



THE DAYTON SECTION

Fostering scientific education and research and promoting public understanding of science

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NATIONAL CHEMISTRY WEEK COORDINATOR

Vacant

BULLETIN**Spring 2005****Meeting Announcements:**

April 20: *The History, Chemistry, and Identification of 19th Century Photographs*, will be presented at Sinclair Community College by Dr. Anthony Winston, West Virginia State University (details on page 2)

May 11: The 2005 Patterson-Crane Award Banquet. Honoree Dr. Gilles Klopman, Case Western Reserve University, will present "*Structure-Activity Studies of Biologically Active Molecules*," at Wittenberg University (details on page 3)

Also Inside:

- Highlights from past meetings (pages 4-6)
- Report from Council (page 7)
- Voice your opinions on offshoring, outsourcing, and globalization issues (back page)
- Call for Volunteers (page 5)

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

APRIL:

THE HISTORY, CHEMISTRY, AND IDENTIFICATION OF 19TH CENTURY PHOTOGRAPHS

Co-sponsored by Materials and Manufacturing Enabling Technology Series

DATE: Wednesday, April 20th

VENUE: Sinclair Community College Fourth Street, Building 12, Charity E. Early Auditorium, 1st Floor, Room 172 (free parking in garage below Bldg. 12)

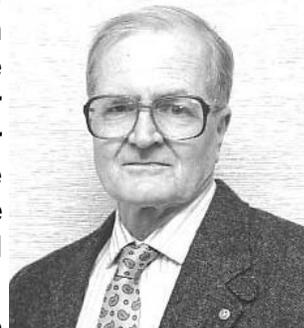
AGENDA: Registration: 5:00 – 6:00 pm
Talk: 6:00 – 7:00 pm
Social: 7:00 – 7:30 pm

A campus map can be found at:
<http://www.sinclair.edu/help/map/index.cfm>

SPEAKER: Dr. Anthony Winston, West Virginia State University (Professor Emeritus)

ABSTRACT: The Daguerreotype, first announced in 1839 in Paris, was the first practical photographic process and was widely acclaimed as being a most wonderful and marvelous invention. Within only a few years, Daguerreian photographic establishments sprang up all over the world. A few Daguerreotypists became eminently successful and today their work brings prices of thousands, and for some, hundreds of thousands of dollars. The Daguerreotype image is unique, unlike any modern photograph, and its formation is still not well understood. But the popularity of the Daguerreotype lasted for only about 15 years when it was succeeded by the wet plate process, which, unlike the daguerreotype, produced a negative that could be printed to give many copies – a definite advantage. The talk will include the invention and early history of photography from about 1835 to 1900, with specific attention to the types of images produced, characterization of the image, and distinguishing features important for their correct identification. Included will be an exhibit of daguerreotypes, ambrotypes, tintypes, cartes de visite, cabinet cards, stereoviews and other interesting photographic artifacts of the 19th century.

BIOGRAPHY: Dr. Anthony Winston is a native of Washington, D.C. He received a B.S. Degree in chemistry from George Washington University in 1950, an M.S. degree from Duke University in 1952, and the Ph.D. in Organic Chemistry from Duke in 1955. In 1959, after 5 years of industrial research, he joined the faculty of the Dept. of Chemistry, West Virginia University, where he is now Professor Emeritus of Chemistry. His research interests include organic and polymer synthesis, and particularly the design of polymers for medical applications. He has numerous publications and was instrumental in introducing microscale equipment in the undergraduate laboratory and for ten years managed summer workshops in the application of microscale techniques.



Dr. Winston studies the early history of photography, particularly the chemistry of early processes, and recreates some of these processes in his home laboratory. He collects antique photographs and equipment, such as daguerreotypes, ambrotypes, stereoviews, and stereoviewers. His interest in photography goes back more than 50 years. Both he and his wife Lois enter their color and black and white prints in international photographic salons and have received many awards in competition. A recent interest has been the photography of Wildflowers. He is a member of the American Chemical Society, the Photographic Society of America, the National Stereoscopic Association, and the Daguerreian Society.

Upcoming Meetings

MAY:

THE 2005 AUSTIN M. PATTERSON – E.J. CRANE AWARD

Co-sponsored by the Columbus Section

DATE: Wednesday, May 11th

VENUE: Wittenberg University, 105 Shouplin Center, Springfield (directions, page 8)

AGENDA: Reception: 5:30 pm
Dinner: 6:30 pm (see details, below)
Presentation: 7:30 pm – 7:50 pm

RECIPIENT: Dr. Gilles Klopman, Case Western Reserve University. Charles F. Mabery Professor of Research in Chemistry, Oncology & Environmental Health Sciences; Director of the Laboratory for Decision Support Methodologies; Adjunct Prof. of Environmental and Occupational Health (Univ. of Pittsburgh)

BIOGRAPHY:

Professor Klopman has worked on problems related to the evaluation of chemical reactivity for most of his career. His interests range from experimental determination of reactivity indices and substituent constants to the development of reactivity theories. His description of the concept of charge and orbital controlled reactions is now widely used to explain the ambident selectivity of nucleophiles and links the linear free energy-type correlations to more fundamental chemical concepts. His interest in quantum mechanics and in computers has led him to design and program the first semi-empirical method for the calculation of the properties of saturated molecules that later became known as MINDO. Professor Klopman's interests have gradually moved toward problems of artificial intelligence and its general use to correlate biological data.



As part of this effort, his group has developed a set of computer packages to represent and manipulate chemical data. His group's activity now focuses primarily on the determination of quantitative structure activity relationships in both carcinogenic and chemotherapeutic agents. This consists of developing computer simulations of the actions of drugs, such as N-nitroso derivatives on cancer and normal cells. Correlations are then sought between the chemical structure of the drugs and their activity in order to produce better antitumor agents. In a related project, quantitative relationships are sought between the nature and intensity of odors and their chemical structure. This project is sponsored by the perfume industry. In both projects, experimental investigations are conducted in conjunction with their computational counterparts in an effort to gain a better picture of the chemical-receptor interaction mechanism.

DINNER DETAILS: Cost of dinner is \$25 per person and free for students. Entrée choices are chicken parmesan, grilled salmon with horseradish butter, and vegetarian stir fry (all include salad, bread, beverage, 2 side items, and dessert). **Reservations are required.** RSVP to Melinda Greer by phone (513) 936-7165 or e-mail Melinda.Greer@uc.edu by April 29th. Please include your choice of entrée. Payment beforehand is preferred but will also be accepted at the banquet. Send checks made payable to the Dayton Section ACS c/o Melinda Greer at Raymond Walters College, 9555 Plainfield Road, Cincinnati, OH 45236.

Past Meetings

TechFest 2005

The 3rd annual TechFest was held at Sinclair Community College on February 19th and 20th. Organized by Dayton's Affiliate Societies Council (ASC), which is composed of about 50 local 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. Specifically 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 both the ASC and the Dayton Section of the ACS. Over 2000 students registered for the event with another 1000 parents attending.

This year the ACS booth followed the 2004 National Chemistry Week theme, *Health and Wellness*. We had two activities set up for the children. The first experiment demonstrated the effect of using suntan lotion against harmful UV rays. Utilizing UV sensitive cards, we sprayed SPF 30 sunblock on one card and left another free. The cards were then exposed to UV light and students could see how the sunblock protects the card from UV radiation. The children were each given a UV sensitive card to take home to test how much UV light they are being exposed to each day. The second experiment utilized glucose-testing strips to test different drinks for the presence of glucose, which is indicated by a color change. The children tested water, pedialyte, coke, diet coke, and a sucrose solution. This was a great hands-on activity where each child could test their own glucose test strips.

This event was very successful. We are very thankful for the volunteers who kept our booth going over the weekend. They include Jonathan Slagle, Dan Powers, Kelly Anderson, Hilmar Koerner, Sanford Lauderback, Narayanan Venkat, Rachel Jakubiak, Kiet Nguyen, Lynn Buffington and Joy Rogers. Kudos to the Section's long-time "banner-boy," Steve Trohalaki, for delivering both Section banners, complete with banner stands. We also thank Professor John Fortman for once again putting on great chemical demonstrations throughout the weekend in the auditorium.

Got glucose?



Dayton-Section member and volunteer, Dan Powers, demonstrates to several attendees the glucose testing experiment.

How many chemists does it take to multitask?



Lynn Buffington, Joy Rogers, and Kiet Nguyen demonstrate both the glucose testing *and* the UV light experiments.

Past Meetings

Annual Poster Session, ...

Thirty posters were presented on Tuesday, March 1st, at the Section's annual Poster Session held, as in years past, at the University of Dayton. Prizes of \$100 were awarded for two outstanding undergraduate and two outstanding graduate posters. The Section thanks Ken Turnbull, Steve Trohalaki, Lalgudi Natarajan, Augustine Urbas, and Shawn Swavey for judging the posters. Presenters of the 2005 Outstanding Posters are:

Undergraduate.

- Helen Smith, University of Dayton, for *Development of a Biological Ink for Use with Thermal Inkjet Technology*
- Brian Turner, University of Dayton, for *Synthesis and characterization of mononuclear copper(II) complexes with a tridentate ligand containing pyridyl, thioether and phenolate donors*

Graduate.

- Sridevi Kaiti, Wright State University, for *A Thorough study of the synthesis of linear poly(arylene ether phosphine oxide) via an AB monomer*
- Sarah Chelgren, Wright State University, for *Effects of Fuel Composition on Particulate Formation in Spray Flames*

The Patterson College Awards, ...

In conjunction with the Poster Session, the Section presented the Patterson College Chemistry Awards, which are given annually to outstanding junior chemistry majors at each of the area colleges or universities. Each of the following awardees received a certificate and a check for \$300:

- Deirdre Zwilling, University of Dayton
- Jeff Mitchell, Cedarville University
- Tabitha Thompson, Wittenberg University
- Ben Southerland, Wright State University
- Amanda Caster, Antioch University



Outstanding poster winners (from left to right): Helen Smith, Brian Turner, and Sridevi Kaiti.



Patterson College Award Winners (from left to right): Deirdre Zwilling, Tabitha Thompson, Ben Southerland (nice suit!), and Amanda Caster.

& The Section's 75th Anniversary Celebration

In honor of 75 years of the Dayton Local Section we were pleased to have current national ACS president, Dr. William Carroll, give the keynote address at the Poster Session/College Awards meeting. He presented his agenda for the upcoming year, which encompasses three areas: The Public Perception of Chemistry; Pre-college Education and Educators; and How the Chemistry Enterprise in the US is changing. (continued on page 6)

Past Meetings

The Section's 75th Anniversary, continued from page 5:

Former national ACS president, Dr. Attila Pavlath, also joined the celebration. He and Dr. Carroll acknowledged all Dayton Section Past Chairs and presented certificates to those who are currently members and were able to attend and to the current Chair and Chair-Elect (those Past Chairs unable to attend will receive their certificate in the mail). Dr. Carroll noted that the Great Depression began about 75 years ago but still Dayton Chemists saw fit to establish a local section of the ACS. Dr. Carroll thanked all Past Chairs and current Dayton-Section Officers for their efforts and asked all members, in the spirit of the Section's founders, to volunteer and maintain the Dayton Sections high standards. The evening was concluded with a 75th Anniversary cake, pictured below. We are especially grateful to Professor Al Fratini for all of his hard work in making this event successful year after year.



Twelve Past-Chairs of the Dayton Section, the current Section Chair, and the Chair-Elect mug for the camera with Attila Pavlath and Bill Carroll.



Section Chair, Joy Rogers, College Awards Committee Chair Al Fratini, and Chair-Elect Hilmar Koerner announce, "Let them eat cake!"

Report from Council, continued from page 7

Vital Statistics and Dues

As of March 15, 2005, the ACS spring national meeting had attracted 15,385 registrants as follows: 8,372 regular attendees; 4,160 students; 1,624 exhibitors; 628 exposition only; and 601 guests. Membership in the American Chemical Society was 158,127 as of year-end 2004. Compared to the previous year, this represents less than a 1% decrease. In 2004, more than 13,000 new members were added to the rolls. The Council voted to set the member dues for 2006 at the fully escalated rate of \$127.

Special Discussion Item

ACS President William F. Carroll presented an overview of Chemistry Enterprise 2015, posing the question, "Where will our students come from in the next ten years, and where will they go?" Councilors (although, not this one) then participated in a lively discussion of this issue, which was framed as follows: Currently the U.S. has a strong university system and U.S. graduate education in science is widely recognized as the best in the world, but problems loom on the horizon. In addition, a variety of factors in the nation's academic infrastructure are likely to produce change in the training and careers of new chemists. The discussion at Council intensified awareness of this issue and possibilities for solutions.

Actions of the Board of Directors

Several items, too numerous to mention here, were reported to Council. They include: The Society's Current Finances and Financial Future; The Board's Committees and Task Forces; The Society's Staff; The Society's Publications; and ACS Governance Review. A full report is available on the Dayton Section's web page.

Submitted by your humble Councilor, Steve Trohalaki

Report from Council

At the 229th National Meeting of the American Chemical Society in San Diego, I attended my first Council meeting as Councilor for the Dayton Section. Before this, however, I attended Councilor Orientation, the District II Councilor Caucus, the Town Hall Meeting (to meet candidates seeking nomination for ACS President-Elect), and observed the open meetings of some of the Council's committees, such as the Local Section Activities Committee and the Committee on Council Policy. And, of course, there was the Reception for Local Section Officers & Tour Speakers featuring the traditional Big Sandwich. Summarized below are some of the highlights from Council.

Selection of Nominees for National Office

The first task at hand was a vote to select 2 candidates for 2006 President-Elect. The Committee on Nominations and Elections presented to the Council the following nominees: Pat N. Confalone, Catherine T. Hunt, John W. Kozarich, and Cynthia A. Maryanoff. After reading the candidates' statements, I was ready to vote for Dr. Hunt alone. After hearing the candidates' statement at Council, I was still convinced that Dr. Hunt was the best candidate but I was persuaded by Dr. Kozarich's statement to vote for him, too. Votes for Drs. Hunt and Kozarich were very obvious choices, in my opinion, which is why I was surprised to see the two Councilors to my left each vote for Confalone and Maryanoff! However, by written ballot the Council selected Catherine T. Hunt and John W. Kozarich as candidates for 2006 President-Elect. Another surprise (at least to me) came when it was announced that George E. Heinze was certified as a petition candidate for 2006 President-Elect. Concern was expressed by 1996 ACS President, Ronald Breslow, that petition candidates do not give public statements to Council or participate in the Town Meetings and, therefore, do not undergo proper vetting like the other candidates. Prof. Breslow also said that the traditional alternation of academic and industrial candidates for President-Elect has been disrupted by the current petition candidate, who is evidently an academic. Past President (2001) Atilla Pavlath reminded Council (somewhat sarcastically, it seemed) that "a little-known document called the US Constitution guarantees the right of citizens to petition the government."

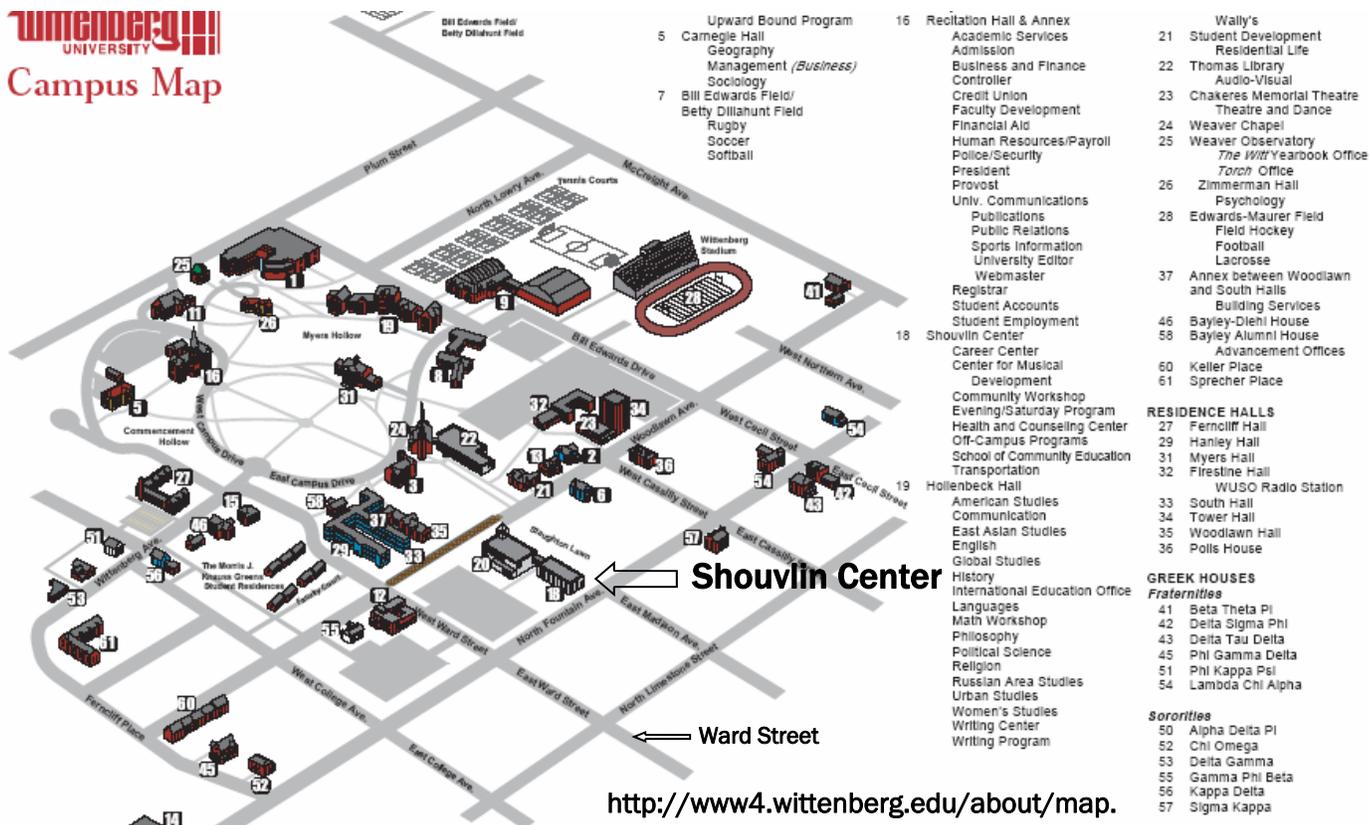
The Committee on Nominations and Elections announced the selection of the following candidates for Directors-at-Large for a 2006-2008 term: James D. Burke, Edwin A. Chandross, C. Gordon McCarty, and Frankie Wood-Black. The election of two Directors-at-Large will be conducted in the Fall, with ballots mailed to the Council on or before October 10. In addition, announced were the nominees for candidates to represent District III and District VI on the Board of Directors for the 2006-2008 term but, because Dayton is in District II, I won't bother reporting further details.

Project SEED and Ethics

Council voted to continue the Committee on Project SEED, which oversees the Society's summer educational experience program for disadvantaged youth. In a much more contentious issue, the Committee on Committees presented to Council a proposal to establish a Committee on Ethics. Which would: coordinate the ethics-related activities of the Society; serve as an educational resource and clearinghouse (but not as an adjudication body) for ACS members seeking guidance on ethics issues; raise awareness of ethics issues through meeting programming and columns/editorials; review opportunities for acknowledging ethical behavior; and develop and oversee such other ethics-related activities that will serve ACS members and promote the Society's standards of ethical conduct within the profession of chemistry and its related disciplines. A California Councilor commented that another new Committee goes against Council's previously stated goal of streamlining ACS governance and said that an ethics subcommittee of the Committee on Economic and Professional Affairs (CEPA) already exists. His motion that the proposed duties of the committee be assigned to this CEPA subcommittee was defeated. Council then voted to establish a Committee on Ethics as an Other Committee of the Council. Not wanting to appear unethical, I voted with the majority. (*continued on page 6*)

Interested in Volunteering? We need a National Chemistry Week Coordinator, who is in charge of planning the events surrounding NCW held in October. Contact Joy Rogers at (937) 255-3808 x3179 or Joy.Rogers@wpafb.af.mil.

Map and Directions to Wittenberg University



Directions to Wittenberg University

From points east, take I-70 West, toward Dayton. From points west, take I70 East, toward Columbus. Exit onto Route 68 North, toward Urbana. Exit onto State Route 41 and turn right. You will pass a Marriot Fairfield Inn and a Meijer Superstore. When the road dead ends, turn right onto McCright Avenue. Go straight through the first stoplight and at the next stoplight turn right onto Fountain Avenue. You are now approaching campus. At the first stoplight turn right onto Ward Street. Follow straight through the stop sign and you will approach the main gate to campus.

Voice your opinions on offshoring, outsourcing, and globalization issues!

Interested in the impacts of globalization on the chemistry workforce? The Committee on Economic and Professional Affairs' Task Force on Globalization Issues monitors, communicates, coordinates, and cooperates with others on globalization and related employment issues. The Task Force provides information, resources and formats for discussion, strategic planning, and most importantly opportunities for member input. The CEPA Globalization Task Force has created a Message Board on Globalization at <http://www.websitetoolbox.com/tool/mb/cepa> so that you can express your opinions, relate your experiences, and learn more about these important issues.

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 conventional mail to the attention of the Bulletin Editor, Dayton Section ACS, 140 East Monument Ave., Dayton, OH 45402-1267