



# The Chemical Record

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Columbus Section of the American Chemical Society, Inc.  
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### MEETING NOTICE

Columbus Section of the American Chemical Society, Inc.

<http://columbus.sites.acs.org>

Meeting #853

**Tuesday, February 21, 2012**

Four Seasons Columbus  
[www.FourSeasonsColumbus.com](http://www.FourSeasonsColumbus.com)  
4643 Trueman Boulevard  
Hilliard, Ohio 43026

*The Chemistry of Chocolate Flavor*

**Dr. Sheryl Barringer**

Professor and Graduate Studies Chair

Department of Food Science and Technology

The Ohio State University

#### PROGRAM DETAILS

5:00-6:00 PM	Executive Committee Meeting — Lakeview Room or Conference Room
6:00-7:00 PM	Social Hour — Lakeview Room Appetizers and cash bar
7:00-7:45 PM	Buffet Dinner – Lakeview Room Roasted Chicken Breast with a roasted pepper sauce Vegetable Lasagna Roasted Potatoes Vegetable Mèlange Rolls with herbed butter Four Seasons Cheesecake
7:45-8:45 PM	Dr. Sheryl Barringer – Lakeview Room
Cost	\$25 per person members and non-members, \$20 for retired and unemployed members, \$10 per student. Payment will be collected at the door; cash and checks accepted. <i>Remember that this is a dinner order and must be paid. Please help control costs by honoring your order.</i>
RSVP	Please use the voice mail reservations service by calling 614-447-3600 extension 7047. Follow the template for reservations*. Alternatively, please send e-mail with the same information to The Columbus Section at the following e-mail address: <a href="mailto:acscols@wowway.com">acscols@wowway.com</a> or use the <a href="#">Meeting Reservation Form</a> on the Section's website.
*Voicemail/e-mail Reservations Template	<ul style="list-style-type: none"> <li>• First and last name: Please spell your last name.</li> <li>• Membership category: member, high school teacher, non-member, retired, emeritus, unemployed, student, other.</li> <li>• Employer</li> <li>• Please indicate if you will join us for the <u>Dinner &amp; Program</u> or <u>Program Only</u></li> <li>• Your phone number, in case we need to contact you.</li> </ul>
Reservation Deadline	<b>Wednesday, February 15, at noon</b>



<b>Program Contact</b>	<b>Natalie Chilicki</b> , 614-961-0452; <a href="mailto:natalie.chilicki@yahoo.com">natalie.chilicki@yahoo.com</a>
<b>Directions &amp; Parking</b>	<p><b>From the East:</b> Travel on I-70 West through downtown Columbus. Take the I-270 North exit (Exit 93) toward Cleveland. Take Exit 13A (Fishing Road). Turn right (east) on Fishing Road. Turn left at the first traffic light onto Trueman Blvd. Follow Trueman Blvd. for 1.4 miles and take the last left turn (opposite of the ADS building) into Timberline.</p> <p><b>From the South:</b> Travel on I-71 North towards Columbus. Take the I-270 (Exit 101) toward Wheeling/Dayton; take the I-270 West exit (Exit 101B) on the left toward Dayton. Merge onto I-270 West via the exit on the left toward Indianapolis. Take Exit 13A (Fishing Road). Turn right (east) on Fishing Road. Turn left at the first traffic light onto Trueman Blvd. Follow Trueman Blvd. for 1.4 miles and take the last left turn (opposite of the ADS building) into Timberline.</p> <p><b>From the West:</b> Travel on I-70 East towards Columbus. Take the I-270 North exit (Exit 93B) toward Cleveland. Take Exit 13A (Fishing Road). Turn right (east) on Fishing Road. Turn left at the first traffic light onto Trueman Blvd. Follow Trueman Blvd. for 1.4 miles and take the last left turn (opposite of the ADS building) into Timberline.</p> <p><b>From the North:</b> Travel on Rt. 33/Rt. 23/I-71 South towards Columbus. Take the I-270 West/South exit toward Dayton/Indianapolis/Cincinnati. Take Exit 13 (Cemetery Road/Fishing Road). Turn left (east) on Fishing Road. Turn left at the second traffic light onto Trueman Blvd. Follow Trueman Blvd. for 1.4 miles and take the last left turn (opposite of the ADS building) into Timberline</p> <p>Parking is free.</p>

**ABOUT THE TOPIC:***THE CHEMISTRY OF CHOCOLATE FLAVOR*

Chocolate is a wonderfully complex flavor. Part of what makes it so complex is that it is formed through a number of complicated steps. The characteristic aroma of chocolate is affected by the tree variety, growing location, fermentation, drying, roasting, alkalization, addition of other ingredients and conching steps. Unlike most horticultural products, the tree variety and growing location have a relatively minor effect on the flavor. Fermentation is a critical step where the flavor precursors are formed by the microorganisms and enzymes in the beans. Drying is important to flavor in that it stops the fermentation before off flavors can be formed, but can introduce off flavors itself if not done properly. Roasting is the other critical step, where the correct time and temperature are used to convert the precursors formed during fermentation into the characteristic chocolate aroma. The Maillard reaction is responsible for these changes. At this point the critical volatiles, consisting of pyrazines, aldehydes, alcohols and esters, are formed. Alkalization changes the flavor, and is used to make hot chocolate. Addition of other ingredients can introduce flavors as well. Conching is the final step, which changes the flavor slightly.

**ABOUT THE SPEAKER:**  
*SHERYL A. BARRINGER*

**Sheryl A. Barringer** is a Professor and Graduate Studies Chair in Food Science and Technology at The Ohio State University. She received a B.S. in Food Science from the University of Illinois and a Ph.D. in Food Science and Nutrition from the University of Minnesota. She teaches courses in fruit and vegetable processing and technical problem solving, and was the 2001 and 2005 recipient of the Pomerene Outstanding Teaching Award. Her research is in flavor volatiles, coatings, snack foods and fruit and vegetable processing, especially of chocolate. In 1997 she received the Ohio Agricultural Research and Development Outstanding Research Award, and in 2004, IFT's Samuel Cate Prescott award to honor outstanding research in food science and technology.





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### WELCOME NEW MEMBERS!

*By DAVID SPETH, CHAIR-ELECT AND MEMBERSHIP CHAIR*

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Please join us in welcoming the following new members who have joined the Section recently: The Columbus Section cordially invites new members to our monthly meetings. The Section will pay for new members' meals the first time they attend a meeting.

SUSAN AUDINO  
SOMSUNDARAM CHETTIAR  
SRINIVASARAO CHITIKELA  
KITTISAK CHOOJUN  
CHAMAREE DESILVA  
DAN DEBREUIL  
SAMUEL ESAREY  
KEEGAN FITZPATRICK  
NATHAN GRIDER  
LISA HILLIARD

KATHERINE HUFF  
NAVAL KAPURIYA  
JESAIAH KING  
LEVAN KHELASHVILI  
ERIC KREIDLER  
MATTHEW LIPNER  
RICHARD MCCARTY  
KEENAN MCKNIGHT  
JORDAN PAGE  
MICHAEL PITCHER  
EDWARD RODE

KATHERINE SCHULTZ  
MATTHEW SHAW  
BYONG-KYU SHIN  
RAITH SIMUNYU  
JASON SU  
JARED SWARTZENTRUBER  
ANNELISE THOMPSON  
BRIAN TRAMMELL  
SAMUEL WOLOCK  
WUJIE ZHANG

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### COLUMBUS SECTION JOINS FACEBOOK

*By NATALIE CHILICKI, CHAIR*

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If you are on Facebook, or know folks who are, please check out the page (*still under construction*) and "Like" the page.

<https://www.facebook.com/pages/Columbus-Section-of-the-American-Chemical-Society/100458203416653>

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### GET A FREE SCIENCE ACTIVITY KIT TO CELEBRATE THE INTERNATIONAL YEAR OF CHEMISTRY (IYC) 2011!

*By NATALIE CHILICKI, CHAIR*

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Although it's now 2012, *Chemistry: Investigating Your World* kits are available for upper elementary and middle school teachers who register for one at [www.acs.org/iyckit](http://www.acs.org/iyckit).

In addition to a poster and activity guide, the kit contains materials for an entire classroom of students to explore the four clues of chemical change:

- Production of a gas
- Formation of a precipitate
- Color Change
- Change in temperature

Check out the four lessons to find out how meeting scientists around the world, investigating clues of chemical change, and real-life applications are woven together to make learning chemistry relevant and fun. Then be sure to [sign up](#) for your free kit as soon as possible. Supplies are limited!

#### **Mikal C. Ankras**

Member Communities | Volunteer Support | 1155 16th St., NW | Washington | DC 20036  
T: 202-872-6326 | F: 202-872-4353 | 800-227-5558 | [www.acs.org](http://www.acs.org)




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**EXPENSE COVERED, 5-DAY WORKSHOP FOR HIGH SCHOOL CHEMISTRY TEACHERS**  
*OCTOBER 21-27, 2012*


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Ohio Northern University's Department of Chemistry and Biochemistry is hosting a five-day workshop designed to provide high school chemistry teachers with a unique professional development opportunity.

The 30-hour workshop features lecture, laboratory and networking time:


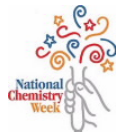
- Use a Vernier spectrophotometer and Vernier probes
- Conduct associated laboratory exercises
- Modify and troubleshoot existing protocols
- Participate in discussion sessions
- Receive a Vernier instrument for use in your home educational institution
- Join specialized breakout seminar/laboratory periods

All teachers who teach at least one high school course in chemistry are invited to apply. **Applications are due by March 1.**

All accepted teachers will be awarded a \$1,200 grant that will cover housing, registration fees, some meals and purchase of a Vernier scientific instrument. Some travel grants (up to \$300) also are available.

To learn more and complete an application, visit [www.onu.edu/ctw](http://www.onu.edu/ctw). A continuing education certificate will be available upon workshop completion.

**COLUMBUS SECTION ACS CALENDAR OF EVENTS**

Year	Month	Date	Day	Location	Comments
2012	February	15	Wed		<b>Noon: Deadline for reservations for February, 2012 Section meeting.</b>
2012	February	21	Tue	Four Seasons Columbus	Monthly Section Meeting: <i>The Chemistry of Chocolate Flavor</i> , <b>Dr. Sheryl Barringer</b> . See details elsewhere in this issue of <i>The Chemical Record</i> .
2012	Feb-Mar	28-1	Tue-Thu	Blackwell Inn, OSU	Women in Science and Engineering (WISE) Symposium to Be Conducted at Battelle: <i>W2W – Women to Women – Connecting Global Science and Technology Leaders</i> . See <a href="http://www.battelle.org/conferences/wise">www.battelle.org/conferences/wise</a> for details.
2012	March	11-15	Sun-Thu	Orlando	Pittcon Conference and Expo
2012	March	25-29	Sun-Thu	San Diego	243 <sup>rd</sup> ACS National Meeting and Exposition
2012	June	5-9	Tue-Sat	Dearborn, MI	 43 <sup>rd</sup> ACS Central Regional Meeting. This is the first time the Central Regional Meeting has been held in Metro Detroit since 1974. See details at <a href="http://2012csem.sites.acs.org/">http://2012csem.sites.acs.org/</a> .
2012	August	19-23	Sun-Thu	Philadelphia	244 <sup>th</sup> ACS National Meeting and Exposition
2012	October	21-27	Sun-Sat	Here, There, Everywhere	 National Chemistry Week (NCW). Stay tuned for information on Columbus Section activities and volunteer opportunities!
2012	October	27	Sat	Columbus Metropolitan Library Main Branch, 96 South Grant Avenue	NCW chemistry demonstrations for children of all ages. Volunteers are needed; contact Professor John Blaha ( <a href="mailto:Jblaha@csc.edu">Jblaha@csc.edu</a> ) for more information.



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## HELP WANTED

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### REFINING MANAGER/ENGINEER

**COMPANY:** Leading ISO certified U.S. refiner of silver, gold, platinum, and palladium. Refining services include karat gold and solid gold, gold and silver bullion, sterling, coining, gold-filled scrap, stone removal, sweeps, filings, polishings, grindings, bench water, and miscellaneous platinum/palladium scrap.

**REPORTS TO:** Vice President

**SUMMARY:** Assume complete management responsibility for a three shift, 24/7 precious metal refining operation including assay sampling/ production, laboratory and EH&S.

#### RESPONSIBILITIES:

- Through direct, hands-on management supervision, deliver maximum efficiency for entire facility.
- Expeditiously direct material through the plant through selection of the correct production processes
- Assure growth while maintaining and enhancing technical superiority and maximizing refining operations.
- Leading by example, manage all daily plant activities.
- Assess analytical laboratory processing data to make informed decisions and adjustments within production to ensure timely settlements and reporting of same.
- Assure that all products are safe and environmentally acceptable throughout the refining process and in final form.
- Assure personnel are properly trained, directed, and motivated to achieve company growth objectives; review personnel regarding ability and future expectations
- Assure that precious metals are properly accounted for and safe from theft and loss at all times.
- Assure a cost-conscious and cost-effective approach to all decision-making and operational functions.
- Work with customers to resolve technical problems, take advantage of technical opportunities, and gain insight into potential new recycle streams and applications.
- Manage the timely flow of information to management; prepare monthly and other necessary plant performance reports for senior management.
- Manage compliance with local, state, and federal government regulatory agencies as they relate to facility operations.

#### REQUIREMENTS:

- Three (3) to (5) years of chemical or metal processing experience, preferably in precious metals refining.
- Thorough knowledge of pyrometallurgical and wet chemistry processes and analytical requirements as they relate to the refining of precious metals.
- Strong management skills set with a proven record of success in the selection, management, and motivation of a diverse work force.
- Excellent computer skills.
- Competence in environmental, safety, and health regulations as they relate to precious metal refinery operations including wastewater treatment and solid waste disposal.
- Hands-on capabilities relating to the operation of process equipment such as shredders, mills, grinders, pumps, valves, agitators, tanks, filter presses, scrubbers, and ion exchange/ precipitation processes. Ability to troubleshoot problems as well as to manage and carry out equipment repairs.
- Outstanding customer service skills and the ability to support the sales and marketing function.
- Strong organizational and excellent written and verbal communication skills.

**EDUCATION:** B.S. /M.S. degree in Chemical Engineering, Metallurgy or a related technical discipline.

**COMPENSATION:** Competitive base salary commensurate with experience plus bonus.

**LOCATION:** Midwestern United States

**BENEFITS:** Full and excellent.

**CONTACT:** Judy Gallagher - [JGallagherEmpire@aol.com](mailto:JGallagherEmpire@aol.com) - 610-247-3720



**CONDITIONS AND IMPORTANT NOTICES**

In providing these announcements the Columbus Section assumes no obligations as to qualifications of prospective employees or responsibility of employers, nor shall the Columbus Section obtain information concerning positions announced or those seeking employment. The Columbus Section considers all users of this service obligated to acknowledge all replies to their announcements. These announcements are provided as a service for the convenience of prospective employers and prospective employees and are not to be construed as instruments leading to unlawful discrimination.

**PHOTOGRAPHS FROM THE DECEMBER, 2011 JOINT COLUMBUS SECTION ACS-CENTRAL OHIO SECTION AIChE MEETING**



**.Lee Cherney, Harry Ruska, Michael McBride, and Mark Mellum**, of GFS Chemicals, who hosted the facility tour and presented an overview of GFS during the after-dinner talk.



**Lee Cherney**, Director of Organic Research & Development, GFS Chemicals



**Harry Ruska**, General Manager, Analytical & Research Products Division, GFS Chemicals



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### ABOUT *THE CHEMICAL RECORD*

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*The Chemical Record*, official newsletter of the Columbus Section of the American Chemical Society, Inc., is published monthly, February-May and September-December (eight issues per year.) Opinions expressed by editors or contributors do not necessarily represent the official position of the Columbus Section or of the editorial staff. We welcome your contributions to your *Chemical Record*. Please submit them via postal or electronic mail to **George Greene**, PO Box 360941, Columbus, Ohio 43236-0941, [george.greene@abbott.com](mailto:george.greene@abbott.com). Electronic mail contributions should be in MS Word file attachments (preferred) or plain-text messages. *Thank you very much!*

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### CHANGE OF ADDRESS

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Changes in postal or e-mail address should be reported to the Membership Chair, **David Speth**, 614-688-5162, [drspeth@sbcglobal.net](mailto:drspeth@sbcglobal.net). David will forward the change-of-address information to ACS Headquarters.

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### ADVERTISING RATES

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Advertising rates for *The Chemical Record* are as follows (per single insertion): Full Page, \$250; Half page, \$150; Quarter Page, \$120; Eighth Page: \$60; Business Card, \$50. Discounts: 5% for four insertions or 10% for eight insertions during a calendar year. There is no charge for "help wanted" ads.

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### SECTION E-MAIL ROUTING

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Please send items for distribution to the Section e-mail list to **Maria Rosenthal** ([mrosentha@cas.org](mailto:mrosentha@cas.org)). Maria will perform any necessary formatting then she will forward the message to **Robert Bird**, Electronic Communications Coordinator, for distribution. If you would like to be added to the e-mail distribution list, please contact Robert Bird ([rbird@cas.org](mailto:rbird@cas.org)).

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