeak, Jane Myong, Rajiv Berry, Tammy Low, Joe Cradlebaugh, Julie Lochtefeld, Kristie Mitch, Mindy Tehan, Tom Zink, Christina Rainey, Joy Haley (nee, Rogers), and Melanie Poon. A special thanks goes out to Doug Krein for helping to prepare the PVA and borax solutions ahead of time. We also thank Prof. John Fortman for again putting on great chemical demonstrations in the auditorium throughout the weekend.



Tech Fest attendees pay rapt attention (although some more than others) to ACS volunteers who demonstrate how to prepare glow-in-the-dark slime.

PAST MEETING — ANNUAL POSTER SESSION

On March 4, the Dayton Section held its Annual Poster Session at the University of Dayton's Kennedy Union Ballroom in conjunction with the local section of the Society for Applied Spectroscopy. Twenty-four posters were presented by area researchers, a good portion of whom were students. Four awards — two for graduate students and two for undergrads — were presented for outstanding posters. The Section thanks the Dayton Section Board Members and Committee Chair who volunteered to judge the posters— Drs. Joy Haley, Peter Mirau, Larry Drummy and Todd Yeates.



When these four photos are uncovered by archeologists thousands of years from now, they'll wonder why an enthused old guy is being honored by the young people. Was it for his wisdom? Intelligence? Good looks? Lost will be the fact that four chemistry students were awarded for their outstanding posters. Clockwise, starting from the upper left are two graduate students from Wright State — Lynnette Prophyl and Benjamin Southerland — and two undergraduates — Leah Makley (who also won a College Award, see page 7) from UD and Jennifer Monahan from Wright State. Each student received \$100 from the Dayton Section.



The worst thing about waiting around for your poster to be judged is watching the Dayton Section Board Members eat all the pizza.



Attendees from Wright State University were sufficient in number for full-court, coed basketball, including referees (presumably the two at the ends, who look like a couple of chuckers).

