



THE DAYTON SECTION

Fostering scientific education and research and promoting public understanding of science

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NATIONAL CHEMISTRY WEEK COORDINATOR

Vacant

BULLETIN**Summer 2005****Meeting Announcements:****Aug. 20: Dayton Section Picnic****Sept. 8: Counterfeiting: Catch'em with Near-IR
by Dr. Donald Burns****Notable Meeting of the Columbus Section:****Aug. 17: Ms. Madeleine Jacobs, Executive Director
and Chief Executive Officer of the ACS****Also in This Issue:**

- Got what it takes to be a Member of the Board?
Take the *Section-Officer Aptitude Test* on page 5!
- Highlights from past meetings on page 4
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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 Meetings

DAYTON-SECTION PICNIC

DATE: Saturday, August 20th
VENUE: John Bryan State Park, Main Picnic Area (Near Playground)
TIME: 11:30 AM – 4:00 PM, Rain (*unless an incessant downpour*) or Shine!
KEYNOTE SPEAKER: NONE!

This year we will return to an old tradition and hold a picnic for all Section Members and their families. The Section will provide hamburgers, hot dogs, veggie burgers and drinks. Please bring a side dish or a dessert to share with everyone.

The main picnic area is near the playground where you enter the park off of SR 370. Please see http://www.dnr.state.oh.us/parks/parks/pdf/johnbryanmap_304.pdf for more details and directions. The park offers hiking trails, a playground, and open space for softball, soccer, or Ultimate Frisbee.

For planning purposes, let us know if you'll attend and number in your party by contacting Joy Rogers at Joy.Rogers@wpafb.af.mil or (937) 255-3808 x3179.

Let us know, too, if you can serve as a charcoal grill master.

COUNTERFEITING: CATCH 'EM WITH NEAR IR

DATE: Thursday, September 8th
VENUE: Brixx Ice Company, 500 E. First Street, Dayton
SOCIAL: 6:30 – 7:30 PM (Free appetizers – Buy your own beverages)
TALK: 7:30 – 8:30 PM
SPEAKER: Dr. Donald Burns

Abstract: A hundred years ago a prospector declared, "There's gold in them thar hills." And today chemists working in the Near-IR region can say, "there's hidden information in them thar spectra." This information is enough to identify counterfeit currency, fake turquoise, non-Cuban cigars, illegitimate drugs, and imitation ivory (among other materials). It all began at Los Alamos National Laboratory when it became known that a nearly perfect counterfeit \$100 bill (known as the Supernote) was defying detection at the nation's Federal Reserve Banks. NIR to the rescue. Dr. Burns will show how NIR detected both \$20 and \$100 bills by diffuse reflectance. Then he'll show an astonishing method of distinguishing genuine turquoise jewelry (big business in Southwestern US) from colored plastic. It shouldn't be necessary to subject a suspect gemstone to conditions inside a red-hot crucible to identify it as real or fake. Such a display on a local television station prompted him to substitute 30-second non-invasive NIR for the torch, and it worked.

Notable Meeting of the Columbus Section

2005 HIGH SCHOOL CHEMISTRY TEACHER OF THE YEAR

Featuring a Keynote Address by

Madeleine Jacobs, ACS Executive Director and Chief Executive Officer

“From Sputnik to Gene Splicing:

Attracting the Best and the Brightest to Science”

DATE: Wednesday, August 17th

VENUE: Chemical Abstracts Service, 540 Olentangy River Rd., Columbus, OH

SPEAKER: Madeleine Jacobs, ACS Executive Director and Chief Executive Officer

RECEPTION: 5:30–6:30 PM

DINNER: 6:30–7:30 PM

AWARD: 7:40–8:00 PM

KEYNOTE: 8:00 PM

Directions: Take route 315 to Lane Ave. exit. Go east to Olentangy River Road and turn left (north). CAS is just past the Fawcett Center. Park in the west lot and enter building A through the Main (north) entrance. Please sign-in at ACS Hospitality table.

Abstract: Increasingly, college and university faculty and other educators say that they are having difficulty attracting the best and the brightest students into careers in science. If this is true, all of us should be greatly concerned about the future. In the mid-20th century, the great mathematician and philosopher Bertrand Russell wrote: "Almost everything that distinguishes the modern world from earlier centuries is attributable to science." Today, the standard of living that most of us enjoy and hope to extend to our fellow residents on Earth depends on innovations in science and engineering. Are the best and the brightest avoiding science as a career? If this is true, why is it happening? How do we convince students that a career in science is at least as rewarding as a career in medicine, law, or the business world? And what can each of us do to make a difference?



Previously, Madeleine Jacobs served for over eight years as Editor-in-Chief and two years as Managing Editor of *Chemical & Engineering News*. She has held senior management positions in a variety of scientific and educational organizations including the National Institutes of Health, the National Institute of Standards and Technology, and the Smithsonian Institution, where she served as the director of Public Affairs. Jacobs' professional interests include trends in the chemical industry, the public image of chemistry, employment trends, minority representation, and gender equality of scientists. She has given speeches on these topics for more than 30 years and is a very popular speaker.

Dinner Info: Entrée choices are Marinated Grilled Portabella Mushroom, Hawaiian Chicken with sweet cream sauce, or Marinated London broil. Cost for ACS members and nonmembers is \$20; retired and unemployed members \$18; students \$8. Payment will be collected at the door; cash and checks accepted. Please use the voice-mail reservations service by calling 614-447-3600-x7047. Alternatively, please send e-mail to The Columbus Section at acscols@cas.org. Reservations are due by COB Thursday, August 11.

Past Meetings & Events

PATTERSON HIGH SCHOOL CHEMISTRY AWARDS

The Patterson High School Chemistry Awards were presented on June 8th at Wright State University. The winners, listed below, received cash awards (\$1000, \$500, and \$250 for 1st, 2nd, and 3rd place) and a certificate. This year, there was a tie for 2nd place. The winners' teachers (in parentheses) were also given a \$50 cash award.

- 1st Place:** James Treadway, Centerville High School (Mrs. Bonnie Buddendeck)
"Etherification-Hydrolysis Production of Ethanol"
- 2nd Place:** Paul Apisa, Centerville High School (Ms. Bonnie Buddendeck)
"ALS and My Struggle"
- 2nd Place:** Scott Suchyta, Archbishop Alter High School, Mr. Chris Schmidt
"The Chemistry of Glycerin"

We thank all of the teachers who devoted their time to prepare their students for the exam and especially Mr. Berch Carpenter of Bellbrook High School for chairing the High School Awards Committee. Many thanks, too, to Dr. John Fortman for his chem demo show, entitled "The Chemistry of Magic". It was a wonderful show!



Can you tell the Dayton-Section Chair and High School teachers from the winners of the Patterson High School Chemistry Competition?



After a long day of chemistry, visions of Taipei dance in these potential Olympians' heads.

CHEMISTRY OLYMPIAD EXAMINATION

Six of the eight highest scorers on the Patterson HS Chemistry exam accepted an invitation to take the national Chemistry Olympiad examination that each year determines the 20 students who make up the US International Olympiad Team. This summer, the international competition will be held in Taipei, Taiwan. Beginning at 9 AM and completing at 3 PM at Sinclair Community College on April 16, Dr. Al Schlueter administered this exam, which consists of three parts: an objective part, problem solving, and a laboratory activity. The six students examined, listed below with their teachers (in parentheses), were recognized for their efforts at the Patterson High School Chemistry Meeting and were awarded \$50 for their efforts.

Theresa Foreman and Katie Malone – Oakwood High School (Mr. Slagel)

James Treadway and Nathaniel Goldstein – Centerville High School (Ms. Buddendeck)

Dan Bertrams – Archbishop Alter High School (Mr. Schmidt)

John Jenkins – Bellbrook High School (Mr. Carpenter)

Call for Nominations for Section Officers

Section Officers to be elected for 2006 are Chair-Elect and Secretary. The Chair-Elect will serve in that office in 2006, as Chair in 2007, and as Immediate Past-Chair in 2008. Secretary will serve a 2-year term starting in 2006.

To see if you've got what it takes, take the aptitude test below. Then contact Joy Rogers at Joy.Rogers@wpafb.af.mil or (937) 255-3808 x3179.

SECRETARY

1. When fellow officers complain that their statements at the last Board Meeting were not accurately recorded in the minutes, your reply:
 - A) Assures the offended officer that you will promptly make the appropriate corrections.
 - B) Assures the offended officer that you will pay more attention at the next Board Meeting.
 - C) Informs the offended officer that such inaccuracies would cease if lazy-arse officers would submit electronic reports *ahead* of time like they're supposed to!
2. Important qualities of the Secretary include:
 - A) A professional attitude and a Puritan work ethic.
 - B) The ability to tune out fellow Officers who just like to talk, talk, talk, talk, talk, talk, TALK!
 - C) Nice legs.

CHAIR-ELECT

1. The most important aspect of the Chair-Elect is:
 - A) The honor of serving a Section with a history that dates back 75 years.
 - B) The sense of satisfaction that comes from improving the professional lives of 500+ chemists and chemical engineers.
 - C) The knowledge that, at next year's lunch-time Board Meetings, you'll get to choose the pizza toppings even if the Councilor complains that the ground sausage resembles cat food.
2. The best description of this essential Officer is:
 - A) A dedicated Section Member willing to work hard to provide an interesting and exciting program.
 - B) A young, enthusiastic Section Member endeavoring to breathe new life into what some consider a somewhat stodgy membership.
 - C) A mouse yearning to be a rat.

ANSWERS

Secretary
1-C. 2-B, however, lest one think that C is sexist, it is widely believed that this attribute is what got Jim Gord elected.
Chair-Elect
1-C. 2-While C is actually the definition of an Assistant Dean, if you made it all the way down to the last answer of the last question, you are undoubtedly Chair-Elect material! Congratulations!!

Letter to the Editor

In the Spring/Summer 2005 Dayton Section Bulletin on page 2, Dr. Hochwalt's first name is spelled Carroll. Both he and Dr. Thomas were very influential chemists in the Dayton area and were founding members of the Dayton Section. They both had significant roles in the Manhattan Engineer District Project, which led to the production of the first atomic bomb.

Charles Friedman

Editor's Note: Thomas and Hochwalt founded the Patterson High School Chemistry Competition in 1943.

In order to obtain feedback from Section Members and to encourage dialogue between Members and Section Officers and Committee Chairs, Letters to the Editor will be published in each edition of the *Bulletin*. Send email to: steven.trohalaki@wpafb.af.mil or write it on the back of a \$50 bill and send it via conventional mail to the attention of the Bulletin Editor, Dayton Section ACS, 140 East Monument Ave., Dayton, OH 45402-1267.

News from National

LAURA L. KIESSLING TO LEAD MAJOR INITIATIVE IN CHEMICAL BIOLOGY

The American Chemical Society (ACS) has announced the appointment of Dr. Laura L. Kiessling as editor-in-chief of *ACS Chemical Biology*, a new publication scheduled to launch in 2006.

ACS Chemical Biology will provide a new central forum for the interface of chemistry and biology, emphasizing the use of rigorous chemical and biological approaches to solve problems in living systems. This monthly publication will offer rapid communication of peer-reviewed, primary research, supplemented by mini-reviews, concept articles, perspectives, news features and highlights from other ACS journals.

ACS Chemical Biology will seek to support the chemical biology community by providing venues for the exchange of ideas and approaches and by creating a dynamic Web gateway that allows users access to high quality information. The new publication aims to assume a leadership role in delivering and highlighting significant research in this innovative field.

Kiessling is recognized as a leading voice and pioneer in the field of chemical biology. From her laboratory at the University of Wisconsin, Kiessling said, "The synergistic progress in these disciplines renders chemical biology a vibrant and vital field. I want to use this initiative to help foster communication between chemists and biologists while at the same time conveying the significance of their research to a broad readership. *ACS Chemical Biology* represents an important advance for this field. This new publication is something I am proud and excited to be a part of."

More details are soon to follow on this innovative new title from ACS Publications! You can stay up to date on the latest information on *ACS Chemical Biology* at <http://www.acschemicalbiology.org>.

Call for Volunteers: National Chemistry Week

The 2005 NCW theme is *The Joy of Toys*, which will be celebrated October 16-22. National activities planned include a poster contest for students in kindergarten through 12th grade and a chemical invention contest for student affiliates. For more information, go to <http://chemistry.org> and choose "Natl Chem Week" under *Quick Find*.

We need a *National Chemistry Week Coordinator* to plan local NCW activities, which have traditionally included events at the Boonshoft Museum of Discovery and local schools. Help is available from the NCW Task Force and Past NCW Coordinators. Furthermore, the Section supports NCW with a significant budget. If interested, please contact Joy Rogers at (937) 255-3808 x3179 or Joy.Rogers@wpafb.af.mil.