

The Younger Chemists Committee Presents:

A monthly lecture series held the 3rd Tuesday of every month
at Traffic Jam & Snug in Detroit

An evening of libations, edible delights and science inquiry

January's Topic:

Chemistry of Wine and Regional Wine Tasting

Presented by:

Laila Kott, Ph.D., Senior Analytical Chemist, Ash Stevens, Inc.
and Steven Brook, Vintner and Sommelier

From Ontario's Lake Erie shore, our presenters will explain the chemistry of wine and the nuances of taste. The evening will be filled with select wines and food pairings of the Great Lakes Region. If you have a passion towards wine or are just curious, this is a must attend event! Everyone is welcome, over 21 to drink.

Cost: \$10 at the door (includes wine and food)

Tuesday, January 20th, 7 PM
Traffic Jam & Snug

511 West Canfield Street, Detroit, MI 48201

The Traffic Jam and Snug, established 1965, is known for their in-house bakery, microbrewery, dairy, and made-from-scratch dishes.

www.trafficjamdetroit.com

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- Biological Applications of Capillary Electrophoresis
- Evolution of Modern Chromatography: Celebration of 25 years of the Subdivision on Chromatography and Separation Chemistry
- The Future of HPLC-Method Development: Quality by Design—Evaluating the Control Space of Robust HPLC Methods
- New Dimensions in Multidimensional Separations
- Young Investigator Award from Subdivision on Chromatography and Separation Chemistry
- Pressurized Fluids in Separations Technology

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- Validation of Bioanalytical Methods: Addressing matrix effects, ion suppression and ISR (incurred sample reanalysis)
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- Multi-residue Pesticide Analysis for Food Testing
- Understanding Chromatography with Sub-2 μ m Particles
- Quality Assurance of Measurements and Proficiency Testing

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Chemistry Day at Belle Isle is a Success with Local Girl Scouts

On Saturday, November 15th, 91 junior Girl Scouts and 33 Troop Leaders or chaperones participated in the fourth annual “Chemistry Day at Belle Isle”. The Girl Scouts of the Metropolitan Detroit area learned about advancements in sports, sporting equipment, and proper nutrition made possible through chemistry. This provided a nice tie-in with this year’s NCW theme, “Having a Ball with Chemistry”. The event was a large success, mostly due to the support of our volunteers and sponsors. Donations received were crucial in making this event possible. The Detroit Section of the American Chemical Society wishes to thank the following organizations for their support:

General Motors Corporation
American Chemical Society

The Girl Scouts were enthusiastic as they took part in four activi-



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ties for the day including a service project, a craft project, career session, and hands-on experiments. The service and craft projects were organized by Liz Roberts-Kirchhoff (UD-Mercy). For the service project, the Girl Scouts used their creative talents to decorate bookmarks. These bookmarks will be donated to a local charity. For the craft project, the girls used science magazines and colored paper to make collages.

Next, the Girl Scouts were exposed to a variety of careers available in the field of chemistry. Meghann Mouyianis (UD-Mercy) was the lead organizer for this activity. Three great speakers shared information about their careers and the impact that science has on their professional lives. The speakers met with each group of Girl Scouts to answer questions regarding their careers. This way the Girl Scouts could determine why the speakers chose their profession and how they got started in their field. The guest speakers of the career program were:

Victoria Hornick-Rosinski, Chemistry Teacher, Cabrini High School

Hulya Ahmed, Chemist, BASF Corporation

Denise Glassmeyer, Patent Attorney and Counselor at Law,
Young & Basile, P.C.

For a second year a poster session was added to the career activity. The posters were created as a service-learning project by chemistry, biochemistry and biology students from the University of Detroit Mercy. The posters were fantastic! They provided eye-catching detail on design improvements in sports and sporting equipment. Some posters were also created to share information about proper nutrition and the importance of a healthy lifestyle. The Scouts were given a list of questions that they had to answer about the posters. This provoked further discussions about the role of chemistry in every day life. The Girl Scouts won prizes on the amount of questions they were able to answer after seeing the posters.

The third activity for the day was the hands-on experiments. In

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this event, the volunteers utilize their backgrounds in science to communicate the importance of chemistry to our quality of life. Did you ever wonder what is really in those sports drinks? A density experiment that measured the amount of sugar in beverages helped to answer that question. Advancements in swimwear help current athletes. This was discussed in a surface tension experiment, in which the Girls Scouts participated in a swim race. In all, eleven experiments were organized by Denise Grimsley (BASF Corp) and Megan Klein (Ash Stevens).

Mary Kay Heidtke (Magni Industries, Inc) and Caroline Feathers (Girl Scouts of Metro Detroit) acted as the lead organizers, to bring the two groups together. As mentioned above, the event was very successful and met with excellent reviews particularly because of our volunteers. These volunteers graciously gave their time, energy and enthusiasm. We sincerely hope that you enjoyed the event as much as the Girl Scouts did!

Omar Abdelsalam
Abdullah Abdullah
Hassan Akram
Angela Allen
Gavin Ambrosi
Dan Angell
Candice Attisha
Eric Balke
Inga Balke
Pamela Bath
Lindsey Cullen
Christina Curl
Nic DeBoer
Kristy Ford
Ellen Foot
Joe Gianino
R. Graham Greenland
Amy Hamlin
John Heidtke

Crystal Johnson
Jennifer Kendrek
Rebecca Kotowski
Monica Lamble
Zora Longworth
Emil Lozanov
Elizabeth MacDonald
Carol Manthey
Salette Martinez
Shagun Octain
Tom Ott
Richard Pazur
Erika Penabaker
Andrew Perkowski
Stephanie Sakowicz
Marielena Serratos
Stephanie Spohn
Patty Troy
Michael Vilag
Zena Yaldo

Section Election Results Reported

The teller's committee of the Detroit Section of the American Chemical Society counted election ballots on November 17, 2008. The election winners for the 2009 Detroit Local ACS Section are as follows:

Chair-Elect: Anthony Sky
Secretary-Elect: Megan Klein
Treasurer-Elect: Angela Allen

Councilor: Mark Benvenuto
Alternate Councilor: Steven Scribner

Mary Kay Heidtke
Section 2008 Secretary

(Editor's Note: see pages 8 & 9 for a complete list of the Section's Officers and Committee Chairs)

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.

"Don't let what you can't do stop you from doing what you CAN do"

-- John Wooden

Brewing Chemistry

Detroit, Michigan

The Detroit Section's Younger Chemists Committee has initiated an informal monthly lecture series held at Traffic Jam & Snug on the third Tuesday of the month. The following upcoming events have been scheduled::

February 17th, 7PM - I ♥ Chemistry Presented by: Ruthann Nichols, Ph.D., Professor of Biological Chemistry at the University of Michigan Medical School

Cardiac failure can result from a structural or functional disorder that impairs the ability of the heart to fill or pump a sufficient amount of blood throughout the body in a timely manner. Dr. Nichols' research is focused on RFamide peptides, a group of peptides that may be involved in regulating cardiovascular functioning. She has studied dromyosuppressin, a peptide that is synthesized in the brain and transferred to the heart, and its ability to slow cardiac relaxation. This peptide was originally isolated from fruit flies, but her group has recently discovered a structurally similar peptide in humans.

March 16th, 7PM - The Art of Chemistry Presented by: Glenn Gates, Ph.D., Research Chemist at the Conservation Services laboratory of the Detroit Institute of Arts

Dr. Glenn Gates will explain the treatments, approaches, scientific analysis, and acquisitions of the DIA's vast collection of paintings, objects, paper, textiles, and frames. The DIA's 10,000-square-foot Conservation Services Laboratory is one of the most sophisticated facilities of its kind in the United States. Its highly trained specialists provide documentation, research, examination and treatment for artworks in the DIA and over 30 other museums in Michigan. The Conservation department also monitors temperature and humidity in the galleries, designs and constructs mounts for artworks, and provides technical photography.

For more information, contact meghann@brewingchemistry.com or at (313) 993-1259

2009 Detroit ACS Section Officers and Committee Chairs

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Walter Siegl (see above)

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USNCO (Chemistry Olympiad): Mark DeCamp (see above)

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Vauhini Telikapalli

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February Section Meeting

America's Funniest Chemical Videos: Dazzling Demos and Videotaped Bloopers

Thursday, Feb. 19, 2009, 7:00 PM

**Lawrence Technological University
Science Building Room S100,**

Abstract: Through the years, I have collected and edited many misadventures that Ruben Battino and I experienced in doing demonstration shows that were videotaped live. Difficulties encountered in the studio preparation of our three-hour set of videotaped demonstrations were also saved. These will make up one part of these showings. Gil Haight has given me permission to show portions of his Haightful Perils of Teaching which are spectacular in spite of technical problems. A videotape of Hubert Al-yea doing his Old Nassau demonstration will be shown along with some tapes of others such as Bassam Shakhshiri and Ron Perkins caught in live demonstrations that presented problems. Portions of demonstrations by the Weird Science group will also be shown.

The Speaker: **John Fortman** received the 2007 Helen M. Free Award for Public Outreach. He is Professor Emeritus of Chemistry at Wright State University where he retired in 2001 after 36 years of teaching freshman and inorganic chemistry. In 1998 he was appointed the Robert J. Kegerreis Distinguished Professor of Teaching and won seven different teaching awards over the years at Wright State. In 1998 he received the CMA Catalyst Award for Outstanding Teaching of College Chemistry. Dr. Fortman received his B.S. from the University of Dayton in 1961 and his Ph. D. in physical inorganic chemistry from the University of Notre

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Dame in 1965. He has published over 50 papers in chemical education in addition to his research publications. With Rubin Battino he has produced a seven DVD set which contains ten hours of chemical demonstrations for use at middle school through college levels plus a live show and blooper outtakes. For over 30 years he has done chem demo outreach shows for middle and high school students in the Dayton area and continues to inspire and fascinate over 8000 students each year with at least 17 shows. He has done workshops on teaching and demonstrations around the country. He has designed alternative courses for general chemistry, elementary chemistry and chemistry for elementary education majors. His course for non-science students was cited as a model in the 1990 AAAS report on "The Liberal Art of Science: Agenda for Action". The alternative general chemistry course was developed while he was a member of the General Chemistry Task Force of the ACS Division of Chemical Education and starts with organic and biochemistry moving through materials and finishing with energy while empathizing applications and bringing in only those principles that are needed as they are necessary. The course has been characterized as being taught inside-out, upside-down, and backwards. His interests in addition to demonstrations and course content and organization include the use of analogies and videotaped material. John has been an ACS member since 1962 and was Councilor for the Dayton Local Section from 1996 to 2004. Since he became an ACS Tour Speaker in 1991 he has given over 310 section talks, visiting 163 of the 190 different local sections while doing 65 tours including all 29 different tours at least once. He has presented in all 50 states and Puerto Rico.



Twelve Principles of Green Chemistry

1. Prevent waste: Design chemical syntheses to prevent waste, leaving no waste to treat or clean up.
2. Design safer chemicals and products: Design chemical products to be fully effective, yet have little or no toxicity.
3. Design less hazardous chemical syntheses: Design syntheses to use and generate substances with little or no toxicity to humans and the environment.
4. Use renewable feedstocks: Use raw materials and feedstocks that are renewable rather than depleting. Renewable feedstocks are often made from agricultural products or are the wastes of other processes; depleting feedstocks are made from fossil fuels (petroleum, natural gas, or coal) or are mined.
5. Use catalysts, not stoichiometric reagents: Minimize waste by using catalytic reactions. Catalysts are used in small amounts and can carry out a single reaction many times. They are preferable to stoichiometric reagents, which are used in excess and work only once.
6. Avoid chemical derivatives: Avoid using blocking or protecting groups or any temporary modifications if possible. Derivatives use additional reagents and generate waste.
7. Maximize atom economy: Design syntheses so that the final product contains the maximum proportion of the starting materials. There should be few, if any, wasted atoms.
8. Use safer solvents and reaction conditions: Avoid using solvents, separation agents, or other auxiliary chemicals. If these chemicals are necessary, use innocuous chemicals.
9. Increase energy efficiency: Run chemical reactions at ambient temperature and pressure whenever possible.
10. Design chemicals and products to degrade after use: Design chemical products to break down to innocuous substances after use so that they do not accumulate in the environment.

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11. Analyze in real time to prevent pollution: Include in-process real-time monitoring and control during syntheses to minimize or eliminate the formation of byproducts.
12. Minimize the potential for accidents: Design chemicals and their forms (solid, liquid, or gas) to minimize the potential for chemical accidents including explosions, fires, and releases to the environment.

Originally published by Paul Anastas and John Warner in *Green Chemistry: Theory and Practice* (Oxford University Press: New York, 1998). . This was distributed at the December Brewing Chemistry by the speaker, James E. "Ned" Jackson, Ph.D., Department of Chemistry, Michigan State University at his talk, "Building Blocks for the Biomass Refinery of the Future: Aqueous-phase Hydrogenation/Hydrogenolysis of Acids, Amides, and Polyols".



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March 21, 2009, Chemical Toxicology: A Chemist's Roadmap to Reduce Bio-activation Liabilities in Drug Candidates

March 23-24, 2009, Drug-Like Properties in Drug Discovery

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March 22, 2009, Introduction to Drug Metabolism: Role and Practice in Drug Discovery and Development

Chromatography

March 25-26, 2009, Fundamentals of High Performance Liquid Chromatography

Engineering

March 21-22, 2009, Chemical Engineering & Process Fundamentals

Intellectual Property

March 22, 2009, Practical Approaches to Patents and Other Forms of Intellectual Property

Management/Business/Professional Development

March 23-24, 2009, Effective Supervision of Scientists and the Technical Staff

March 23-24, 2009, Effective Technical Writing

March 22, 2009, Practical Approaches to Patents and Other Forms of Intellectual Property

Organic/Physical Chemistry

March 21-22, 2009, Dispersion in Liquids: Suspensions, Emulsions, and Foams

March 25-26, 2009, NMR Spectral Interpretation and Organic Spectroscopy: A Problem-Based Learning Approach

March 23-24, 2009, Recent Developments in Organic Synthesis

Polymer Chemistry

March 21-23, 2009, Polymer Chemistry

March 23-24, 2009, Polymeric Coatings

Spectrometry

March 25-26, 2009, NMR Spectral Interpretation and Organic Spectroscopy: A Problem-Based Learning Approach

Statistics/Experimental Design/Chemometrics

March 23-25, 2009, Experimental Design for Productivity and Quality in Research and Development

March 23-25, 2009, Statistical Analysis of Laboratory Data

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Calendar of Upcoming Events

- Jan 20 YCC Brewing Chemistry, *see page 1 for details.*
- Feb 17 YCC Brewing Chemistry - "I ♥ Chemistry", *see February Chemist for details*
- Feb 19 February Section Meeting Topic: "America's Funniest Chemical Videos: Dazzling Demos and Video-taped Bloopers", *see pages 10-11 and February Chemist for details*
- Mar 16 YCC Brewing Chemistry - "The Art of Chemistry", *see March Chemist for details*
- Mar 22-26 ACS Spring National Meeting in Salt lake City, UT
- Apr 10 April Section Meeting Topic: "What You Always Wanted to Know about Chemicals in Foods but Were Afraid to Eat", *see March Chemist for details*
- May, 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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