



THE DAYTON SECTION

Fostering scientific education and research, and promoting public understanding of science since 1930

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BULLETIN**CeRMACS-2010 Edition****Meetings and Events****June 16-19: The Dayton Section Hosts the*****Central Regional Meeting of the ACS***

- Abstracts due by April 30th
- On-line Registration Ends May 28th
- See pp 2-3 for Symposia, Social Events, Career Services, Leadership Courses, and High School Teacher Workshops

Section News and Other Stuff

- Past Meetings: Annual Poster Session & Patterson College Chemistry Awards — pp 4-5
- Report from Council — pp 6-7
- Quotable Quotes — p 8
- Alzheimer's Avoidance Therapy — p 8
- AAT-2: Su Doku for Chemists — p 8

DATE MATERIAL - MEETING ANNOUNCEMENT - DO NOT DELAY

ADDRESS SERVICE REQUESTED

American Chemical Society
Dayton Section
4801 Springfield Street
Dayton, OH 45431

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The 42nd Central Regional Meeting of the ACS, CERMACS-2010, hosted by the Dayton Local Section, will convene at the Dayton Convention Center and Crowne Plaza Hotel in historic downtown Dayton, from Wednesday, June 16 to Saturday, June 19. The meeting theme, Chemistry: Reacting to Provide New Technologies, highlights the contributions of chemistry professionals in the Central Region and in the Miami Valley, a recognized hub for innovation and leadership in materials and aerospace research and development. The deadline for abstract submission is April 30th. Online registration ends on May 28th. For up-to-date meeting information, please visit: <http://CeRMACS2010.org>.

TECHNICAL HIGHLIGHTS

CERMACS-2010 features an exciting technical program with top researchers from academia, industry, and the Air Force Research Laboratory. Plenary Lectures include:

- *Nanotechnology & Energy*, by Dr. Wade W. Adams, Smalley Institute for Nanoscale Science and Technology, Rice University
- *Drug Discovery: Ingenuity or Serendipity?*, by Prof. Richard B. Silverman, Dept. of Chemistry, Northwestern University
- *The Changing Landscape of Human Performance - the Impact of Nanosciences and Biochemistry*, by Dr. Morley Stone, 711th Human Performance Wing, Air Force Research Laboratory
- *Innovative Technology Needs to Meet Air Force Operation Energy Requirements*, by Mr. William E. Harrison, Technical Advisor for Fuels and Energy, Air Force Research Laboratory
- *Climate Change and Atmospheric Chemistry in the Arctic*, by Prof. Paul B. Shepson, Departments of Chemistry and Atmospheric Sciences, Purdue University

A special presentation will be made by the winner of the Patterson-Crane Award, given jointly by the Dayton and Columbus Sections for outstanding achievement in chemical information.

In addition to symposia and poster sessions in traditional areas such as Analytical Chemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Biological Chemistry, and Polymer Chemistry, the program will feature symposia on Biotechnology, Alternate Energy, Laser-Based Technologies, Aerospace Materials, Chemical Education, Small Chemical/Materials Industries, Chemistry in the Pursuance of Peace, Metamaterials, and Minorities in Nanomaterials Research.

WORKSHOPS AND FORUMS

On Wednesday, June 16th, ACS Career Services will provide Career Workshops for chemists in all stages of their careers. The following workshops will be presented: *Planning Your Job Search*; *Preparing a Résumé*; and *Effective Interviewing*. An ACS Career Consultant will be available to provide résumé reviews and career assistance. Individual 30-minute résumé reviews will also be offered. Bring a copy of your résumé. Sign-up is available on the meeting registration form or, alternatively, at the on-site meeting registration area. These services are free and available to ACS members, national affiliates and student members.

The ACS Leadership Institute will offer the workshop "Leading without Authority" on Thursday, June 17th. On the same day, the ACS Small Chemical Businesses Division will sponsor two workshops: "Small Chemical Business: Entrepreneurship & Innovation" and "Small Chemical Business: True Stories of Success."

Workshops and discussion groups for High School Chemistry Teachers will be held on Saturday, June 19th. Presenters will include past winners of the Division of Chemical Education Central Region Award for Excellence in High School Teaching. In addition, Prof. John Fortman will instruct teachers how to perform chemical demonstrations suitable for the high school classroom. Lunch will be provided.

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SOCIAL EVENTS

At the conclusion of symposia on Wednesday, June 16th, four Central Regional ACS Awards will be presented, followed by an Opening-Day Reception.

The social event not to be missed is **Chemipalooza** at Dayton's Boonshoft Museum of Discovery on Thursday, June 17th. Attendees can explore this vibrant, interactive science center and planetarium while consuming cocktails and fabulous food from an international menu. Attendees can also request their favorite '80s tune from a live band and head to the dance floor. Or, they can visit the Water Table and play a game of *Will It Float* (but, please, no wagering), or chill out at a laser show in the planetarium. Other exhibits will allow attendees to discover their inner anthropologist, biologist, and geologist.

A Dayton Dragons baseball game on the evening of Friday, June 18th, will cap off regular programming while priming High School Teachers for their workshops on Saturday.

EXHIBITION AND SPONSORSHIPS

The CeRMACS-2010 Exposition (open noon, Wednesday, June 16th through noon, Friday, June 18th) is integrated into the meeting area and poster sessions to maximize floor traffic. Space is still available. If interested in exhibiting, please contact one of the Exposition Co-Chairs: Pamela Lloyd, at (937) 255-9413, or pamela.lloyd@wpafb.af.mil; or Kristi Singh at (937) 255-9129 or kristi.singh@wpafb.af.mil.

LODGING AND PARKING

Rooms have been reserved for CERMACS-2010 attendees at the Crowne Plaza Hotel, which is connected to the Dayton Convention Center and parking garage by a covered walkway. Conference rates are \$109 for a standard room or \$129 for an Executive Room (secured floor with a lounge during the week that services continental breakfast in the mornings and appetizers in the evenings). The Crowne Plaza features free internet access and free parking. Make reservations online (look for the Crowne Plaza link on <http://CeRMACS2010.org>) or call (877) 834-3613 and ask for the ACS Central Regional Meeting or the group code, "ACS." Attendee support of the official hotel allows the Dayton Section to utilize meeting space at a discount and to keep registration fees to a minimum.

REGISTRATION

Advance registration closes Friday, May 28th. Online registration is available through the meeting website, <http://CeRMACS2010.org>, where you may also download a form to fax or mail. On-site registration, program books, abstracts, and badges will be available at the Registration Desk from 4:00 PM – 7:30 PM on Tuesday, June 15th on the third floor of the Dayton Convention Center (near the walkway to the hotel and parking garage) and will continue to be available through Saturday, June 19.

TECHNICAL SYMPOSIA AND POSTER TOPICS

- New Vistas in Biotechnology: Chemistry, Materials & Applications
- Chemistry & Materials for Alternative Energy
- Laser-Based Technologies for Chemical Measurements
- Materials for Aerospace and Space Applications
- Frontiers in Chemical Education
- Computational Materials Science: Theory, Modeling, & Simulation
- Nanomaterials: Chemistry, Structures & Applications
- Small Business Innovations in the Chemical & Materials Industries
- Chemistry for Peace: Building on the Dayton Accords
- Molecular & Nanoscale Metamaterials: Novel Design Concepts in Materials Chemistry
- Minority Leaders in Nanomaterials Research
- Analytical Chemistry
- Inorganic Chemistry
- Organic Chemistry
- Physical Chemistry
- Biological Chemistry

PAST MEETING

ANNUAL POSTER SESSION AND PATTERSON COLLEGE CHEMISTRY AWARDS

This year's Annual Poster Session was held in conjunction with the Patterson College Chemistry Awards on March 8 at the University of Dayton. The poster session was very well attended with what could be a record 44 posters presented, including presentations by 18 graduate students, 11 undergrads, and one high school student. Four outstanding poster awards — \$100 each — were presented by the Dayton Section. In addition, it was announced that every poster presenter would be reimbursed for their registration fee if they presented a poster at CeRMACS-2010 this June in Dayton.

The Outstanding Poster Award Winners are:

- Jennifer Monahan: *Toxicity of platinum group metals in chick embryo tibiotarsi by micro-Raman spectroscopy* (Grad Student at Wright State University, Advisor: I. Pavel)
- Michael Mante: *Calcite dissolution kinetics in near equilibrium solution using a flow through reactor (FTR): Implications for Long-Term Modeling of Mineral Dissolution in Geologic Formations* (Grad Student at Wright State University, Advisor: S. Higgins)
- David To: *Supramacromolecular Splints for Self-Assembling Block Copolymers* (Undergrad at Wittenberg University, Advisors: J. Cheng and A. Nelson, IBM Research Center, San Jose, CA)
- Michael Gord: *Millimeter-Wave and THz Radiation for Standoff Chemical Sensing and Threat Detection* (Senior at Beavercreek High School. Advisor: S. Roy)



Jennifer Monahan — the Meryl Streep of the Annual Poster Session — steals the spotlight from Hilmar Koerner, which, admittedly, isn't hard to do.



Past Chairs Rajiv Berry and Peter Mirau act all judgmental with graduate student John Trefry, while at the same time getting some good ideas for their own research.

The Patterson College Chemistry Awards are given to outstanding chemistry majors in their junior year from Colleges and Universities within the Section's boundaries. This year's winners are:

Philip Young, Cedarville University

Katherine Cobb, University of Dayton

David To, Wittenberg University

Fadwa Constandinidis, Wright State University

Each received a check in the amount of \$300. The Dayton Section offers its congratulations to the Outstanding Poster Winners and the Patterson College Chemistry Award Winners.

PAST MEETING

TECHFEST 2010

Over 1500 came to our booth at TechFest 2010 on the weekend of February 13th–14th to make glow-in-the-dark slime. This free, annual event is about sharing and learning about math, science, engineering, and technology – past present and future – for the entire family. We thank all our volunteers: Ralph A. Froehlich, Amanda Balaguer, Ruby Bryant, Wayne Cook, Amber Rumble, Cristin Albertson, Kirby Underwood, Amber Jackson, Jessica Murray, Chelsea Riegel, Steve Young, Jane Myong, Michael Sawdey, Todd Yeates, John Evenson, Jon Slagle, Sarah Lane, Sarah Bell, Ronak Ghiya, Paul Repasky, and Jorge Chavez Benavides.



Who would think that the demand to make slime would overwhelm seasoned volunteers such as Todd Yeates, Sarah Bell and Jon Slagle?



In the calm before the storm, the Kerner kids perform quality control.



Despite Hilmar's assurances, some students feared a cause-and-effect link between glow-in-the-dark slime and premature hair loss.



Volunteer Steve Young demonstrates that glow-in-the-dark slime is superior to bat-cave slime.



Professor John Fortman wowed the crowd with chem demos that featured plenty of flames and explosions.

REPORT FROM COUNCIL

The Council convened at the 239th Meeting of the ACS in San Francisco started with my pet peeve being exacerbated; there were only enough tables and chairs at the continental breakfast for about 10% of the Councilors. So, it was impossible to spread delicious boysenberry jam on a buttery croissant while standing, much less simultaneously juggling a cup of coffee. Out of necessity, Councilors lingered around the serving tables in order to have someplace to place their coffee cups, which made the whole affair very unsatisfying. Councilors grew quite testy and not at all in the mood for compromise.

If you recall from my last report, the previous Council meeting was very contentious. Two factions had competing petitions. Urgent action was voted down on the first, to amend the Constitution to ensure the right of membership to nominate by petition candidates for President and Directors at Large. The second petition — ostensibly on timelines, although its critics claimed that its real purpose was to give Council the power to screen out petition candidates — was recommitted, i.e., postponed until the next Council meeting. The stage was set for another confrontation, although not quite Ali-Frazier II.

The *Petition on Candidate Selection by Member Petition* failed by a very close vote. One of the petitioners — Past ACS President Atilla Pavlath — then called for a Recorded Vote (every Councilor's vote would be published in *C&E News*). After consultation with ACS staff and with the Chair of the Committee on Constitution & Bylaws (C&B), President Francisco ruled that a call for a recorded vote was out of order because it needed to have been done before the vote was taken. Council upheld this ruling on a subsequent vote but, after discussion later in the day at a C&B meeting, it appeared that the ruling to deny the call for a recorded vote was in error.

The *Petition on Election Timelines* also failed even though the petitioners had removed the requirement that petition candidates be vetted by Council and revised the new timelines so that petition candidates could appear before Council.

Previous to these two votes, Council voted by a large margin to approve the much more benign *Petition on Admissions Committee*, which removes the Admission Committee from the Bylaws and transfers its functions to the Council Committee on Membership Affairs.

Before all the voting on amendments, Council selected candidates for President Elect and Directors at Large. The Committee on Nominations and Elections (N&E) presented to the Council the following nominees for selection as candidates for President-Elect, 2011: Luis A. Echegoyen, John P. Fackler, Jr., and Bassam Z. Shakhashiri. (You may recall that Shakhashiri was a previous Presidential candidate.) A fourth candidate withdrew on February 3 for personal reasons. At that time, the N&E voted to continue the search for a replacement nominee based on the ranking previously developed by the Committee. Committee action specified that if no replacement nominee was found by March 12, 2010, then the original nominee list and biographical data, without the nominee who withdrew, would be sent to the Council. Because no nominee was identified, three nominees were presented. Using my patented 5-point system at the Town Hall Meeting on the first day of the meeting, I selected Shakhashiri and Echegoyen. Not surprisingly, the Council also selected by electronic ballot Shakhashiri and Echegoyen as candidates for 2011 President-Elect. These two candidates, along with any candidates selected by petition, will stand for election in the Fall National Election.

N&E also announced the results of the election to select candidates from the list of nominees to represent District II (our District) and District IV on the Board of Directors for the term 2011-2013. Nominees for District II included: George M. Bodner, Andrew D. Jorgensen, V. Michael Mautino, and Joseph R. Peterson. Ballots will be mailed on or before October 10 to all members in District II.

In addition, C&E announced the selection of the following candidates for Directors-at-Large for a 2011-2013 term: Janan M. Hayes, Robert L. Lichter, Kathleen M. Schulz, and Kent J. Voorhees. The election of two Directors-at-Large will be conducted in the fall. Ballots will be mailed to Councilors on or before October 10.

Three petitions were up for consideration only: The Petition on International Chemical Sciences Chapters, Petition on President-Elect Eligibility, and Petition on Recorded Votes. The Petition on International Chemical Sciences Chapters provides for travel funds for either the Chair or Chair-Elect of International Chemical Sciences Chapters to attend governance meetings at twice the amount allotted for a Councilor. The Petition on President-Elect Eligibility requires that nominees or candidates for President-Elect come from an academic background every other election, and that only those from non-academic backgrounds would be eligible in the alternate years. The Petition on Recorded Votes provides for additional voting methods, e.g., clickers that have been recently used at Council meetings, when conducting recorded votes. Action is expected on these petitions at the fall Council meeting.

With all the real excitement behind us, Councilors took a break but no coffee was provided, which made it hard to stay awake for the rest of the meeting. Lucky for me, the nice folks at ACS provided me with the following summary!

The Council voted to set the member dues for 2011 at the fully escalated rate of \$146. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws. The Council also voted to continue for three years the current formula for determining allotments to local sections.

As of March 24, 2010, the ACS spring national meeting had attracted 18,076 registrants as follows: Regular attendees, 9,715; Students, 5,705; Exhibitors, 1,219; Exposition only, 923; and Guests, 514.

At the close of 2009, Society membership totaled 161,783 compared to 154,024 for year-end 2008. The number of new membership applications received last year was the highest ever. The 2009 number also reflects the transition of 6,658 former Student Affiliates to the new student member category in June 2009 and the recruitment of 6,341 new student member undergraduates.

The Society's total 2009 revenue (\$460 million) increased 1% from 2008, but fell short of the approved budget for 2009 by \$19.5 million or 4.1%. Fortunately, the revenue shortfall was fully anticipated in early 2009. Therefore, contingency planning actions and cost containment initiatives were implemented across the Society, resulting in expense savings totaling \$22.5 million. Significant reductions were realized in salaries and fringe benefits, and in discretionary accounts such as travel, training, and professional services. As a result, the Society's Net Return from Operations was \$13.7 million, or \$3.0 million greater than anticipated in the 2009 Approved Budget.

Unrestricted Net Assets rebounded in 2009 to approximately \$124 million, from a previous \$60 million at the end of 2008. The significant increase can be attributed to the favorable operating results, investment gains, and a net reduction in the Society's post-retirement benefit plan liabilities. The Society ended the year in compliance with four of the five Board-established financial guidelines. The Fund Balance Ratio Guideline, which measures the adequacy of the Society's unrestricted net assets, was not met. The financial outlook for 2010 is better, and ACS management expects the Society to meet the 2010 approved budget.

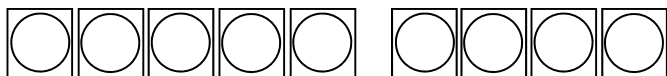
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Your faithful Councilor,
Steve Trohalaki

Alzheimer's Avoidance Therapy* Unscramble the letters to reveal chemical names, substances, or concepts. Then, use the circled letters to solve the riddle. Answers next edition!

BEFFRU ○ □ ○ □ □ □
 ABEESWX ○ ○ ○ ○ □ □ □
 AEGILNOR ○ □ ○ □ □ ○ □ □

As Judy throws water on Ray, who has caught fire, some accidentally splashes on Margaret, who shrieks, "The change in my



energy is zero, although my enthalpy and entropy are increasing!! Oh, what a world! What a world."

Answers for Last Edition
BARIUM VALINE CRESOL

A C₆₀ buckeyball named Wilson is on a silica island with Tom, a product of very advanced biotechnology. Tom, the talkative one, is delighted when he finds that the gelatinous core inside a chitin shell has solidified after heating at high temperature, and exclaims to Wilson, "You gotta LOVE CRAB!"

Quotable Quotes for \$2000, Alex

"Poetry is about the grief. Politics is about the grievance."

—Robert Frost

"Do you make a grievance of weighing so many pounds only instead of three hundred? Then why fret about living so many years only, instead of more? Since you are content with the measure of substance allowed you, be so also with the measure of time"

—Marcus Aurelius

"Men often bear little grievances with less courage than they do large misfortunes."

—Aesop

"The tradition of Festivus begins with the Airing of Grievances. I got a lot of problems with you people! And now, you're gonna hear about it!! You, Kruger. My son tells me your company stinks! You couldn't smooth a silk sheet if you had a hot date with a babe ... I lost my train of thought."

—Frank Costanza

AAT-2 — Su Doku for Chemists!

Using the following nine chemical elements:

H	He	Li	Be	B	C	N	O	F
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fill in the grid below so that each row, column, and 9-element subcell has only one occurrence of each element.

F						Be		
	H			Be			Li	O
							He	H
	Li		He	N		O		Be
	Be		O		C		B	
N		O		Li	B		C	
Be	He							
Li	C			B			Be	
		B						Li

Solution for Last Edition

F	B	H	N	O	C	Be	He	Li
C	He	Be	H	Li	B	F	O	N
O	Li	N	F	He	Be	B	H	C
Li	Be	B	He	H	N	C	F	O
H	F	C	Be	B	O	Li	N	He
He	N	O	C	F	Li	H	B	Be
N	O	F	Li	Be	H	He	C	B
Be	C	He	B	N	F	O	Li	H
B	H	Li	O	C	He	N	Be	F

*Surveys suggest that that mental exercises, including word puzzles, may delay the progression of Alzheimer's Disease.