



March Section Meeting
YCC- Brewing Chemistry Presents:

The Art of Chemistry
March 16, 2009 - 7PM
At Traffic Jam & Snug

Presented By: Kenneth Katz, Conservation and Museum Services, Detroit Institute of Arts

Behind every great art collection are highly trained artists and scientists who analyze works pending acquisition and preserve them for generations to come. One of the most sophisticated laboratories in the Detroit area is Conservation and Museum Services. On Tuesday, March 16, conservator Kenneth Katz will reveal the science behind the art in an informal, entertaining lecture at one of Detroit's iconic restaurants.

Kenneth B. Katz received his Masters Degree in the Conservation of Historic and Artistic Works from the State University of Oneonta, Cooperstown Graduate School in 1979. Before becoming a conservator of paintings at the Detroit Institute of Arts in 1986, he worked at the Intermuseum Laboratory in Oberlin Ohio, the San Francisco Museum of Modern Art, the Kimbell Museum and the Minneapolis Institute of Arts. In 1983, he was awarded a National Endowment for the Arts fellowship to study at the Istituto del Restauro in Rome, Italy and in 1987 was elected a Fellow of the

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International Institute for Conservation, presently the only Painting Fellow in Michigan. Ken left the D.I.A. in 1990 to establish Conservation and Museum Services, which provides preservation services for museums, historical societies, corporations and private individuals.

Occupying 4000 sq. feet in downtown Detroit, Ken and his staff treat paintings, frames, and decorative objects. Ken is President of the Board of Directors for the Etruscan Foundation, is Vice President at the Detroit Athletic Club and is on the Restoration Committee for the Spirit of Detroit Sculpture, as well as an advisor to the Michigan State capital archivist and Michigan Supreme Court Historical Society. His publications in “American Art Review”, “Mahltechnik Restauro” and the “Journal of the American Institute for Conservation”, include articles on conservation adhesives, German Expressionists and the conservation of large architectural surfaces.

Kenneth Katz will explain the treatments, approaches and scientific analysis of paintings, paper, textiles, frames and art objects.

The lecture is the fifth in a series of accessible chemistry lectures organized under the banner “Brewing Chemistry” by the Young Chemists Committee of the Detroit Local Section of the American Chemistry Society, the world’s largest scientific society.

The evening of libations, edible delights and science inquiry begins at 7:00 p.m. at Traffic Jam & Snug, 511 West Canfield Street on the corner of Second Avenue, Detroit, just south of Wayne State University. There is no admission charge, and free parking is available.

For directions, visit

<http://www.trafficjamdetroit.com/location.php>

For more information, please contact Meghann Mouyianis at 313-993-1259 or meghann@brewingchemistry.com

www.brewingchemistry.com

Get Ready for CERMACS 2012

The year 2012 may seem light years away, but it's coming at the Detroit ACS section a lot faster than we think. Our section will be hosting the Central Regional Meeting (the CERM) in 2012, because that's the centennial of the section. Believe it or not, the Detroit Section of the ACS has been a presence for a full 100 years. And, believe it or not, we need to start planning for a great CERM right now.

Members, what sort of symposia do you want in our meeting? Of course, we can do the basics – general sessions on organic, inorganic, analytical, physical, and biochemistry. But what do we, the members, want to have? Are plastics still an area of interest for us, or is the field too flexible? What about an area within green chemistry, or isn't it growing anymore? Is the chemistry of water a hot topic, or is it too dry? Okay, okay. Sorry about that. We'll stop the bad puns if everyone will e-mail in a couple of ideas.

Seriously, we have chemists from large companies such as BASF, as well as plenty of other industrial concerns. We have government labs within our section. We have academic members from large universities such as Wayne State, all the way down to smaller colleges with only a few chemistry faculty members. With all that variety in the section, what areas of interest to the profession are of interest to you?

If you have attended recent regional meetings, you know that there are recurring symposia and interests in polymers, and that the chemistry involved in alternate energy sources has become hot of late. By all means, please tell us what you think.

A Second Call

It goes without saying that a regional ACS meeting is a rather large affair. That doesn't mean it has to be a difficult one though, at least not if many people are all willing to take small parts. Are you interested in taking a more active role? Think about it, since we still have some breathing space before the summer of 2012. We will need symposium heads, people to get the membership

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active, chairs of several committees, and a host of other positions filled. Don't be scared of the word, "volunteer." If our membership puts as much effort into this meeting as we have for numerous past events – the NCW days at Cranbrook Science Center and the work at the Detroit Taste Fest spring quickly to mind as examples – we'll be in great shape. Actually, if we put in that much effort, we'll probably make the centennial of the Detroit ACS Section a meeting to remember for years, if not decades.

So, do you have ideas, or a desire to help out with this event? If so, please let your section leadership know. It's time to get started.

For more information, please contact Mark Benvenuto:

benvenma@udmercy.edu

2009 Chemistry Olympiad

The 2009 Local Section Exam for the US National Chemistry Olympiad will be administered on March 18 at the University of Michigan-Dearborn. The competition is open to high school chemistry students in the nine-county area served by the Detroit Section. Local high school teachers are encouraged to register up to fifteen students per school to sit the exam. The top twelve individuals on the Local Section exam will be named as Nominees of the Detroit Section and will take the National Exam in April. The top twenty scorers nationwide will then compete for four spots on the US team which will travel to Cambridge, England for the International Chemistry Olympiad in July.

The Chemistry Olympiad program is sponsored locally by the Education Committee of the Detroit Section. Generous financial support for the Chemistry Olympiad in metro Detroit is provided by the General Motors Corporation. For further information about the Chemistry Olympiad, contact Mark DeCamp at (313) 593-5379.



Salutes to Excellence – Call for Nominees!

Each year the Detroit Section of the ACS presents Salutes to Excellence Awards to its members. Currently the Executive Committee is soliciting nominations for this award. In case you are not aware of the program, Salutes to Excellence is an award program that gives ACS members an opportunity to recognize the positive impact on everyday life made by a product of chemistry, a practitioner of chemistry, or a place of importance in chemistry. Therefore, if you know of someone who deserves to be recognized for his or her hard work, please send in the nomination. The nominee can also be an institution as well. For example, ABC Chemical Company was very involved in your local school district. As a result of their commitment, your students' interest in science increased.

Since the program was first unveiled in 2000 by the ACS Office of Community Activities (OCA) more than 251 honorees nationwide have received *Salutes to Excellence* recognition.

A central part of the event is the presentation of a commemorative plaque, furnished by OCA, for the honoree(s) for the chemistry achievement being honored. Each year the award is presented at the CIC meeting in the spring. The honoree(s) and their guest(s) will be invited to the awards banquet compliments of the Detroit Section.

If you have any questions on the criteria of the award, please contact Mary Kay Heidtke, Recognition Chair for the Detroit Section. Her e-mail address is mkheidtke@aol.com. Please submit your nominee(s) name along with a short paragraph describing why they should receive the award. This information can be submitted to Mary Kay at the address above. Please be sure to include your name and contact information in the e-mail. Please submit your nominations by March 25, 2009.

Appreciation can make a day—even change a life.
--Margaret Cousins

Education Committee Report: 21 February 2009

The Education Committee hosted its annual Professional Development Day for Detroit Local Section High School teachers on Saturday 7 February from 10 AM to 12 PM. The event, attended by 20 people, was a tour of the United Solar Ovonic manufacturing facility hosted by Terence Parker, Applications Marketing Manager for Products.

The day began with our arrival at United Solar Ovonic's (USO) local headquarters on Lapeer Road in Auburn Hills. The facility we were to tour is quite literally across the street from the Palace of Auburn Hills, home to the Detroit Pistons. While waiting for the tour to begin, our group perused the public face of the company in the lobby of their office building. Pictures of solar cell installations around the globe hung on the walls, and photographs from a visit by then-president George W. Bush in 2006 were prominently displayed.

The tour began with a description of the company's product and vision by our host, Terence Parker. He also detailed how he came to be in the solar cell industry, an interesting tale of third-world solar cell installations for bringing electricity and therefore internet to remote areas. United Solar Ovonic was described as a leading solar cell technology company, being the first manufacturer to develop an easy-to-install laminated solar cell "roll." The product is versatile enough to be integrated onto the roof or sides of a building and has more recently been modified to become a "three-tab" roof shingle, the first of its kind in the industry. In fact, USO is marketing the product directly to contractors and buyers at home builder shows. USO's product has been installed all over the world, where some installations have topped the 10 million-dollar mark – convention centers and large manufacturing facilities with lots of surface area are common buyers. USO's solar cell product is also unique because of its sensitivity to the UVB range of the sun's radiation, allowing for energy collection even on cloudy days. The company has two major options for energy collection with their product: the charging of local batteries (to be used at night and when the power goes down) or supplying extra

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electricity to the greater power company grid (which essentially earns you money).

After our introduction to the company, Terence took us to the manufacturing facility, which was in full swing, even on a Saturday morning. The USO product is manufactured in three steps: chemical vapor deposition (CVD), lamination and finishing. Greater than one-ton rolls of thin stainless steel ribbon are cleaned and then sent through USO's patented multi-stage and automated CVD chambers. In these chambers, nanometer-scale layers of indium, germanium and silver (amongst other materials) are deposited on the stainless steel ribbon and cut into the approximate size of the product. Next came the lamination phase, where carbon-coated copper wires are laid on top of the product and routed to wire leads. The entire product is laminated in very durable plastic at this time. With the wire leads exposed, the final step is to trim the product to its proper size and test it for imperfections. This was one of the most interesting automations at USO's factory: the cells are submerged in water and currents are passed through them to see if errors in lamination can be detected. The cells are also tested with a flash bulb to see if they register their trademark energy collection capability.

As the tour came to a close, our host asked for questions and all agreed it was a fascinating way to spend a Saturday morning. Being that USO was mentioned multiple times in Governor Granholm's State of the State address only a few days prior, it's clear that the company is poised to be at the forefront of green technology and the economic recovery of Michigan in the years to come.

Submitted by: Matt Mio



Upcoming Event:
**What You Always Wanted To Know about Chemicals
in Foods but Were Afraid To Eat.**

Dr. Robert P. Bates

Day and Date: Friday, April 10, 2009

Time: 7:00 pm

**Location: Lawrence Technological University
Buell Management Building, Room M218**

Abstract:

Foods are complex mixtures of chemicals, but with difference. There is a very important legal distinction between naturally occurring food constituents and other chemicals that end up in food by design or default. Conversely, the much more important matter, chemical compatibility, dictated by human physiology, nutritional biochemistry and facts vital to well-being, health, performance, and survival -- are often ignored or misinterpreted by vocal yet chemically illiterate groups. Despite considerable progress in understanding the science and technology of foods, culture and perception have a far greater influence upon food acceptance and regulation than the reality of nutrition and toxicology. Paradoxically, as science uncovers more about the complex interactions of foods with the human body, the less confident and more confused the public becomes regarding the safety, value, and nutritional efficacy of the U.S. (increasingly global) food supply. Food additives and now phytochemicals are examples of food consumption concerns that should also stress total diet, lifestyle, and common sense. This presentation will deal with both essential and trivial food constituents and emphasize some of the positive and negative aspects of each. Despite our imperfect and changing knowledge, a better appreciation of the chemistry and metabolism of foods has dramatic potential for improving health and well-being, while ignorance is sure to have the opposite effect

Biographical Sketch: Robert P. Bates

Bob Bates received his B.S. degree in food technology from MIT. After several years in the food industry, he obtained an M.S. de-

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gree in food science from the University of Hawaii and a Ph.D. in food science from MIT. After a year at the Institute of Nutrition of Central America and Panama in Guatemala, he joined the University of Florida.

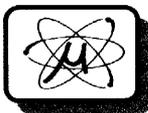
He is presently professor emeritus of Food Science in the Food Science and Human Nutrition Department. His areas of interest are food processing and utilization, small-scale process and equipment development, fermentation technology and byproduct recovery, food product development, and international technical assistance. His major responsibilities involve teaching graduate and undergraduate food science processing and product development courses; and conducting research/extension activities in home, community, and small-scale industrial food processing operations. He has completed short and long-term international assignments in many countries in the Caribbean, Central and South America, and Asia. He fields frequent inquiries on food science and technology and related subjects from national, international, and industrial sources. Bates has developed and presented many short courses in the U.S. and overseas and has been an ACS tour speaker on various food science and technology topics for about 30 years.

Dr. Bates talk is sure to fascinate all whether you're a chemist, student, non-technical general public, or just anyone interested in food additives and ingredients.

Please Verify Your Contact Information

ACS has recently upgraded its member database. Please take a moment to review your contact information included with this newsletter (and any other communications that you receive from ACS) to verify that it is correct. To help maintain the integrity of our roster files please report any changes to service@acs.org. Please be sure to include your Member ID along with any changes that you report.

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From the Southwest and Detroit Metro Airport:

Follow I-94 East to the northbound Southfield Freeway (M-39). Exit onto northbound M-10 (Northwestern Highway/Lodge Freeway). Proceed north and exit at Ten Mile Road/Evergreen Road. Take the Northwestern Highway Service Drive to Ten Mile Road. Turn left onto Ten Mile Road. The campus entrance is on the right.

From the West and Ann Arbor (via I-94 and M-14):

Follow I-94 East to eastbound M-14. Continue on M-14 to northbound I-275. Take I-275 North to I-696 East. Proceed east on I-696 to southbound M-10 (Northwestern Highway/Lodge Freeway). Exit at Ten Mile Road/Evergreen Road. Turn right onto Ten Mile Road. The campus entrance is on the right.

From the Northwest and Lansing (via I-96 and I-696):

Follow I-96 East to I-696. Proceed east on I-696 to southbound M-10 (Northwestern Highway/Lodge Freeway). Exit at Ten Mile Road/Evergreen Road. Turn right onto Ten Mile Road. The campus entrance is on the right.

From the North (via I-75):

Follow I-75 South to I-696 West. Proceed west on I-696. Exit at Evergreen Road. Turn left onto Evergreen Road and proceed south one mile to Ten Mile Rd. Turn right onto Ten Mile Road. The campus entrance is on the right.

From the East (via I-696):

Follow I-696 West. Exit at Evergreen Road. Turn left onto Evergreen Road and proceed south one mile to Ten Mile Road. Turn right onto Ten Mile Road. The campus entrance is on the right.



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Building Key

1. Corporate Services Center
2. Don Ridler House; Applied Research Center
3. University Housing Center - North
4. Wayne H. Buell Management Building
College of Management
Library
Dining Facilities
5. A. Alfred Taubman Student Services Center
6. Science Building
College of Arts and Sciences
7. Architecture Building
College of Architecture and Design
8. University Technology and Learning Center
9. Engineering Building
College of Engineering
10. Center for Innovative Materials Research (CIMR)
11. Professional Development Center
12. Maintenance Building
13. University Housing Center - South
14. Outdoor Athletic Fields

Calendar of Upcoming Events

Mar 16 YCC Brewing Chemistry - "The Art of Chemistry", *see pages 1 and 2 for details*

Mar 22-26 ACS Spring National Meeting in Salt Lake City, UT

Apr 10 April Section Meeting: "What You Always Wanted to Know about Chemicals in Foods but Were Afraid to Eat", *see pages 8, 9 and 11 for details*

May 20-23 Central Regional Meeting (CERMACS) in Cleveland

June, 2009 Joint ACS-CIC Awards Banquet, *see April Chemist for Details*

Sep 11 September Section Meeting Topic: "GLITTER as Forensic Evidence", *see September Chemist for details*

Oct 5 October Section Meeting Topic: "Beware the Pseudoscientist", *see October Chemist for details*



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