



# THE DAYTON SECTION

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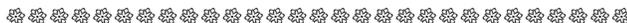
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**BULLETIN**

May – June , 1998

*Join Chemists from Across Ohio on State  
Capitol Day, May 13th  
(see page 4 for details)*



*"The History of the Diagnostics Industry"*  
University of Dayton  
Tuesday, May 12, 1998

*"An Evening of Chemistry" & High School Awards Night*  
Sinclair Community College  
Tuesday, June 9, 1998

**AMERICAN CHEMICAL SOCIETY****Dayton Section**

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# SECTION MEETINGS . . .

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## May

**Date:** Tuesday, May 12, 1998

**Place:** Room 253, Kennedy Union  
University of Dayton

**Agenda:** 6:30 PM — Social  
7:00 PM — Speaker

**Speaker:** Helen M. Free

**Topic:** *"The History of the Diagnostics Industry"*

### **Abstract:**

During the 19th Century, scientists made numerous discoveries of the components of the blood, urine and spinal fluid. They utilized general analytical reagents. However, there were no clinical laboratories as a regular part of a hospital or clinic.

The first clinical laboratory in the USA was established in New York City in 1912 at an institution known as the Post Graduate Hospital. Victor Myers was the director of this laboratory where chemical tests were performed regularly on blood and urine. The importance of this laboratory service gained national recognition and by 1930 larger hospitals had laboratories headed by a clinical chemist or pathologist, adapting general reagents and instruments.

The first successful commercially available ready-to-use reagent was made by Walter Compton, a physician, and Maurice Treneer, a chemist, at Miles. Around 1940, they created a self-heating effervescent copper sulfate tablet to perform the Benedict's test for urine sugar. The advent of this test and the presence of "clinical" laboratories combined to make this the tiny beginning of the diagnostics industry. During the late 1940's and early 1950's, Dr. Leonard Skeggs at the Veterans Hospital in Cleveland devised an instrument to automatically dialyze blood, mix reagents, separate specimens and measure color to determine diffusible analytes. This first "autoanalyzer" led to a proliferation of instruments specifically designed to do all types of measurements on blood, serum, tissue, spinal fluid, etc.

Currently the diagnostics industry is a multi-billion dollar business in all industrialized parts of the world. There are innumerable reagent systems and instruments providing a leading edge in the progress of medical science and treatment of patients.

### **Biographical Sketch:**

Helen M. Free is a Professional Relations Consultant for the Diagnostics Division of Bayer Corporation in Elkhart, Indiana. She holds a B.S. degree with honors in Chemistry from the College of Wooster, Wooster, Ohio, a Master's degree in Management in the Health Care Field (Clinical Laboratory) from Central Michigan University, and an honorary doctorate of science from the College of Wooster. Her career since joining Miles in 1944 includes laboratory experience in quality control, research, development and product evaluation, and technical services. She has attained wide experience in management and growth and development as new products manager for clinical, medical, microbiological and instrumentation test systems. She was the first woman at Miles to reach the executive level a Director of Specialty Systems directing the planning, development, manufacture and marketing of specialty products. Thus, her main interests are in the field of clinical chemistry and medical devices and in management in the health care area.



# STATE CAPITOL DAY, MAY 13, 1998

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## ***Join Chemists from Across Ohio on State Capitol Day, May 13***

On Saturday morning, February 27, 1998, representatives from most of the local sections in Ohio met at Chemical Abstracts Service, Columbus, Ohio, for the first ever ACS State Government Relations Planning Group meeting. The agenda was to investigate the possibility of a statewide coalition of local sections to effect change in and contribute to Ohio State public policy. The representatives agreed that the ACS should work with the State legislature in areas that are of interest to chemists and provide expertise in chemistry. The Ohio legislature is currently considering legislation on higher education funding, K-12 science education, and numerous environmental issues that affect us.

As a first step toward establishing a state government relations program for Ohio local sections, an Ohio State Capitol Day will take place on Wednesday, May 13. ACS members from every Ohio section are invited and encouraged to convene that day at the State Capitol in Columbus to meet with their state legislators. The purpose of these meetings is to establish or reestablish relationships with our own local representatives and introduce the resources and expertise of the Ohio local sections and members. That expertise might be directed toward the quality of K-12 science education, levels of state funding for higher education, restrictions imposed by the Clean Air or Clean Water Acts, or the very definition of "hazardous chemicals" and in what quantities they are hazardous. The ability of ACS, its local sections, and members to ensure that state laws and regulations are based on sound science and are supportive of chemists and chemistry is central to the need and opportunity of a statewide government relations program. Please look for further announcements on the Dayton Section web page (<http://www.udayton.edu/~acs/>) and plan to join us in Columbus on Wednesday, May 13.

### ***Participants from Districts 4 and 6 Are Especially Needed***

A meeting is set with Senator Scott Nein, Chair of the Ohio Senate Committee on Energy, Natural Resources, and Environment. We need to find one or more residents of his district (#4) to participate together with representatives from other local sections. District 4 consists of Butler and Preble Counties.

A similar meeting is tentatively set with Senator Charles Horn, Chair of the Senate Committee on Economic Development, Technology, and Aerospace. We also need to identify participants from his district (#6, directly in the middle of Montgomery County).

For more information, contact Steve Trohalaki at 937-255-6671 x3147 (day), 937-878-0677 (eve), 937-255-1128 (FAX) or trohals@ml.wpafb.af.mil (email).

# THE PATTERSON COLLEGE CHEMISTRY AWARD

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The Patterson College Chemistry Award is presented to outstanding junior chemistry majors attending the colleges and universities within the Dayton Section, American Chemical Society. Each student receives a certificate of recognition and a cash award of \$300. Students are selected on the basis of academic achievement, campus involvement, character, and potential for success.

## **Adam D. McFarland**

The University of Dayton

Adam D. McFarland, son of John and Bonita McFarland, was born on July 11, 1977 in Hummelstown, Pennsylvania. Adam spent the first four years of his life in Pennsylvania before his family moved to Maria Stein, Ohio. Growing up, Adam attended Marion Local Schools, a small consolidated school district in a rural community. During his junior year Dr. Ronald Hertel, a science teacher at Marion Local, introduced Adam to the science of chemistry. Adam finished high school with a 3.95 g.p.a. and graduated salutatorian of his class.

Adam decided to continue his education at the University of Dayton where he is currently pursuing a Bachelor of Science in chemistry. At U.D., Adam received the Bernard Katchman Chemistry Scholarship and the Sherwin-Williams Chemistry Scholarship. For the past two years he has been working under Dr. Albert V. Fratini, chair of U.D.'s chemistry department, at Wright-Patterson Air Force Base. Under the direction of Dr. Doug Dudis, polymer branch leader at WPAFB, Adam is involved in X-ray crystallography and computational studies of conducting polymers. The University of Dayton chemistry department chose Adam as Outstanding First-Year Chemistry Student and Outstanding Organic Chemistry Student for his performance during his sophomore year. Currently Adam carries a 3.96 g.p.a.

Adam is about to begin his senior thesis under the direction of Dr. Melinda Greer. His research will focus on crystal engineering using electron donor-acceptor interactions. After he graduates from U.D. Adam plans to attend graduate school. Ultimately, Adam hopes to be employed in industrial chemistry.

## **Lisa K. Stewart**

Wittenberg University

Lisa Stewart, daughter of Robert and Ann Stewart, grew up in Bryan, Ohio. She has a younger brother, Bob. She attended Bryan High School. She was in the top ten percent of her graduating class in 1995. Lisa decided to attend Wittenberg University as a Pre-Medicine/Biology major. After only a semester, she had switched to chemistry, but held onto a Pre-Medicine studies concentration and a biology minor. Lisa is currently a junior chemistry major working toward an ACS-certified Bachelor of Arts degree. She still plans on applying to medical school this fall. Lisa spent last summer at the University of Massachusetts doing Molecular Biology/Biochemistry research with Dr. Jennifer Normanly through a Summer Research Experience for Undergraduates. She worked on studying the auxin biochemical pathway in Arabidopsis plants, using a variety of molecular biology techniques. Currently, Lisa is performing research at Wittenberg with Dr. Derek McDowell on the photodegradation of methylmercury in water systems. This summer, Lisa plans to attend an NSF-funded research experience for undergraduates at Case Western Reserve University. She will be working on a pharmacology project there.

Lisa keeps herself busy through a variety of activities in addition to her classes. She is a Teacher's Assistant in a chemistry laboratory each semester and is a tutor for a high school student struggling in chemistry. She also works as a Commu-

nity Service Coordinator to help students finish their community service requirement. She is the Vice President of the Pre-Professional Club at Wittenberg and the President of the Wildlife Club. In her little free time, she likes to hang out with friends, read books, go shopping, and play softball and tennis.

## **Amber Wilson**

Cedarville College

Amber is currently a chemistry major at Cedarville College. She was born in Phoenix, Arizona, but grew up in New York State. The beauty of New York led her to pursue an education in Environmental Biology. As a sophomore she considered a career in chemistry, thanks to her organic chemistry professor.

Since that time, Amber has been involved in two research programs. During the summer after her sophomore year she worked with Dr. Douglas Miller, performing computational calculations researching the band gaps of polymers. Currently she works at Wright-Patterson Air Force Base as a student contractor under the direction of Rajiv Berry. Her work involves computational calculations of viscosities.

As a result of these two similar projects, Amber desires to continue with theoretical chemistry after undergraduate studies. She wishes to obtain her doctorate with the hope of discovering a new practical source of energy that is environmentally friendly.

Amber wishes to thank Dr. Larry Helmick, without whom she would not have begun her study in chemistry and also to the other wonderful professors at Cedarville, without whom she would not have continued that study. She especially wishes to thank God, who gave her the ability to study His creation and learn more about Him through science.

(continued on next page)

(continued from pg 5)

### Neil Fairweather

Wright State University

Neil is a hard working student who, before coming to Wright State, was the valedictorian at Landmark Christian Schools in Cincinnati. At Wright State Neil has immersed himself in various activities including the setting-up, and working in the very successful Chem Demo Outreach Program. Neil has a special attachment for the various chemistry labs. During last summer, he worked on videotaping the undergraduate Organic Chemistry labs and is presently prepping the Freshman Chemistry Labs.

Neil also worked this past year in the research laboratory of Dr. Dan Ketcha, where he completed a project on "The Use of Environmentally Benign Catalysts for the Friedel-Crafts Acylations of 1-(Phenylsulfonyl)pyrrole and 1-(Phenylsulfonyl)indole." This research was presented at the March American Chemical Society meeting in Dallas, and will be submitted for publication in Chemical Communications.

After he graduates, Neil plans to pursue his Ph. D. in organic synthesis.

### High School Chemistry Teachers' Workshop

The Department of Chemistry at the University of Dayton and the Miami Valley High School Chemistry Teachers Association will sponsor a hands-on workshop for high school chemistry teachers on Saturday, April 25 from 8:30-2:30 at UD. The workshop entitled "HOT (Hands-On Teaching) Topics" will include a discussion of the importance of demonstrations and hands-on experiments in the classroom. There

will also be hands-on workshops covering Calculator Based Labs and Micro-Scale Chemistry. The presenter is Ann Levinson from Niles Township High School in Skokie, Illinois. For more information contact the UD Department of Chemistry at 229-2631.

### John Fortman wins 1998 Chemical Manufacturers Association Catalyst Award

Dayton Section Councilor John Fortman was selected as a winner of the 1998 Chemical Manufacturers Association Responsible Care National Catalyst Award for excellence in teaching. He is among 7 recipients of this prestigious national award. The award, which consists of a \$5,000 honorarium, medal, and citation, will be presented at an awards ceremony during the Chemical Manufacturers annual meeting June 4, 1998 at The Greenbrier, White Sulphur Springs, West Virginia. One of the 1997 Catalyst Awards was received by another Dayton Section member, Richard Jones, from Sinclair Community College.

The Catalyst Award recognizes excellence in classroom teaching and contributions that enrich the teaching of chemistry. John was selected based on a nomination that contained letters of support from former students, high school teachers, and professional colleagues. The nomination also cited John's service to the American Chemical Society on both the local and national level and his chemical demonstration outreach program which reaches over 7,500 Dayton area middle and high school students each year.

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