



# THE DAYTON SECTION

*Fostering scientific education and research, and promoting public understanding of science.*

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**BULLETIN****Spring Has Sprung Edition 2009****Meetings and Events****June 10: Patterson High School Chemistry Awards****Section News and Other Stuff**

- Past Meetings
  - TechFest-2009 — p 3
  - Annual Poster Session — p 4
  - Patterson College Chemistry Awards — pp 4-5
  - Spices and Herbs: Chemistry and Health — p 5
  - A Chemist Goes to Dessert Storm — p 5
- How to pick a Board Member out of a crowd — p 2
- Crying? There's no crying in Council! — pp 7-8
- 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

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## **UPCOMING MEETING**

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**JUNE 10**

### **PATTERSON HIGH SCHOOL CHEMISTRY AWARDS**

**Venue:** Centerville High School, 500 E Franklin St., West Commons\*

**Social:** 5:30 PM (Appetizers and soft drinks will be served.)

**Awards:** 6:00 PM

**Keynote :** Suzanne Noffsinger, Forensic Scientist at the Miami Valley Regional Crime Laboratory, will present, *CSI and Forensic Science*

#### **History of the Award**

Originally established by Charles A. Thomas and Carol 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. This year, for the first time, the grading was performed separately for those students who have only taken one year of chemistry. Students from this group who were the highest scorers in their High School will also receive 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
Aaron Zhao	Centerville High School
Seth Cazzell	Centerville High School
Rahul Prasad	Centerville High School
Ziyang Xu	Centerville High School
Jack Hoehn	Centerville High School
Robby Blizzard	Northmont High School
Paul Hoehn	Centerville High School
Michael Fu	Beavercreek High School

The top scorers with only one year of chemistry are:

Ruize Zhuang	Centerville High School
Andrew Weber	Beavercreek High School
Dylan Dyer	Bellbrook High School
Josh Brown	Tippecanoe High School
Daniel Strohminger	Kettering High School
Julia Hale	Dunbar High School
Erika Birt	Urbana High School

\*see <http://www.centerville.k12.oh.us> for maps and more information.

## PAST MEETING — TECHFEST-2009

Over the weekend of February 14<sup>th</sup>–15<sup>th</sup> TechFest was again held at Sinclair Community College. Organized by the 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 their contributions to the quality of life in Dayton and the Miami Valley. It targets students 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. We had 2100 students registered for the event with another 900+ parents attending.

This year at the ACS table the kids made “worms” by cross-linking alginic acid (linear polymer made from brown algae) with calcium chloride. The children used a syringe to squirt a solution of the alginic acid into a large container of calcium chloride; the worm formed immediately upon contact. We estimate that at least 1500 kids made worms during this TechFest.

Overall, this event was very successful. We are very thankful for the 15 volunteers who kept our booth going over the weekend. They include Ralph Froehlich, Doug Krein, Jon Slagle, Megan Hawk, Amber Jackson, Melanie Poon, Wayne Cook, Michael Sawdey, Jane Myong, Jennifer Monahan, Alexis Maruffo, Mindy Tehan, Todd Yeates, Ed Geller, and Joy Haley. Special thanks goes to Doug Krein for preparing the alginic acid and calcium chloride solutions ahead of time. We are also grateful to Prof. John Fortman for again putting on great chemical demonstrations throughout the weekend.



Volunteers Ed Geller and Mindy Tehan help students prepare their worms. Apparently, Ed didn't get the memo about not wearing colors easily stained with syringed alginic acid.



A young man, who did not get the memo, uses a syringe to suck up the alginic acid solution.



Volunteers Todd Yeates and Mindy Tehan demonstrate worm prep. Todd, sporting an ACS tie, might want to invest in an ACS tie clip next year.

### Identifying Dayton Section Board Members

While several Section Members feigned interest in the Board Member's alter egos that appeared in the Electrifying Election Edition of the Bulletin, many more complained that these would not enable them to pick Board Members out of a crowd (most likely, in order to avoid them). Fear not; below are Board Member descriptions so accurate that it will be your own fault if you get caught in a long, boring, pointless conversation with one of them.

Todd Yeates, Chair:	Chewbacca after a shave and a haircut.
Hilmar Koerner, Chair-Elect:	A cross between David Beckham and Colonel Klink.
Rajiv Berry, Imm. Past Chair:	The exception that proves the rule. Nondescript; neither slumdog nor millionaire.
Jon Slagle, Secretary:	If you're over 55, Bob Denver's character on <i>The Many Loves of Dobie Gillis</i> . For you younger folks, Shaggy from <i>Scooby-Do</i> after a haircut.
Aaron Selinger, Treasurer:	His youthful exuberance makes him the last person you'd suspect of being a demonic bureaucrat bent on destroying beloved Section institutions to save a little bit of money.
Steve Trohalaki, Councilor:	Balding pate meets burgeoning girth.
Rachel Jakubiak, Alt. Councilor:	She's got that Naughty Librarian thing goin' on.

## PAST MEETINGS

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### ANNUAL POSTER SESSION & PATTERSON COLLEGE CHEMISTRY AWARDS

On March 5<sup>th</sup> at the University of Dayton's Kennedy Union Ballroom, the Dayton Section held an exceptional poster session, jointly sponsored by the Ohio Valley Section of the Society for Applied spectroscopy. Thirty posters were presented and, despite some ghosts in the sound system, the Section awarded four \$50 awards for outstanding posters — two to undergraduates and two to graduate students. The Section is grateful to those members who served as judges.

#### Outstanding Graduate Student Posters

“Effect of Monomer Geometry on Extent of Cyclization in Polycondensation Reactions”  
Andrea M. Elsen (with Eric Fossum), Wright State University

“Manipulations with Fused-Ring Sydnone”  
Eric Dihrkop (with Kenny Turnbull), Wright State University

#### Outstanding Undergraduate Student Posters

“Microwave-assisted Clauson-Kaas Synthesis: A Green Approach to Substituted Pyrroles”  
Kelsey Miles (with S.M. Mays, T.J. Auvil, and D.M. Ketcha), Wright State University

“Anionic Synthesis of In-Chain and Chain-end Functionalized Polymers with Fluorescent Probes via Hydrosilation.” Ryan Carris, Wittenberg University



Outstanding undergrad poster presenters Kelsey Miles (who also received a Patterson College Chemistry Award) and Ryan Carris try to outdo each other at imitating the cat that swallowed the canary.



Grad students Eric Dihrkop and Andrea Elsen presented posters with titles that are inversely proportional to their heights.

In addition, the **Patterson College Chemistry Awards** were presented to outstanding junior chemistry majors at participating colleges and universities within the Section's boundaries. Each awardee received a check for \$300. The Section owes a huge debt of thanks to Prof. Al Fratini for organizing the College Chemistry Awards as well as for making all the arrangements for the evening.

The Patterson College Chemistry Awardees are:

Mary Abraham	Cedarville University
Mya Porché	Central State University
Jillian Ellis	University of Dayton
Alison Thompson	Wittenberg University
Kelsey Miles	Wright State University

## PAST MEETINGS



It's not that Section Chair Todd Yeates isn't delighted to present a Patterson College Chemistry Award to Mary Abraham, it's just that Todd accidentally flushed his dentures down the toilet earlier in the day.



It was a busy night for Kelsey Miles, who also raked in an Outstanding Poster Award.



Mya Porché proudly displays her PCC Award.



Jillian Ellis came straight to the awards ceremony from a job interview, which she aced.



Alison Thompson taunts Todd with her own pearly whites.

## SPICES AND HERBS: CHEMISTRY AND HEALTH

On April 27<sup>th</sup>, seventeen section members gathered at Wright State University's Allyn Hall for a lecture by ACS Tour Speaker, Carolyn Fisher, an employee at McCormick & Co., Inc. Dr. Fisher gave a general overview of the components of spices and herbs, along with their attributes for the food industry. Rosemary, Ginger, Capsicum, and Cinnamon were surveyed, as were other spices and herbs. Bioactivities of their components were discussed, with emphasis on antimicrobial, antioxidant, anti-carcinogenic and anti-diabetic activities. Prior to the lecture, Dr. Fisher led a Women Chemists Forum.

## A SCIENTIST GOES TO DESSERT STORM

On March 17<sup>th</sup>, a dozen or so section members gathered at Wright State University's Brehm Lab for a lecture by Steve Dutch, a Professor in the Department of Natural and Applied Sciences at the University of Wisconsin, Green Bay, and ACS Tour Speaker. Prof. Dutch showed photos taken during his time in Iraq during the first Gulf War, and described the challenges he faced, including burning oil wells and maniacal drivers. The question-answer period evolved into a discussion of the various cultures found in the Middle East and their differing worldviews.

## REPORT FROM COUNCIL

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Salt Lake City, just like I pictured it; snow squalls and everything! Continuing on this allegory to Stevie Wonder's *Living for the City* would find your Councilor doing 10 years hard labor for violating SLC's strict open-container laws. I was hoping to run into Marie during my stay so that I could ask her whether her fainting spell on *Dancing with the Stars* was due to her rapid, NutriSystem-induced weight loss but the only Osmond I ran into was Donny, who can usually be found outside the Salt Lake Temple gates singing "I'm a Little Bit Country ..." for quarters. It's very sad but once a week or so Steve Young comes by to take Donny out to lunch. OK, enough LDS jokes. Too bad I don't have enough room to tell you about all the waitress tattoos.

Speaking of food, it was the usual fare at the Council Breakfast. There were even a few tables, although too few. My big gripe — and if you know me, you know that I always have at least one — was that they ran out of cream, half-and-half, and milk for the coffee. How can we poor, decrepit, sour-stomached Councilors be expected to drink black coffee? I'm sure the ACS Board had cream for *their* coffee! The little quiz below demonstrates just how unpredictable Council can be:

A Councilor became publicly *verklemt* during:

- A) The reading of the names of Councilors who have died since the last meeting of Council.
- B) The memorial for deceased Past President of the ACS, Dr. Ernest Eliel.
- C) The discussion about setting the member dues for 2010 at the fully escalated rate of \$145.

The answer, of course, is C. A Councilor at the microphone pleaded for 2008 member dues of \$140 and got all choked up as he apparently felt the anguish of all the recently unemployed chemists in the US. During one painfully long pause, several Councilors murmured, "I think he's *crying!*" One Councilor in my row wasn't empathetic; he took \$5 out of his wallet and told me to pass it down to the Councilor at the mike. And *I'm* the one who got dirty looks for laughing.

Previously, at the Town Hall Meeting, I once again used my patented 4-point system to select the two candidates who would go on to win the nominations for 2010 President Elect—Nancy B. Jackson and Cheryl A. Martin. I later saw an excited Nancy Jackson talking animatedly to a friend of hers. If she were more like this onstage, she might have place first instead of second in my ratings.

Below is a more traditional summary of Council Actions:

### **Election Results**

The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2010: Berkeley W. Cue, Jr., Nancy B. Jackson, Cheryl A. Martin, and Dorothy J. Phillips. By electronic ballot, the Council selected Nancy B. Jackson and Cheryl A. Martin as candidates for 2010 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

The Committee on Nominations and Elections announced the results of the election to select candidates from the list of nominees to represent District I and District V on the Board of Directors for the term 2010-2012. Nominees for District I included: D. Richard Cobb, Neil D. Jespersen, Wayne E. Jones, and James L. Kallmerten. Nominees for District V included Thomas J. Barton, Judith L. Benham, Peter K. Dorhout, and John W. Moore. By mail ballot, the Councilors from these districts selected D. Richard Cobb and Neil D. Jespersen as District I candidates; and as District V candidates, Judith L. Benham and Peter K. Dorhout. Ballots will be mailed on or before October 10 to all members in District I and District V for election of a Director from each District.

### **Candidates for Directors-at-Large**

The Committee on Nominations and Elections announced the selection of the following candidates for Directors-at-Large for a 2010-2012 term: Dennis Chamot, H. N. Cheng, Ray A. Dickie, and Valerie J. Kuck. 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.

### **Committee Elections**

The Committee on Nominations and Elections presented Roger F. Bartholomew and Roland F. Hirsch to Council as candidates for election to the Committee on Committees (ConC) to fill a vacancy created by a committee member's resignation. By written ballot, the Council elected Roland F. Hirsch.

Candidates Carol B. Libby and Robert A. Pribush were presented to Council for election to the Committee on Nominations and Elections (N&E) to fill a vacancy created by a committee member's resignation. By written ballot, the Council elected Robert A. Pribush.

### **Petition to Amend Bylaws (For Consideration)**

The Council received one petition for consideration: the Petition on Election Timelines 2009. According to the proposing committee, this petition presents election procedure refinements that are intended to provide a fair, consistent, and equitable process, which balances the concerns and needs of participants, as requested by Councilors and candidates. Action is expected on the petition at the fall Council meeting.

### **Change in Committee Charge**

The Council VOTED to permit the Committee on Chemistry and Public Affairs to amend a portion of its charge from: "a. Identify and analyze legislative, regulatory, research and other science policy issues that impact upon the chemical sciences and technologies" to "a. Identify and analyze legislative; regulatory; research; Science, Technology, Engineering, and Math (STEM) education funding; and other science policy issues that impact upon the chemical sciences and technologies."

### **The Society's Finances**

The Council and Board of Directors received extensive briefings on the Society's finances, which showed that in spite of the economic challenges faced in 2008, the Society's operating performance held up well. Total revenue was approximately \$450 million, up just over 3% from 2007. The Society's Net from Operations was \$9.7 million, and \$560,000 favorable to budget. This is the fifth consecutive year of positive operating results.

However, in 2008 ACS was adversely impacted by the historic collapse in the capital markets, which resulted in a sharp decline in the Society's unrestricted net assets from \$212 million at December 31, 2007, to \$60 million at December 31, 2008. There were two factors driving this decrease, both related to the poor performance in the capital markets. These are substantial investment losses and a sizable increase in pension liability from the Society's Defined Benefit Pension Plan. For this and other reasons, action was taken in 2007 to close the Defined Benefit Pension Plan, and, in 2008, to freeze benefit accruals for all Defined Benefit Pension Plan participants in 2009.

It is in this context that the Board received a detailed briefing from management at this meeting on the framework of the 2009 Contingency Plan. In 2006, the Society had the foresight to develop a robust Contingency Plan that contemplated potential threats from many different sources, their probability of occurrence, likely duration and financial impact. The updated 2009 Plan covers all operating and administrative units as well as member programs, and identifies new and emerging threats. ACS management has also updated the mitigation strategies to respond to the threats and ensure the Society's long-term financial sustainability.

Society management and the Board of Directors are closely monitoring financial performance versus the budget. In addition, significant reductions in discretionary spending have already been implemented and additional cost control measures are under consideration. However, despite the adverse impact of the economic downturn, the Society remains highly liquid with more than \$275 million in cash and investments, and limited debt of \$30 million.

### **2010 Member Dues**

After a lengthy discussion and rejection of two amendments, the Council VOTED to set the member dues for 2010 at the fully escalated rate of \$145. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws. The vote was 348 to 70.

### **Member Statistics**

At the close of 2008, Society membership totaled 154,024, compared to 160,052 for year-end 2007. In 2008, ACS completed the transition of its 15 year-old membership fulfillment system to a new, more robust system. The year-end 2008 membership numbers reflect a drop in membership of approximately 2% due to the economy and a correction to the counts of 2,589 Emeritus members whom ACS has not been able to reach for many years. Compared to its sister societies, ACS experienced a smaller loss of members in 2008.

### **Special Discussion Item**

A special discussion item was again put on the Council agenda for this meeting. ACS President Thomas H. Lane invited the Chair of the Committee on Membership Affairs to present the results of a Councilor survey as a preface to the discussion on what can ACS do to attract new members while better serving our membership during these challenging economic times. Following the presentation, President Lane led Councilors in a lively discussion that focused on the value of ACS membership and on growth opportunities among students, international scientists, high school teachers, technicians, diverse ethnic groups and others.

### **Attendance Report**

As of March 25, 2009, the ACS spring national meeting had attracted 10,668 registrants as follows: Regular attendees 5,781; Students 3,439; Exhibitors 780; Exposition only 411; and Guests 257.

### **Professional Employment Guidelines**

The Council VOTED to approve the Professional Employment Guidelines, as submitted by the Committee on Economic and Professional Affairs. These guidelines offer a broad spectrum of recommended practices in employment for professional scientists and their employers.

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

A B C L O T    ○ ○ □ □ □ ○  
 I M M O S U    ○ ○ □ □ □ □  
 D E H I L N P Y    ○ □ ○ □ □ □ □ □ □

A morose Marlon sits in the back seat of a cab just weeks after having failed his dissertation defense and complains to his thesis advisor, "You was my mentor; you shoulda looked out for me a little bit. I coulda been a



I coulda been ... a *nobody*."

**Answers from Last Edition**

SPULEGONE CHITIN BIOTIN

Near a reaction refluxing in benzene (with the hood sash properly lowered, of course) Ingrid, a bright Swedish lab manager with a disarming smile, lithe figure, and lilting voice, passionately embraces Humphrey, a dashing, if somewhat careless, bench chemist. Ingrid asks, "Is that my heart pounding, or did you forget the "BOILING CHIPS?"

**Quotable Quotes for \$2000, Alex**

"The alphabet was one thing when applied to clay or stone, and quite another when set down on light papyrus."

—Marshall McLuhan

"Why is the alphabet in that order? Is it because of that song?"

—Stephen Wright

"I wonder if illiterate people get the full effect of alphabet soup."

—Jerry Seinfeld

"I buy name-brand Q-tips. If I'm going to put a stick in my ear, I want some cotton on the end."

—Sophia Petrillo

"All right everyone, line up alphabetically according to your height."

—Casey Stengel

"You've got your A, B, C, and your D. The D is the biggest. Did you know that?"

—Frank Costanza

**AAT-2 — Su Doku for Chemists!**

Using the following nine chemical elements:

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

fill in the grid below so that each row, column, and 9-element subcell has only one occurrence of each element.

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

**Answer from Last Edition:**

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

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