



THE DAYTON SECTION

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BULLETIN

May – June 2001

College Awards
Cedarville University
Thursday, April 26, 2001



Patterson-Crane Award
University of Dayton
Tuesday, May 8, 2001



High School Awards
Sinclair Community College
Thursday, June 14, 2001

DATED MATERIAL -- MEETING ANNOUNCEMENT -- DO NOT DELAY

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

Meetings...

April

Date: Thursday, April 26, 2001

Place: Room 345 - Engineering, Nursing and Science Building
Cedarville University (directions can be found on page 6)

Agenda: 7:00 PM – Social
7:30 PM – Dinner
Award Presentations

Speaker: Dr. Rosemary Marusak
Kenyon College

Topic: "Studies of the mechanisms of cancer chemotherapeutic ICRF drugs: contributions by undergraduate researchers to the field."

Abstract: The bisdioxopiperazine, dexrazoxane (ICRF-187, Cardioxane,TM Zinecard,TM), is clinically approved in Europe and North America as a cardioprotective agent against doxorubicin-induced cardiotoxicity in patients with metastatic breast cancer. In the 1970's, razoxane (ICRF-159), the racemic form of dexrazoxane, was used as a clinical treatment for acute leukemia, non-Hodgkin's lymphoma, and breast cancer. Reports of secondary toxicities during treatment of psoriasis in the 1980's, however, prevented razoxane from entering Phase III clinical trials for its use as a standalone anticancer agent. Interest in ICRF drugs was revived in the 1990's when the S(+) enantiomer of razoxane, dexrazoxane, proved to be an effective cardioprotective agent in anthracycline chemotherapy. Furthermore, recent studies focusing on the potential use of ICRF drugs in combination therapy have launched a re-examination into their chemotherapeutic value. The mechanisms of ICRF action during chemotherapy and cardioprotection are, at present, thought to be independent: the former involving ICRF inhibition of DNA-Topoisomerase II, and the latter involving iron chelation by ICRF metabolites. Iron-ICRF complexes, formed during cardioprotection, exhibit oxidative reactivity under physiological conditions and therefore may be implicated in secondary toxicities during ICRF therapy. For the past few years, our lab has been investigating the solution chemistry of iron-ICRF complexes and their reactivity with biological molecules. This work has led to the design and partial syntheses of new ICRF drugs that may ultimately prove to have higher effectiveness as cardioprotecting agents. This talk will provide an overview of ICRF drugs in both chemotherapy and anthracycline cardioprotection and will highlight some of the work contributed to the ICRF field by undergraduates at Kenyon College.

Biography: Rosemary Marusak received her bachelors degree in Chemistry and Biology in 1986 from Providence College (Providence, RI). She then went on to get her PhD in mechanistic inorganic chemistry (1990) at the University of Notre Dame (Notre Dame, IN) under the direction of A. Graham Lappin. As a National Institutes of Health Post-doctoral Fellow (1990-1993) she worked at the University of California (Davis, CA) with Claude Meares before moving on to her present position at Kenyon College where she is an Associate Professor of Chemistry. At Kenyon she teaches inorganic and bioinorganic chemistry. She has supervised 20 students in her research lab, where her students routinely present their work at local and national conference. She has 15 scientific publications and has given over 20 presentations at universities and colleges throughout the U.S. and at national and international conferences. In 1997 she received a Jr. Faculty Trustee Teaching Award and has twice received the Robert J. Tomsich Award for Excellence in Science (1995, 2000) at Kenyon for her teaching and research efforts.

Rosemary has been a member of the American Chemical Society for 15 years and has been active as a Faculty Advisor for the ACS Student Affiliates Group at Kenyon. She is a Chemistry Councilor for the Council on Undergraduate Research and is currently Canadian Liaison for this group. This year Rosemary is on sabbatical, supported by a NSF-POWRE Award, working with Dr. Brian Hasinoff in the Faculty of Pharmacy at the University of Manitoba.

May

Patterson-Crane Award Presentation

Date: Tuesday, May 8, 2001

Place: Virginia W. Kettering Dining Room
Virginia W. Kettering Residence Hall
University of Dayton

Agenda: 5:30 PM --- Reception
6:30 PM --- Dinner
8:00 PM --- Patterson-Crane Award Presentation and Award Address

Speaker: Dr. Gerard Moss,
Queen Mary and Westfield College

Topic: "Nomenclature on the Web"

Cost: \$20.00
\$13.00 (Students, Emeritus and Unemployed Members)

Reservations: Reservations may be made to Dr. Melinda Greer 937.229.2666 or melinda.greer@notes.udayton.edu. All reservations must be made by Thursday, May 3rd. No cancellations can be accepted after that time. Please include your professional affiliation. Early reservations are greatly appreciated.

Mail payment to: Dayton Section, ACS
Dr. Melinda Greer
Department of Chemistry
University of Dayton
Dayton, OH 45469-2357

Biography: Gerry Moss is a retired senior lecturer in organic chemistry at Queen Mary and Westfield College, University of London (UK). His research interests center on natural product synthesis and structure determination and have been mainly concerned with polyenes such as carotenoids and vitamin A analogues, but his research has also strayed into related areas such as the conducting polymers formed from polymerisation of conjugated diacetylenes. He has been involved on the publication of two dictionaries of natural products. He received his first degree from Imperial College, London (1959), and his Ph.D. from Cambridge University (1962). Apart from a year at Columbia, NY and three back at Imperial College, he has spent his career at QMW.

He has been actively involved during the last quarter century with most of the international chemical nomenclature documents published by the Commission on Nomenclature of Organic Chemistry, the Joint Commission on Biochemical Nomenclature, and the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology. His work in disseminating this information through the World Wide Web is particularly impressive. The official nomenclature Web site (<http://www.chem.qmw.ac.uk/iupac/>), developed and maintained by Dr. Moss, now includes almost all of the organic and biochemical documents and attracted over a third of a million users during the past year.

Other significant accomplishments include his revision and systematization of Austin Patterson's fused and bridged fused ring nomenclature, his service on numerous nomenclature commissions, and the published nomenclature recommendations with which he has been involved.

Outside chemistry, he is much involved in the archaeology, local history and industrial archaeology of Surrey (the county south west of London stretching from the Thames to half way to the coast).

Meetings... (continued)

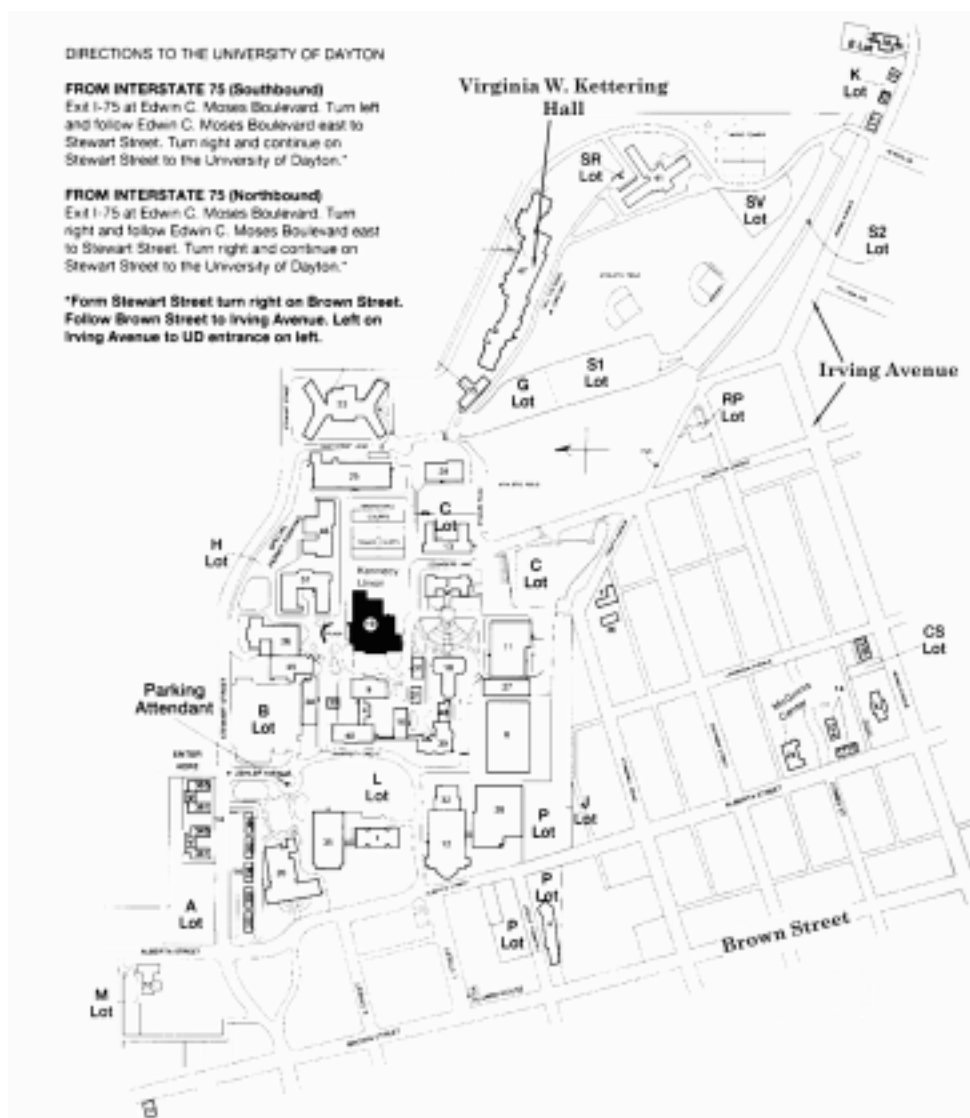
Abstract: Traditionally IUPAC chemical nomenclature has been developed by a group of experts and eventually published in Pure and Applied Chemistry. The advent of the web opens up a new approach to publicising recommendations with the ability to reach a far wider audience.

Almost all IUPAC organic chemical and biochemical nomenclature recommendations¹ and IUBMB nomenclature recommendations² are available from the web in a pair of interlinked web sites. Bibliographic data is available not only on the various nomenclature publications of IUPAC and IUBMB in English but also of all translations identified. Within the limitations of html the web presentation of documents is as close as possible to the published form but with the added advantage that all corrections have been applied. A list of errors is provided for those who wish to correct their paper copy. The search facility enables rapid location of relevant documents. Currently users from 151 countries have been recorded. This has enabled a much wider dissemination of the recommendations than conventional printed versions.

The presentation will consider this nomenclature database and other web based nomenclature of possible interest to chemists. It will describe how the site was created and some future developments. Some conclusions are drawn from the detailed statistics maintained on the use of individual documents. Also of significance is the range of users implied from correspondence.

1. <http://www.chem.qmw.ac.uk/iupac/>
2. <http://www.chem.qmw.ac.uk/iubmb/>

Directions: Follow the map to Parking Lot S1 in front of the Virginia W. Kettering Residence Hall. Take Brown Street to a left on Irving Avenue, to a left on Evanston Avenue. Drive until it dead ends at Stadium Road and turn right. Go to the top of the hill and turn right. Go through G Lot (restricted parking) into the S1 Lot. Park near the stairs up to the residence hall.



June

Date: Thursday, June 14, 2001

Place: Executive Dining Room
Building 12, Sinclair Community College*

Agenda:

Social: 6:30 PM
Dinner: 7:00 PM (Buffet)**
Talk: 8:00 PM

Speaker: Dr. Kenneth Williamson

Topic: "From Basement Lab to Microscale Organic Experiments"

Abstract: Ken Williamson grew up as an organic chemist in Dayton, from his basement lab in Oakwood to working, not without incident, at Monsanto. He is the author of Organic Experiments (with the late Louis Fieser) and Macroscale and Microscale Organic Experiments. He will discuss the development of the undergraduate organic lab from flasks with corks heated with Bunsen burners to microscale organic experiments, which he pioneered. The evolution of undergraduate organic experiments over the last century, including modern synthetic experiments carried out on a scale of tens of milligrams, will also be discussed. He will demonstrate the use of the microscale equipment that he designed, and he will talk about the design of the organic lab of the future.

Biography: Dr. Ken Williamson lived in Dayton for twenty years where he graduated from Oakwood High School. He was the 1952 winner of the ACS essay contest. His father, Jim Williamson, V.P. and Manager of Power Production for the Dayton Power and Light Co, and long-time member of the Engineers' Club, won the ACS contest for the state of Kentucky in 1923.

After graduating from Harvard and receiving a PhD from the U. of Wisconsin, Ken Williamson was a postdoctoral fellow at Stanford. In the summers from 1952 to 1955 he worked at the Central Research labs of Monsanto on Nicholas Rd. For 38 years he taught organic chemistry at Mount Holyoke College. He has been a visiting professor at Cornell, Dartmouth, Harvard, MIT, and last year, CalTech. He taught in several European universities while holding a Guggenheim Fellowship. He is the author of a number of organic lab manuals that have progressed through some thirteen different editions over the past 25 years. His research has been in conformational analysis and biochemical applications of NMR.

*Parking will be free under Building 12

**All awardees, their families and Dayton Section members are cordially invited. Reservations are not required, but to help plan, it would be appreciated if you would inform us of your plans to attend. Contact Harvey Paige, 1440 Meadow Lane, Yellow Springs, OH 45387 (937.767.2305 or hrpaige@worldnet.att.net).

From the Chair

It is said that "it is lonely at the top." In the common understanding of that phrase, it means that the President (of the United States) must take sole responsibility for the decision to use the atomic bomb on Japan, face off the Soviet Union over Cuba, or to drill for petroleum in the Arctic. I have discovered that the phrase has a more general application.

Please do not get me wrong. The Chair of the Dayton Section does not get involved in life and death decisions, or even decisions having a material impact on the Miami Valley. But it can still be lonely. Try asking for volunteers, for example. Old friends cross the street to keep one at a distance! Don't get me wrong on that score either. The Section RUNS on volunteers who contribute untold hours for little recognition. It is my intention to try to rectify that situation in some small way in this, and in future, columns. I will start with the High School Awards program.

The High School Awards represent the Dayton Section at its best. We recognize achievement in chemistry based on knowledge of the facts and the ability to write intelligently and coherently about some aspect of chemistry. From my acquaintance with more than one winner of the award, I know that it can have a profound impact on the recipient. This year's High School Award speaker, Dr. Kenneth Williamson, was a recipient of the High School Award in 1952. He went on to earn his doctorate in chemistry and has had a distinguished career in, and has made a lasting impact on, chemistry. Read more about him in the biography and abstract in this issue of the Bulletin.

The High School Awards program is presently ably run by Berch Carpenter. Berch handles it all. From inviting the students to take the examination, to providing the list of winners at the end, he takes charge. The volunteer hours he spends are known by those of us who do not need to beat the bushes in search of other volunteers. Now I want the rest of the Section to know, and to recognize Berch for his contributions. Please say "Thanks" when you see him. Berch, my hat is off to you.

Harvey L. Paige, Chair

Directions to Cedarville

Take US 42 from Xenia to Cedarville. Turn left (north) on State Route 72. Go left on College Street. Turn right after parking lot. Engineering, Science & Nursing Center will be on the left (Bldg 8 on the map). Use the entrance nearest the lake. All parking lots are open lots in the evening. When coming from the north: Take SR 72 south to College Street and turn right.

