

# CINTACS



Newsletter of the Cincinnati Section of the American Chemical Society

March, 2008  
Vol. 45, No. 6

## Meeting Calendar

- Mar. 19 Zymurgy (Beer Brewing)  
@ Great Wolf Lodge  
(Joint with Dayton section)
- Apr. 16 Awards Night  
@ Northern Kentucky  
University
- May 14 Party Night: Reds Game  
& Banquet  
@ Great American Ballpark

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## March Monthly Meeting Wednesday, March 19, 2008 Great Wolf Lodge

Joint meeting with ACS Dayton section and the  
Society for Applied Spectroscopy

### *Zymurgy: The Art and Science of Making Beer*

*Sponsored by Advanced Testing Laboratory, Inc.*

Speakers:

**Prof. Tracy P. Hamilton**, ACS Speaker  
University of Alabama at Birmingham

**Ken Lee**, Brewmaster  
Samuel Adams Brewery, Cincinnati



*(Speakers' and colleagues' biographies on pages 3 & 4)*

**THE CINTACS NEWSLETTER****Vol. 45, No. 6 March, 2008**

Editor.....Kevin Ashley  
 Advertising.....Ed Hunter

CINTACS is published eight times a year (September through May) by the Cincinnati Section of the American Chemical Society. The submission deadline will be approximately March 14 for the April 2008 issue. Electronic submission is strongly preferred. All materials should be sent to:

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**From the Chair**

I hope everyone enjoyed the February meeting at the Museum Center and thanks again to Ted Logan for his generous sponsorship of the February meeting.

Our March meeting at the Great Wolf Lodge at Kings Island will be held jointly with the Dayton section and with the Society for Applied Spectroscopy. Many thanks to Advanced Testing Laboratory, Inc., our sponsor for the meeting. There will be two interesting discussion group sessions. Tom Brueggemeyer from the US Food & Drug Administration's Forensic Chemistry Center in Cincinnati will talk about analytical chemistry aspects of the recent pet food contamination misfortune. Joy Henderson of Cargill Flavor Systems will lead a networking and brainstorming session on careers in chemistry.

For the rest of the evening, the theme will be the Chemistry of Beer. The ACS has four speakers on the chemistry of beer and our meeting was dependent on being sure we could get the appropriate tour speaker. Typically, one requests a tour speaker and simply hopes that other local sections in the area want the same speaker at the same time. That rarely happens. So to help guarantee we could get the speaker we wanted, I called both the Dayton and Columbus Chair-Elects and we were able to agree on a speaker, Tracy Hamilton, and on consecutive dates for the visits. I should mention that the same was true for February's speaker, Henry Bungay. I'd like to thank the Chairs-elect (now Chairs) of our neighboring sections, Rajiv Berry of Dayton and Ron Mitchum of Columbus, for agreeing to coordinate the visits for the February and March speakers.

The hosts for our social hour are from Sam Adams Brewery here in Cincinnati where almost half their total brewing capacity resides. Ken Lee, the brewing manager, was enthusiastic about participating in our meeting. Ken and his colleagues John Piening and Mike Nemier will host the social hour and provide souvenir glasses for a tasting of a selection of Sam Adams' beers. Ken also worked with the chef at Great Wolf to design a special menu where beer will either be used as an ingredient or will be paired with menu items. At this writing the details are still being worked out but I hope the effort on the part of Ken, his colleagues, and the Great Wolf staff will make our March meeting a memorable one. Ken and Tracy also agreed to coordinate their after-dinner presentation where Ken will provide a lead in for Tracy's talk on "Zymurgy: The Art and Science of Making Beer."

Looking ahead, in addition to the final two local section meetings, there will be a special event organized by the UC Graduate Student Association on April 10<sup>th</sup> and 11<sup>th</sup> in honor of their Speaker of the Year, Sir Harold Kroto, who shared the Nobel Prize for the discovery of a new form of carbon, C<sub>60</sub> (Buckminsterfullerene). There is further information on this event elsewhere in this issue of CINTACS and final details will be forthcoming. Our regular April meeting will recognize and award local chemistry teachers and students. John Fortman from Wright State University will give a presentation entitled, "Demonstrating the Awesome Variety of Things that Chemists Do" which should be very entertaining for the students, teachers, and parents (and all the

*(Continued on next page)*

## Biosketches of the Samuel Adams Brewers of Cincinnati

### Ken Lee

As a part time student at the University of Cincinnati, Ken began working at the Geo. Wiedemann Brewing Co. in Newport, KY to take advantage of their tuition reimbursement policy. The company continued to pay for his education including the Siebel Institute's Diploma Brewing course in 1979. After graduation, Ken then became an Assistant Brewmaster for the Wiedemann Brewing Co. Later he served as Brewmaster at both the Sterling Brewing Co. in Evansville, IN and Lone Star Brewing Co. in San Antonio, TX. After a short time as Operations Manager for a hop processing company (S. S. Steiner in Yakima, WA), Ken returned to Cincinnati as Brewing Manager for Samuel Adams Brewery Co.

### John Piening

Mr. Piening is a third generation brewer who started working in a brewery in 1975 just after completing high school. He worked summers while pursuing a Bachelor of Science in Chemistry

*(Continued from previous page)*

rest of us) who attend our Awards Night meeting. The May 14<sup>th</sup> meeting will be party night at Great American Ballpark for a Reds vs. Florida Marlins game. Our party will be on the Cincinnati Bell Riverboat Deck in center field. The Reds require that we have a final head count for the party 30 days ahead of time so we will likely call for registration for the both the April and May meetings at the same time. Eighty tickets are reserved for the event so take a look at your calendar soon. The cost of the Reds game to section members will be subsidized by the section so the cost to you will be \$30 which includes admission, a nice buffet, and two beers. Assistance will be provided for anyone needing help getting to the Riverboat Deck.

I hope to see many of you at Great Wolf Lodge. Cheers!

-John Janusz

from Miami University in Oxford, Ohio. After graduating in 1979, John began full time employment as the Quality Control Manager for the Schoenling Brewing Co. in Cincinnati, Ohio. Piening attended the Siebel Institute's course on Brewing Microbiology in 1980, and the Diploma Brewing course in 1993 & 1994. Afterwards he assumed the responsibilities of Brewmaster.

In 1997, the Boston Beer Co. acquired the brewery in Cincinnati. Over the past 10 years John has served as Senior Assistant Brewing Manager and QA Manager for the Samuel Adams Brewery Co. Piening is a long time member of both the MBAA and ASBC.

### Michael A. Nemier

Mr. Nemier is currently an Assistant Brewing Manager at the Samuel Adams Brewery in Cincinnati, responsible for cold-side operations and kegging. Previous to his current position, he has served as the assistant QA manager and managed the production of non-beer beverages in Cincinnati. He has an MS (Syracuse University) and a BS (Clarkson University) in chemical engineering. Previous to his current career as a brewer, he worked in the Technology Division (worldwide manufacturing support and research) for International Paper. Nemier has been brewing since 1991, first as a homebrewer, and later professionally. He is a certified beer judge ([www.bjcp.org](http://www.bjcp.org)) and, when he is not at the Sam Adams brewery, Michael can often be found at another brewery, exploring the endless variety of beers and indigenous beverages (19 countries and counting).

**Sponsorship Clarification:** For our February meeting at the Museum Center, CINTACS listed Ted Logan as the sponsor and Iota Sigma Pi as a co-sponsor. As a clarification, I'd like to point out that Ted provided full sponsorship for our meeting, for which we are grateful. The Cincinnati section is particularly fortunate to have individuals like Ted who contribute to our monthly meetings at the same level as our corporate sponsors.

-John Janusz

## Zymurgy: The Art and Science of Brewing Beer (cont'd.)

### Tracy P. Hamilton

Department of Chemistry  
University of Alabama at Birmingham

#### Overview:

The presentation will discuss the history of brewing, followed by how to brew beer step by step. The chemical processes at each stage are discussed for the chemists in the audience, making connections to various undergraduate topics such as kinetics and organic chemistry. The talk will be capped off by a list of important flavor compounds (both desirable and undesirable) in beer.

#### Brief biosketch:

Tracy P. Hamilton is a theoretical chemist by profession, with a PhD from the University of Arkansas in 1987 (Peter Pulay) and a post-doc at the University of Georgia (Henry F. Schaefer III). He is currently an associate professor at the University of Alabama at Birmingham (UAB). Brewing beer is his only outlet for chemical synthesis. Dr. Hamilton has been brewing since 1997, and is a certified beer judge ([www.bjcp.org](http://www.bjcp.org)). He is a member of the Birmingham Brewmasters, a group dedicated to the appreciation of all beer styles and to brewing them.



#### First announcement:

**UC Chemistry Graduate Student Association Speaker of the Year:  
Nobel Laureate Sir Harold Kroto**

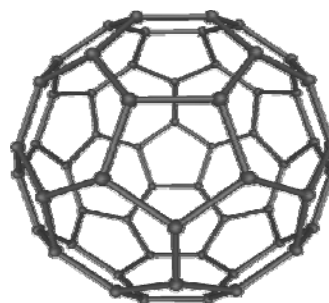


The Graduate Student Association of the Department of Chemistry at the University of Cincinnati is honored to acknowledge the contributions of Professor Harold Kroto, Florida State University, towards advancement of science and education.

**Venue: University of Cincinnati**

**Dates: April 10<sup>th</sup> & 11<sup>th</sup>, 2008**

More details of the event will be posted in the next issue of CINTACS. For questions, please contact Sayandev Chatterjee ([rasayan@gmail.com](mailto:rasayan@gmail.com)).



March Monthly Meeting

***Zymurgy:***  
***The Art & Science of Making Beer***  
**Wednesday, March 19, 2008**  
**Great Wolf Lodge at Kings Island,**  
**Mason, Ohio**

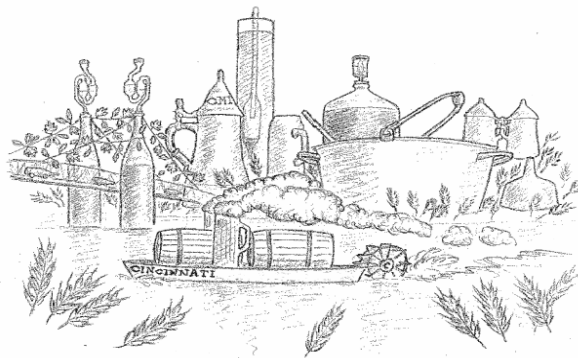
*Joint Meeting with the ACS Dayton Section  
and the Society for Applied Spectroscopy*

*Sponsored by Advanced Testing Laboratory, Inc.*

***Featured ACS Tour Speaker:***

**Professor Tracy Hamilton**

Chemistry Department  
University of Alabama at Birmingham



***Special Guest Speakers:***

**Ken Lee**

**John Piening**

**Michael A. Nemier**

Samuel Adams Brewing Company,  
Cincinnati

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**Directions to Great Wolf Lodge**

5688 Kings Island Drive  
Mason, Ohio 45040  
(513) 336-7614; [www.greatwolf.com](http://www.greatwolf.com)

***From Cincinnati:***

Take I-71 N toward Columbus  
Take Western Row Rd. (Exit 24)  
Continue straight onto Kings Island Drive for 0.9 mi.  
Turn right on Great Wolf Drive  
Great Wolf Lodge will be on your right

***From Dayton:***

Take I-75 S toward Cincinnati  
Take the OH-63 (exit 29) to Monroe/Hamilton  
Turn left on OH-63 E—go 3.1 mi.  
Turn right on OH-741—go 6.7 mi.  
Turn left on Kings Mill Rd.  
Bear right on Kings Island Dr. just past I-71  
Turn left on Great Wolf Drive  
Great Wolf Lodge will be on your right



**March Meeting Details**  
***Zymurgy: The Art & Science of Making Beer***  
**Wednesday, March 19, 2008**  
**Great Wolf Lodge at Kings Island,**  
**Mason, Ohio**

**Program:**

- 5:15-6:15     Analytical Discussion Group, Room Northwest B  
Dr. Tom Brueggemeyer, US FDA, Forensic Chemistry Center  
**Pet Food Contamination 2007— a Multi-Faceted Analytical Investigation**
- 5:15-6:15     Career Services Discussion Group, Room Northwest A  
Joy Henderson, Cargill Flavor Systems  
**Brainstorming Session on Chemistry Careers**
- 5:30-7:00     Registration, Sequoia Rooms 1-3
- 6:00-7:15     Social Hour: Beer tasting hosted by Samuel Adams Brewing Company, Cincinnati,  
Sequoia Rooms 1-3 (cash bar also)  
Ken Lee, Brewing Manager; John Piening, Senior Assistant Brewing Manager;  
Mike Nemier, Assistant Brewing Manager
- 7:15-8:00     Dinner, Sequoia Rooms 1-3. (\$20.00 or \$10.00 for students, emeritus, unemployed  
& new members). A specially designed plated dinner with beer as an ingredient or  
with beer as pairings. Details will be available when registration opens. Vegetarian  
selections will be available.
- 8:15-9:15     Ken Lee, Samuel Adams Brewing Company  
Dr. Tracy Hamilton, University of Alabama at Birmingham  
**Zymurgy: The Art and Science of Making Beer**

**Dinner Reservations:** Make reservations online in early March by following the reservation link on our website [www.acscincinnati.org](http://www.acscincinnati.org). If it is impossible for you to register online, please call Beth Reno at 513-622-1346. *The deadline for reservations is Friday, March 14.*



### Photos from our January Awards Meeting

In January we recognized two long-standing contributors to chemistry in the Cincinnati area, Chemist of the Year, Vern Hicks and Research Associate of the Year, Harold Vaughn. Congratulations once again to Harold and Vern! The National ACS also sent recognition for Victor Arredondo for his continuing contributions to National Chemistry Week. Congratulations Victor! Here are some photos of this recognition event.



**Vern Hicks, Chemist of the Year**



**Harold Vaughn, Research Associate of the Year**



**Victor Arredondo, ACS National recognition for NCW efforts**



## CAREER DEVELOPMENT DISCUSSION GROUP: BRAINSTORMING SESSION

All are welcome to attend an informal networking and brainstorming session regarding ways to continue professional development within your current employment position, given the constraints of time, funding, and employer support. The discussion will include examples of programs and efforts made in various areas of industry and education.



**JOY HENDERSON**

Joy Henderson is an analytical chemist and the Documentation Specialist at Cargill Flavor Systems in Woodlawn. She taught high school chemistry at St. Ursula Academy for five years, before leaving education (but not for good!) to work in industry full time. After teaching, Joy worked for 1 ½ years as an analytical chemist at Barr Laboratories and spent 2 ½ years in Ingredient Vendor Quality at Givaudan Flavors. Joy was the chair of the local section's Younger Chemists Committee for nearly four years and is currently the local Career Development chair.

## ANALYTICAL DISCUSSION GROUP MEETING

**Joint meeting with Cincinnati Section  
of the Society for Applied Spectros-  
copy (SAS)**



*Title:*  
**“Pet Food Contamination 2007—A Multi-  
Faceted Analytical Investigation”**

*Speaker:*  
**Thomas W. Brueggemeyer, Ph.D.**  
U.S. Food & Drug Administration  
Forensic Chemistry Center  
Cincinnati, Ohio

**Abstract:** In early 2007, the mysterious illness or death of a significant number of cats and dogs prompted a large-scale analytical investigation at the U.S. Food and Drug Administration's Forensic Chemistry Center in Cincinnati. The work which followed serves as a good example of analytical problem-solving involving many individuals and utilizing a wide variety of analytical techniques. As the investigation began, the detection of melamine in the implicated pet food samples was not easily reconciled with the severe symptoms exhibited by the pets. Gradually, however, as more data were acquired, more analytes detected and additional experiments performed, a clearer picture evolved. The talk will highlight the key findings in the investigation, with an emphasis on the importance of inter-disciplinary teamwork in the forensic laboratory.

*(Speaker's biography on page 11)*



## 2008 CENTRAL REGIONAL MEETING OF THE ACS: CALL FOR PAPERS

Abstracts are requested for the 40th Central Regional Meeting (CERMACS 2008), which will be held June 10-14, in Columbus, Ohio. The Deadline for submission of abstracts is April 1, 2008.



CERMACS 2008 will convene at the Hyatt Regency, Downtown Columbus, next to the Columbus Convention Center, and will be hosted by the ACS Columbus Section. Please use the meeting website, [www.cermacs2008.org](http://www.cermacs2008.org) to submit an abstract, to register for the meeting, and to monitor meeting updates.

The venue is conveniently located in the re-developed section of Downtown Columbus, with convenient access to COSI, Hands-on Science Center, [www.cosi.org](http://www.cosi.org) (where the Opening Reception/SciMix event will take place), the Arena District and the Short North, which feature a variety of restaurants and shops. The Hyatt Regency location also offers easy transportation to access sites of interest, including The Ohio State University, The Columbus Museum of Art, and easy walking to The Ohio Theatre, parks, and weekend street festivals. For complete information, visit [www.experiencecolumbus.com](http://www.experiencecolumbus.com).

The meeting will feature technical sections on: Advances Toward Green Chemistry; Homogeneous Catalysis; Membrane-active Peptides and Lipid Recognition; Protein Engineering and Design; Theoretical Modeling of Solvation: Methods and Applications; Chemistry of Supramolecules and Assemblies; Biomolecular Solid-State NMR Spectroscopy; Nanoscale Materials Chemistry; Alternative Energy Technologies: Chemistry, Chemical Engineering and Environment; and Plastics and Polymers.

The meeting will include programs for High School Chemistry Teachers, College Education, the REEL Program; Women in Science Symposium; Forum on Underrepresented Minorities in Chemistry; and Regional Awards Banquet and Recognition Event.

Workshops being planned include: ACS Leadership Training Program on Innovation and on Involving Volunteers; ACS Career Services; and Workshops related to Laboratory Safety.

Vendors are invited to participate in the CERMACS 2008 exposition. Interested persons should contact [cermacs2008@chemistry.ohio-state.edu](mailto:cermacs2008@chemistry.ohio-state.edu) for details, or visit the exposition link at [www.cermacs2008.org](http://www.cermacs2008.org).

Replica of the  
Santa Maria at  
the Columbus  
riverfront



### **Call for Nominations:** **Outstanding Service Award**

Nominations will be accepted for the Cincinnati Section Outstanding Service Award **until March 15, 2008**. The nominee should have performed an extraordinary service to the Cincinnati Section.

The nominator should be a member of the Section. A complete nomination consists of a letter written by the nominator detailing the reasons the nominee is deserving of the award, and at least one supporting letter by another member of the Section.

Nomination materials should be sent (may include nominee's CV) to:

Jeff Seeley, Ph.D.

**[seeley.ja@pg.com](mailto:seeley.ja@pg.com)**

*or*

P&G, 11511 Reed Hartman Hwy.

Cincinnati, OH 45241

### **Sponsors for the 2007-2008 ACS Cincinnati Section Program Year**

Here is the listing of the sponsors for the eight monthly Cincinnati ACS meetings in the 2007-2008 program year:

September: Frank Diehl

October: University of Cincinnati, Department of Chemistry

December: Xavier University, Department of Chemistry

January: Givaudan Flavors

February: Ted J. Logan

March: Advanced Testing Laboratory, Inc.

April: Procter & Gamble Company

May: Girindus America, Inc.

These companies, universities and individuals have recognized the importance of a strong Cincinnati Section program and have generously contributed money to help the section increase the value of its programs to all ACS members.

These donors will be recognized at their sponsored meeting and in the monthly meeting announcement in each of the 2007-2008 issues of the CINTACS newsletter.

Ted J. Logan, Chair  
Sponsorship Solicitations Committee  
Cincinnati Section, ACS  
Tel.: 513-385-8856  
E-Mail: [TJLOGANCIN@AOL.COM](mailto:TJLOGANCIN@AOL.COM)

**Visit the ACS Cincinnati Section On-line:**

**[www.acscincinnati.org](http://www.acscincinnati.org)**

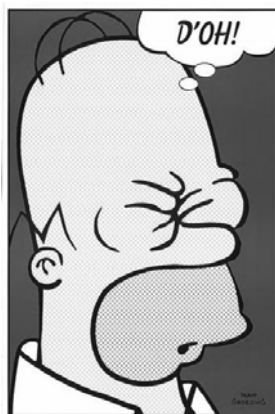


*(Analytical Discussion Group;  
Continued from page 8)*

**Speaker Biography:** Tom Brueggemeyer received a bachelor's degree and Ph.D. in chemistry from the University of Cincinnati. His graduate work was done under the direction of Professor Joseph Caruso, and focused on the use of organometallic reactions to enhance the detectability of trace elements. Upon joining the U.S. Food & Drug Administration's Elemental Analysis Research Center (EARC) in 1982, he continued working in the area of trace metals analysis, with emphasis gradually shifting to the use of mathematical tools for data interpretation, or chemometrics. This area of interest persisted as the EARC became the Forensic Chemistry Center (FCC), with additional involvement in molecular spectroscopy, and particularly, spectroscopic imaging. Currently, Dr. Brueggemeyer is a team leader of a group which utilizes a variety of analytical techniques including LC-MS, GC-MS and FT-IR. He is a member of the American Chemical Society and the Society for Applied Spectroscopy.

*Footnote:* No photo of Dr. Brueggemeyer is available; however, Tom informed the CINTACS editor: "I've been told that I'm a cross between Homer Simpson and Millard Fillmore." To recognize Tom, we'll just have to use our imaginations...

H. Simpson, nuclear  
plant employee (1989-)



M. Fillmore, 13<sup>th</sup> US  
President (1850-1853)



## Chemical Information Update – Zeolite Databases

**Edlyn S. Simmons, Chair  
Chemical Information  
Discussion Group**

Ordinary chemical databases like the CAS Registry are wonderful resources for small organic molecules, but complex chemical structures need something more specialized. The field of zeolites has just such specialized resources.

The Database of Zeolite Structures, produced by IZA-SC, the Structure Commission of the International Zeolite Association, includes descriptions and drawings of each zeolite framework type, user-controlled animated displays of each framework type, crystallographic data and simulated powder diffraction patterns for representative materials, relevant references, detailed instructions for building models, and descriptions of some families of disordered zeolite structures. The References tab allows searching by framework type, author and publication. It is accessible at <http://www.iza-structure.org/databases/>.

The Database of Zeolite Structures also has links to the AIPO Structures database, which has structures of over 200 aluminophosphate structures, and the Database of Aluminophosphate Syntheses, both at Jinlin University, accessible at <http://mezeopor.jlu.edu.cn/alpo/> and <http://zeobank.jlu.edu.cn/>, respectively. There are also links to the Atlas of Prospective Zeolite Frameworks, maintained at Arizona State University and accessible at <http://www.hypotheticalzeolites.net/>, and the Reticular Chemistry Structure Resource, produced by Arizona State, UCLA, and the Australian National University, accessible at <http://rcsr.anu.edu.au/>.

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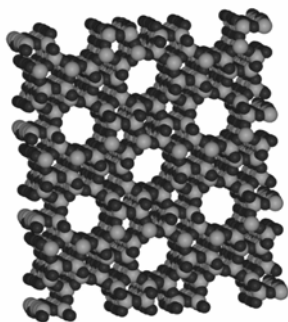
*(Continued from previous page)*

Another Database of Zeolite Structures from the IZA Structure Commission is accessible at <http://topaz.ethz.ch/IZA-SC/Introduction.htm>. This database has an advanced search facility that allows the user to search the database for a framework type or for type materials with a user-specified range of parameters (e.g. all frameworks with 4- and 5-rings, or all frameworks with pore openings larger than 10-rings, or all type materials within a range of unit cell volumes, or all type materials with monoclinic symmetry, etc.). It also allows the user to enter crystallographic data that is not available in the database and generate the corresponding diffraction pattern.

For those who prefer paper to interactive Internet databases, IZA-SC has recently published 5th edition of Collection of Simulated XRD Powder Patterns for Zeolites (ISBN-13: 978-0-444-53067-7, Elsevier, list price \$170), which seems to contain much of the information available online, and several other promising zeolite reference books.

**Footnote:** This year, the Chemical Information Discussion Group is once again offering hints and updates on chemical information resources available to most chemists and techniques for using them. Feedback, contributions, and requests for information you'd like to see in future columns are welcome. If you have any comments, suggestions, or contributions, please email them to: [simmons.es@pg.com](mailto:simmons.es@pg.com).

The micro-porous molecular structure of a zeolite, ZSM-5



## ACS' RETIREMENT SUPPORT GROUP

An increasing number of chemists are approaching normal retirement age or are thinking about or facing early retirement. Surviving and thriving in retirement takes planning. This planning should start at least several years before being faced with critical decisions regarding post-retirement activities and plans and how those will be funded.

The ACS Committee on Economic & Professional Affairs (CEPA) is sponsoring a Special Interest Group on Retirement Planning. The group will meet from 1:30 to 4:00 on Sunday April 6, 2008 at the 234 National Meeting in New Orleans. What follows is a partial list of the critical issues and questions to be considered in planning for your retirement.

### Financial Issues

- Do you have a budget plan?
- Corporate benefits after retirement
- How secure is your pension?
- What is your investment strategy in your retirement years? including estate planning?
- Reverse mortgage implications
- Relative social security, 401K and IRA regulations
- Taxation
- Establishing trust accounts
- Inheritance tax rules - limits on capital gains
- Establishing foundations - for grandkids for tax advantages

Because of the complexity of the financial issues you may benefit from a financial adviser.

There are many other important factors to be considered. Here is a partial list of questions you might want to think about and discuss with your family:

- Healthcare/insurance planning.
- Medicare
- Prescription drugs
- Health care supplemental insurance
- Long-term care issues

*(Continued on next page)*

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#### Explore Your Passions

- Where do you want to live: near family, near friends, in a retirement community, near assisted living, in the Sun Belt, etc. or stay put?
  - Do you want or need to continue working?
  - Do you want to keep active as a professional?
- Are you interested in volunteer work?
- Interest in continuing education?
  - Interest in traveling, learning new things, expand your hobby, etc.?

Think about retirement as another job search. You are looking for ways to spend the rest of your life. What will you do with your time? If you do not have a set plan think about putting together a resume that includes your objective, your skills, and your work or hobby experience.

Come join the discussion group to learn and share ideas for planning your retirement. We can help each other by answering questions and exchanging information. Time will be set aside for the exchange of concerns and ideas. Presenters will include experts in private and governmental retirement and healthcare plans. We plan to have Lisa Balbes, author of "Nontraditional Careers for Chemists" talk about how to prepare for a second career in consulting.

In addition a representative from the ACS Member Insurance Group will discuss what the ACS offers for retired chemists. For more information contact Herb Silverman at [agman@cox.net](mailto:agman@cox.net)

**The Elementary Education Committee of the ACS Chicago Section presents this month's column ("Mustard Mystery"). They hope that it will reach young children and help increase their science literacy. Please share with children and local teachers.**

Please note: All chemicals and experiments can entail an element of risk, and no experiments should be performed without proper adult supervision.

[The following column is from Dec. 2007]

## Mustard Mystery

Kids, is there really silver in that silver coin? Even though our dimes, quarters, half dollars, and "silver" dollars are silver in appearance, those minted after 1971 actually have no silver in them. Silver was completely removed from dimes and quarters in 1965 and replaced with an outer layer of copper-nickel alloy bonded to an inner core of pure copper. The half dollar and "silver dollar" followed suit in 1971. Believe it or not, our "copper" pennies nowadays are mostly zinc and our "silver" coins are mostly copper!

Dimes and quarters minted before 1965 were composed of an alloy of 90% silver and 10% copper, and they are considered somewhat valuable by collectors. You can easily test for the presence of silver with a simple experiment. Using a plastic knife, apply a generous portion of mustard (yes, the yellow stuff you put on your hotdog) to both pre-1965 and post-1965 dimes and quarters. Let them sit overnight on a paper towel. The next day, rub off the mustard. A black spot will remain on the true silver coin but not on a non-silver coin.

What's happening? Mustard contains natural sulfur compounds. Sulfur is an element that is very common in our day-to-day world. Sulfur reacts with the silver to form a black powder (a "precipitate") of silver sulfide. The chemical formula for silver sulfide is  $\text{Ag}_2\text{S}$ . One of the challenges for this experiment will be in hunting down the pre-1965 coins - good luck and happy hunting!

Here is an interesting tidbit. Eggs also contain a lot of sulfur. If you eat eggs with a silver plated fork you will find that your fork has black tarnish on it when you are finished. You made a new chemical while eating your breakfast!

Check out the ChemShorts October 2000 article on "The Science of Money" for other interesting trivia about coins and paper money (<http://membership.acs.org/C/Chicago/ChmShort/CS00.html#10.00>).

*Reprinted with permission from Dr. Kathleen A. Carrado, Chicago Local Section.*

*50% off the National Meeting price!*  
**PRACTICAL HPLC FOR PHARMACEUTICAL ANALYSIS**

**Kim Huynh-Ba, Instructor**

**Monday May 5, 2008**  
**Mason Business Center – The Procter & Gamble Company**  
**8700 Mason-Montgomery Road, Mason Ohio**

**Who Should Attend**

This course focuses on reversed-phase analysis of drug substances and drug products (small molecule). It is designed for managers and researchers who currently use, supervise, or need to learn more about HPLC method development and method validation in a pharmaceutical or regulated (cGMP) laboratory. To get the most out of the course, it is highly recommended that you have at least two years of hands-on HPLC experience.

**Key Topics You'll Learn About**

Conduct method validation by phases of development  
Maintain validation through method life cycle  
Discuss regulatory expectations through warning letters

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**About the Instructor**

**Kim Huynh-Ba** is the Technical Director of Pharmalytik Consulting and Training Services ([www.pharmalytik.com](http://www.pharmalytik.com)). With over twenty years of experience in various analytical areas of pharmaceutical development and a primary focus in stability sciences, she specializes in analytical development, stability, outsourcing and technology transfer management. She has been involved with several projects harmonizing and optimizing analytical best practices in several companies, including those under Consent Decree.

**Program Agenda**

Check-in will begin at 7:45 a.m. The course will be taught from 8:00 a.m. to 5:00 p.m. If you have technical questions about the course, contact Kim Huynh-ba at [kim.huynhba@pharmalytik.com](mailto:kim.huynhba@pharmalytik.com).

**Date and Site**

May 5, 2008, this is a 1-day course. Location: Mason Business Center (formerly Health Care Research Center) -- The Procter & Gamble Company, 8700 Mason-Montgomery Road, Mason, Ohio 45040.

**Registration and Fees**

The course fee will be **\$500 for ACS members** and **\$600 for non-members** (compare to \$895/\$995 at a National ACS meeting). The fee includes course materials, continental breakfast, lunch, and refreshment break, and a copy of *Modern HPLC for Practicing Scientists*, by Dr. Michael Dong (Wiley-Interscience, 2006). Seating will be limited. To register, please send an e-mail to Rick White ([white.dr.2@pg.com](mailto:white.dr.2@pg.com)) or call (513) 622-1624 with your name, affiliation, phone number and ACS membership status. You will be sent a URL link for paying by credit card. Or, you may send check or money order, payable to "Cincinnati Section ACS", to the address listed below. **Payment must be received by Friday, April 18.**

Dr. Rick White

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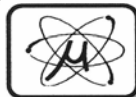
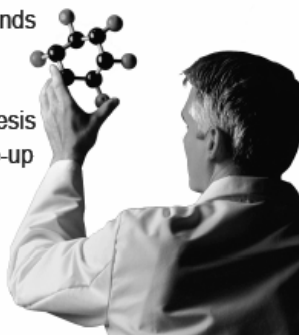
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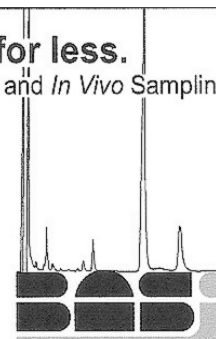
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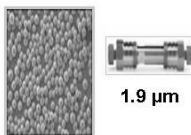
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