



THE DAYTON SECTION

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BULLETIN

January–February 2001

"Chernobyl: A Visit to the Destroyed Reactor and Its Impact"

Wright State University
Friday, February 16, 2001

DATED MATERIAL -- MEETING ANNOUNCEMENT -- DO NOT DELAY

**NON-PROFIT ORG.
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**AMERICAN CHEMICAL SOCIETY
Dayton Section
Eugene W. Kettering Center
140 East Monument Avenue
Dayton, Ohio 45402-1267**

Meetings...

February

- Date:** Friday, February 16, 2001
- Place:** 340 Oelman Hall
Wright State University (Visitors can go to the Chemistry Department Office (229 Oelman Hall) before the talk to have their parking tickets validated.)
- Agenda:** **Speaker:** 3:30 PM
- Speaker:** Dr. William H. Zoller
- Topic:** "Chernobyl: A Visit to the Destroyed Reactor and Its Impact"

Abstract: The explosion of the reactor at Chernobyl in 1986 has led to a better understanding of global atmospheric circulation, and to atmospheric deposition processes related to nuclear debris. The accident also taught us a lot about reactor safety, and how to control nuclear reactions and fires in nuclear facilities. The talk will go over the sequence of the reactor operation and the accident itself, including the causes of the accident. Following the accident, the cloud of radioactive debris circled the globe, and was sampled as it crossed the Pacific Ocean and impacted the Western United States. During a trip to the Ukraine in 1992 the sarcophagus was visited, and the data and information and samples were collected, and will be discussed. The stability of the sarcophagus will be discussed as well as information from the Russians on its future reconstruction. Information will be discussed as to the current information on health effects of the reactor accident to the citizens of the Ukraine and Russia.

Biography: Dr. William H. Zoller is Professor of Chemistry and Adjunct Professor of Atmospheric Sciences at the University of Washington in Seattle. His research interests include atmospheric chemistry, volcanic chemistry, and the environmental sciences.



From the September 2000 Meeting featuring Nobel Laureate Rick Smalley. The meeting was held at the Engineers Club in conjunction with MMETS.

From L-R:

Nat Natarajan (Past Treasurer)

Harvey Paige (Chair)

Rick Smalley

Wade Adams

From the Chair

The Dayton Section in 2001

You may have noticed that this year's letter from the ACS requesting payment of membership dues for 2001 did not include the optional \$4.00 dues for the Dayton Section. This was an error, the responsibility for which has not been established. Fortunately, the Dayton Section has adequate funds to function without those local dues. In fact, the Dayton Section is surely among the most fortunate in having a fund from generous past benefactors, primarily the Patterson family, that allows us to carry on some valuable programs. The Patterson High School Award, the College Awards and the Patterson-Crane Award are funded by our endowment, as have been a portion of various science fair and National Chemistry Week activities. As a Section, we have much to point to with pride. It is my commitment to support these good works during my year as Chair of the Dayton Section. In addition, I plan to do as much as possible to increase membership participation in Section activities. I want to support those activities in which there is membership participation, and modify those for which an audience is not present.

The Section meetings featuring the Poster Session, the High School and College Awards, and the celebration of fifty year members have been generally well received and attended. The other meetings, many of which have featured tour speakers, have been less well attended. This year we will work to make sure that all meetings are of interest to some segment of the membership. The February meeting will be hosted by the Chemistry Department at Wright State University. Details of that meeting are found in this issue of the Bulletin. In March we will host the President of ACS, Dr. Attila Pavlath. His visit will be in conjunction with the Poster Session, and may also include a separate presentation. In April we will have the College Awards and a speaker to be announced. The Patterson-Crane Award ceremony will be held on May 8. June will be the month for the High School Awards, and Dr. Ken Williamson, a previous Dayton Section award winner will return to tell us how the award influenced his life in chemistry. In September we will be visited by Dr. Joseph Nagyvary, speaking about his research on the Stradivarius violin, and his work in building similar instruments. Finally, the November meeting will again honor our fifty year members.

I invite you, one and all, to communicate with me about activities you would support with your volunteered time and/or attendance. Should we visit a museum or brewery and hear about the chemistry of interest to their staff? Should we visit industrial laboratories or manufacturing facilities? Should we have artists or writers as speakers. Should we invite investment planners, dieticians, attorneys, or exercise physiologists? Should we minimize the Section meetings and devote our energy and resources to supporting the teaching and learning of chemistry, or rewarding individuals for the chemistry they practice every day. It truly is your Section of the American Chemical Society, and we will try to honor your wishes. First, we need to hear about those wishes.

Thanks for your interest and participation.

Harvey L. Paige

Call For Patterson-Crane Nominations

Nominees for the 2001 Patterson-Crane Award are being sought by the Dayton and Columbus, Ohio Sections of the American Chemical Society. The biennial award, consisting of a \$2000 honorarium and a personalized commendation, is given in honor of Austin M. Patterson and E. J. Crane, previous editors of Chemical Abstracts.

An international honor, the Patterson-Crane Award acknowledges outstanding contributions to the field of chemical information, including the design, development, production or management of chemical information systems or services; electronic access and retrieval of chemical information; critically evaluated data compilations; information technology applications in chemistry; or other significant chemical documentation.

Nominations for the award must be in writing and should discuss the nominee's contributions to the field and provide an evaluation of accomplishments. Materials supporting the nomination should include a biography and bibliography of publications and presentations relevant to the award. Seconding letters are required.

Send one copy of the nomination materials to The Patterson-Crane Award Committee, Melinda Greer, Chair, University of Dayton Chemistry Department, 300 College Park, Dayton, OH 45469-2357, for receipt by 31 January 2001. For more detailed information, see the ACS Dayton Section web page (<http://www.udayton.edu/~acs>) or contact Melinda Greer at (937) 229-2666.

Nominations will be judged by a seven-member selection committee consisting of Dayton and Columbus Section members as well as the Chair of the American Chemical Society Division of Chemical Information.

The 2001 Patterson-Crane Award will be presented 8 May 2001 at an awards dinner to be held in Dayton, Ohio.

Patterson Chemistry Competition

The Dayton Section will again sponsor the Patterson High School Chemistry Competition. The Patterson Awards, previously the Thomas-Hochwalt Awards, have a long history of recognizing the top three high school chemistry students in the Miami Valley. The competition consists of a multiple choice examination at 9:00 AM on Saturday, February 3, 2001 at Sinclair Community College in Room 4011 (enter from the basement of Building 4). The outstanding student from each high school as determined by the performance on this exam will be awarded a plaque from the Dayton Section. In addition, the top scores from the exam will be asked to submit an essay on "Chemistry and Its Relevance to Me" for a scholarship award. This year, the awards are \$1000 (First Place), \$500 (Second Place), and \$250 (Third Place). The competition open to students from Montgomery, Miami, Greene, Darke, Clark, Preble, and Champaign counties who either have taken or are currently enrolled in a high school chemistry course. There is no registration fee for taking this examination. For more information, call Paul Fleitz at 255-6671, ext. 3105.

Need Help in Your Career?

The Dayton Section offers assistance in career planning and searching for new positions. Contact Glen Buell (937) 426-2937.



National Chemistry Week Report

On Saturday, November 4 and Sunday, November 5 the Dayton Section teamed with the Boonshoft Museum of Discovery to celebrate National Chemistry Week. In keeping with this year's theme of Kitchen Chemistry, our event focused on America's favorite kitchen product - CANDY. Candy Chemistry took place at the museum and included hands-on activities, small group laboratories, and demonstrations. After making, dissecting, studying, and of course eating candy, museum visitors could learn how candy's main ingredient - sugar - leads to tooth decay from a dentist who set up shop at the museum for the weekend. Candy Chemistry t-shirts and aprons were distributed to the more than 150 volunteers from the museum's Science Central Youth Volunteers, local high schools and colleges (Centerville High School, Dayton Christian High School, Sinclair Community College, and Wright State University), and members of the Dayton Section that staffed the event. The t-shirts and aprons depicted a ball and stick model of sucrose (sugar) where the balls were replaced with appropriately colored m&m's and the words "Chemistry - How sweet it is!".

Hands-on activities took place at 10 locations throughout the museum. These activities included m&m Chromatography (food dyes were dissolved from the candy coating and separated using paper chromatography), Acid and Bases (different types of candy were dissolved in water and purple cabbage indicator was used to determine if they were acidic), Fizz Rocks (CO₂ trapped in the candy produces fizz when eaten), Edible Glass (hard candy where the comparison was made between making candy from sugar and glass from sand), and Cotton Candy (physical change as the granulated sugar becomes cottony fibers). In addition to the hands-on activities, the weekend event included 5 demonstration programs developed and presented by area high school and college chemistry clubs. Several of the demonstrations concluded with liquid nitrogen ice-cream, fitting right into the Candy Chemistry theme.