

The Chemical Record

Volume 56 – Number 4 – May, 2014

Columbus Section of the American Chemical Society, Inc.

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ABOUT THE COLUMBUS SECTION

The Columbus Section of the American Chemical Society comprises approximately 1,500 members who live and work in the following central Ohio counties: Delaware, Fairfield, Fayette, Franklin, Hocking, Knox, Licking, Madison, Marion, Morrow, Muskingum, Perry, Pickaway, Ross, and Union.



The Mission of the American Chemical Society (ACS) is to encourage in the broadest and most liberal manner the advancement of the chemical enterprise and its practitioners. Toward that end, the ACS advances scholarly knowledge, provides professional services and support, communicates with varied audiences, and is actively involved in the science, education, and public policy arenas.

The Columbus Section of the ACS adheres to this mission and the strategic thrusts of the national organization and leadership by providing programs and networking opportunities for Chemistry professionals in Central Ohio.

We invite ACS members and scientists in the community to lend their expertise and talents to our activities in science education, government and legislative policy issues, safety in our industrial plants and in our communities, and care of our land.

MEETING NOTICE



Columbus Section of the American Chemical Society
Meeting #872

Unlikely Ed Fellows: How Bill Simmons, The Amish, and Socrates Helped Transform My Classroom

By Dr. Fus

Thursday, May 8, 2014

J Liu Restaurant and Bar
6880 N High St
Worthington, OH 43085

Abstract: Effectively implementing technology in the classroom can be a challenging task. This hands on, interactive session will feature Learning Catalytics, a “bring your own device” student engagement, assessment, and classroom intelligence system, and demonstrate a few best practices of effectively incorporating technology in the classroom. Learning Catalytics will also be used to group participants and engage them in discussion. Please bring a smart phone, laptop, tablet, or some device that can access the internet to this presentation.

PROGRAM DETAILS

5:30 – 6:20 PM	Executive Committee meeting (All Section members are welcome to attend)
6:30 – 7:30 PM	Dinner <ul style="list-style-type: none">• House Salad• Entrée (choose one):<ol style="list-style-type: none">1. 1. <i>Potato Crusted Tilapia</i>2. 2. <i>Mongolian Beef Tenderloin</i>3. 3. <i>Pasta Primavera</i> Plated dessert



7:25 – 7:40 PM	Presentation of High School Teacher of the Year Award to Mr. Jeff Ungerer, Fairbanks High School
7:50 – 8:50 PM	Unlikely Ed Fellows: How Bill Simmons, The Amish, and Socrates Helped Transform My Classroom By Dr. Fus
Cost	\$25 per person members and non-members, \$5 for retired and unemployed members, \$5 per student. New members are free! Payment will be collected at the door: cash and checks accepted. There is no cost to attend the program only. Remember that this is a dinner order and must be paid. Please help control costs by honoring your order.
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: acscols@wowway.com or use the Meeting Reservation Form on the Section's website.
*Voicemail/e-mail Reservations Template	<ul style="list-style-type: none"> • First and last name: Please spell last name. • Membership category: member, non-member, retired, emeritus, unemployed, and student. • Employer. • Please indicate your entrée choice. • Your phone number, in case we need to contact you.
Reservation Deadline	Monday, May 5, 2014 by noon
Program Contact	Wenbin Qi, 614-260-4179, Qiwenbin@gmail.com
Directions & Parking	Link to google map Parking is free

 ABOUT THE SPEAKER



Matthew W. Stoltzfus

Senior Lecturer, Chemistry and Biochemistry

Dr. Matthew W. Stoltzfus, or "Dr. Fus," is an accomplished chemistry lecturer at The Ohio State University, where he has taught general and advanced inorganic chemistry. He implements the "flipping the classroom" lecture approach, which has garnered media attention from NPR, ESPN, Inside Higher Education, and Apple. Dr. Fus was an inaugural recipient of the Provost's Award for Distinguished Teaching by a Lecturer, is recognized as an Apple Distinguished Educator, is a contributing author of the 13th Edition of "Chemistry the Central Science" textbook and has an iTunesU General Chemistry course with an enrollment of more than 137,000 students from all over the world.

Follow him on Twitter: @Dr_Fus

IN MEMORIAM
DR. SHELDON SHORE

Professor Sheldon G. Shore passed away unexpectedly on Friday, April 4, following a surgery in mid-March. He will be greatly missed by his many friends and colleagues at Ohio State and beyond.

He was a son of the late Louis and Lillian, brother of Melvin and the late Sam (Edna Gerstein), uncle to Dave, Diane, Barb, Gary, Steve. Funeral Services were conducted Friday, April 11th 2:00 pm at Beth-El Ridgelawn Cemetery, Chicago.

Among the many honors during his distinguished career, Professor Shore was a Fellow of the American Chemical Society and a recipient of the Columbus Section Award.



COLUMBUS SECTION ANNOUNCES HIGH SCHOOL CHEMISTRY TEACHER OF THE YEAR
BY JEFF BRACKEN

Chemistry teacher **Mr. Jeff Ungerer** of Fairbanks High School has been named the High School Chemistry Teacher of the Year by the Columbus Section of the American Chemical Society. Mr. Ungerer will be recognized for this award at the Columbus Section's May meeting. Mr. Ungerer and his school will also receive a cash award for this prestigious honor.

Mr. Ungerer has been a chemistry teacher at Fairbanks High School and previously taught at Bishop Ready High School. During his eleven-year teaching career, Mr. Ungerer has taught a variety of science courses, including the American Chemical Society Chemistry in the Community, regular chemistry, honors chemistry, advanced placement chemistry, and dual enrollment advanced chemistry.

Mr. Ungerer received his undergraduate degree in chemistry and graduate degree from The Ohio State University. He worked for over ten years as a senior laboratory technician at Ashland Specialty Chemical Company before returning to Ohio State to obtain his teaching license.

As the only chemistry teacher at his school, Mr. Ungerer has initiated a number of unique real-world projects for his students, and he has successfully obtained numerous grants to fund his creative ideas. Mr. Ungerer has received grants from the local section of the ACS, Hach Foundation, and the Kids in Need Foundation. Not surprisingly, Mr. Ungerer was recognized as the Teacher of the Year by the Kids in Need Foundation in 2009.

Mr. Ungerer's students and administrators refer to him as an incredibly inspirational teacher who constantly seeks out new methods to help his students learn chemistry. He has initiated efforts with local universities to help to prepare his students for their transition to general chemistry and organic chemistry. Mr. Ungerer has also embraced the use of technology to extend the traditional school day with the use of videopodcasts.

Mr. Ungerer has been described as a passionate teacher at his school who teaches with an endless enthusiasm for science. It is not a coincidence that over 30% of the students at Fairbanks High School have joined the Science Club!

Each year since 1965, the Columbus Section of the American Chemical Society has awarded the High School Chemistry Teacher of the Year Award to a chemistry teacher in Central Ohio.



Silver

SILVER CIRCLE NEWS
By Tom Weeks

Silver

Silver Circle events this Spring resumed with a trip to the electron microscopy facility at OSU on Thursday, April 17. CEMAS has one of the largest collections of electron and ion beam microscopes in the US. As usual, our meeting featured a technical talk, lunch, and tour.

On May 21 we will visit the Worthington offices of **Gary Bowen**, the construction manager of the 5th Ave. Dam Removal and the Olentangy Restoration Projects. If the weather is decent, we will have a site visit to the Olentangy work. It will be very interesting to learn about the planning, design, construction, and goals of these projects.

On June 5, we will visit the OSU Advanced Automotive Facility.

For more information, email tomweeks@aol.com. As always our meetings are open to ACS members of all ages, their spouses, and assorted science groupies. Thanks to support from our local section, the lunch charge is only \$5.

WELCOME NEW MEMBERS!

By DAVID SPETH, MEMBERSHIP CHAIR

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

JEEVAN BARETO
TROY BARKER
ERIC BARNES
JOSEPH BOSHERS
WILLIAM BOND
LAUREN CRALL
DANIEL DAWSON
ALICE DUCHON

SIDDHARTH GOUTAN
KACEY GREEN
DINH HA
KEITH HERMANN
CLARE KEENEY
ADRIAN LITA
ELIZABETH MLAKAR
AMY MOORE
KAYLA NUNEZ

SUMANT PATANKAR
LANG QIN
HEINZ ROBOTA
YIAN ROBOTA
BRIANNE SANFORD
YARN TIMSINA
JEFF VARRASSO
BO WANG



STATE SCIENCE DAY 2014: VOLUNTEERS NEEDED!

By WENBIN QI



On **Saturday, May 10th**, State Science Day 2014 will be hosted by **The Ohio State University at the French Field House** in Columbus – just up the road from the “Shoe”. Since 1998, as part of its commitment to chemical education at all levels, the Columbus Section has sponsored awards for outstanding projects in the chemical sciences. The objective is to acknowledge and reward those students who have not only understood the scientific method, but also have exhibited creative thought.

Clearly, these students are some of the best that Ohio has to offer and already are showing an interest in chemistry. What better way to encourage these youngsters and expose them to the human face of the chemical enterprise?

WE NEED YOUR HELP!!!

As you can imagine, the number of projects is large (~140) and we need around 30 judges to evaluate them and decide on the winners. A general knowledge of some branch of chemistry is desirable, but being a chemist or ACS member is not required. But even limited knowledge in one area can be supplemented and effectively utilized through interactions with judges having complementary skills.

Judging is scheduled to run from 9:00 a.m. to noon. Refreshments and orientation will occur from 7:00 to 8:30 a.m., and you really need not be there much before 8:00 a.m. in order to get a clear idea of what will be happening that morning. You will be well-informed in advance. All of the judges in the past few years have thoroughly enjoyed the experience.

Please consider taking one morning out of the entire year to offer encouragement and advice to someone who could be taking the first steps in an illustrious career.

If you would enjoy the opportunity to meet the next generation of chemical scientists, e-mail me, Wenbin Qi, at qiwenbin@gmail.com.

Refer to The Ohio Academy of Science Web <http://ohiosci.org/state-science-day-2014/> for more details.

HIGHLIGHTS OF THE 247TH ACS NATIONAL MEETING, HELD IN DALLAS, TX, MARCH 16-20, 2014
BY VIRGINIA SONGSTAD

John A. Rogers Emily A. Weiss Jens K. Norskov Michael R. Wasielewski Héctor D. Abruña

CHEMISTRY AND MATERIALS FOR
ENERGY
DALLAS, TX March 16 – 20, 2014

KEYNOTE SPEAKERS & PLENARY
EXPLORE THE TOPICS

Following are some topics addressed at this Meeting that ACS Columbus Councilors **Donald and Virginia Songstad** [songstadva@aol.com] and Alternate Councilor **Jeff Trent** attended. These Council-specific topics are lifted from talking points provided to Councilors by the ACS Secretary and General Counsel Flint H. Lewis.

Meeting Attendance:

As of the morning of March 19, 2014, the ACS spring national meeting had attracted 13,680 registrants, including 6,853 regular attendees and 5,140 students. The meeting had 10,050 papers presented.

Among the Actions of the Council and Board were:**Candidates for President-Elect, 2015:**

- Peter K. Dorhout, *Kansas State University, Manhattan, Kansas*
- William A. Lester, Jr., *University of California, Berkeley, California*
- Christopher K. Ober, *Cornell University, Ithaca, New York*
- Henry F. Schaefer III, *University of Georgia, Athens, Georgia*

By electronic ballot, the Council selected **Peter K. Dorhout** and **William A. Lester, Jr.** as candidates for 2015 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

Committee Continuance:

- As part of a regular performance review, the Council VOTED unanimously to continue the Committees on Chemical Safety, on Chemistry and Public Affairs, and on Minority Affairs. Continuation of these three committees requires Board concurrence.



2015 Member Dues:

- The Council voted to set the member dues for 2015 at the fully escalated rate of \$158. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws.

Divisional Allotment Formula:

- After voting to postpone its implementation by one year, the Council voted to approve a revised formula for allocating dues funds to divisions. This formula, which was presented by the Committee on Divisional Activities, will be effective with allocations for 2015 division performance.

Changes in Local Section Territory:

- On recommendation of the Committee on Local Section Activities, the Council voted to approve the petition from the North Jersey Section to include the area of the former Monmouth County Section in its territory, effective immediately.

New International Chemical Sciences Chapter:

- On recommendation of the Committee on International Activities and subject to the concurrence of the Board of Directors, the Council voted to approve petitions to charter the South Korea International Chemical Sciences Chapter and the Malaysia International Chemical Sciences Chapter.

Committee Oral Reports (Highlights):

Society Committees:

Budget and Finance (B&F)

- In 2013, ACS generated a Net from Operations of \$15.1 million, which was \$2.0 million favorable to the budget. This represents the Society's tenth consecutive year of positive operating results. Total revenue was \$490.5 million, which was \$8.8 million (or 1.8%) lower than budget, and essentially flat when compared with 2012. The result was largely attributable to cost containment measures throughout the ACS. Unrestricted Net Assets rebounded in 2013, rising to \$207 million, and more than doubling from the 2012 level.

Education (SOCED) [Society Committee on Education]

- SOCED approved a pilot program to form ACS International Student Chapters.

Standing Committees

Membership Affairs (MAC)

- For 2014, MAC authorized an individual member test for India to allow for a \$52 full Member dues rate. At this meeting, MAC extended the test to include new and renewing members in India for three years.

Economic and Professional Affairs (CEPA)

- Findings from the ACS 2013 New Graduate Survey have been compiled and reveal troubling news: overall unemployment among new graduates rose from 12.6% in 2012 to 14.9% in 2013. This is primarily due to the high unemployment among recent Bachelors degree chemists. New graduates must be at the top of our priority list for employment assistance in 2014.

Meetings and Expositions (M&E)

- As of the morning of March 19, 2014, the ACS spring national meeting had attracted 13,680 registrants, including 6,853 regular attendees and 5,140 students. The meeting had 10,050 papers presented.
- The new ACS Mobile Application had over 6,000 downloads by meeting attendees.
- M&E voted to eliminate the author index in the hard program meeting program book beginning with the spring 2015 meeting. The searchable author index is now available via the mobile application and other electronic means.

Divisional Activities (DAC)

- Operating as a DAC subcommittee, the Multidisciplinary Planning Group is proposing the following 2017 national meeting themes to the divisions for their consideration:
 - Spring, San Francisco: *Advanced Materials, Technologies, Systems and Processes*
 - Fall, Washington, DC: *Chemistry's Impact on the Global Economy*

Local Section Activities (LSAC)

- LSAC will initiate the process to dissolve the Ocean County (New Jersey) Section as a result of the group's failure to meet the criteria to remain an active section.

Constitution and Bylaws (C&B)

- In Fall 2013, C&B announced a new optional process for expedited bylaw reviews, offering limited customization but faster than the current three month turnaround. C&B has now created a new, easier way for local sections and divisions to prepare bylaw revisions for C&B review. They are not as restrictive as those permitted through the expedited process. After a unit indicates its willingness to update its bylaws, C&B would then offer to create a first draft of proposed bylaws changes for consideration by the unit. Alternatively, the unit may still propose its own draft changes for C&B review.

Other Committees:

Chemical Safety (CCS)

- CCS has published its first-ever Safety Alert concerning the Rainbow Demonstration, in *Chemical and Engineering News*, March 17, 2014. Copies were distributed to Councilors.

Chemists with Disabilities (CWD)

- The committee has updated and digitized its publication "*Teaching Chemistry to Students with Disabilities.*" It will be available in April 2014 and linked to the CWD website.

Community Activities (CCA)

- Copies of the publication *Celebrating Chemistry*, a product of the ACS Department of Volunteer Support in conjunction with CCA, were distributed to Councilors. Local Sections can order up to 750 copies of this publication for Chemists Celebrate Earth Day.

Minority Affairs (CMA)

- The committee reminded Councilors that the ACS Scholars Program is celebrating its twentieth anniversary in 2015. The program has enabled 1,400 students to achieve university degrees in the chemical sciences. CMA will highlight accomplishments and successes of the Scholars Program throughout 2015.

Special Discussion Item:

- A special discussion item was put on the Council agenda for this meeting. ACS President Tom Barton presented and moderated a discussion on "What can ACS do to increase the quality of science education in grades K-12? Following the presentation, 39 Councilors engaged in a robust discussion on the factors impacting the quality of K-12 science education in the U.S.

The Executive Director/CEO Report:

- The Executive Director/CEO and her direct reports updated the Board on the following: ACS financial trends and near term outlook; the launch of the recently approved American Association of Chemistry Teachers, which will support K-12 teachers of chemistry by providing them with a professional home that addresses and is responsive to their needs; and the activities and plans of CAS (Chemical Abstracts Service) and the ACS Publications Division. As a follow-up to the Publications report, the

Board VOTED to approve three journal editor re-appointments. The Board also VOTED to approve one appointment to the ACS Green Chemistry Institute Governing Board and one reappointment to the ACS Governing Board for Publishing.

Other Society Business:

The Board also:

- Expressed its gratitude and thanks to Madeleine Jacobs, Executive Director and Chief Executive Officer, who on March 6 announced her plan to retire at the end of the year. The Board then began a discussion of the process and logistics of identifying and hiring her successor.
- Received reports from the Presidential Succession on their current and planned activities for the remainder of 2014 and 2015.
- Approved a resolution congratulating Robert Massie on his retirement at the end of this month for twenty-one years of successful leadership of the Chemical Abstracts Service (CAS).

The Board's Open Session:

- The Board held a lively, well-attended open session which featured a special forum focused on the question: "What is the one thing you like that ACS does, and why?" Members attending the session also received a brief review of the questions posed at the spring 2013 Board Open Session in New Orleans and the follow-ups undertaken by governance and staff. Board members continue to be pleased by the new format, turnout and quality of the discussions.

Additional Information for Councilors and Others:

The following is a list of URLs and email addresses presented on slides at the Council meeting. You will find the information noted on these sites helpful.

d.schmidt@acs.org, president@acs.org

Contact information for ACS President-Elect Diane Grob Schmidt

m.wu@acs.org

Contact information for ACS Immediate Past President Marinda Wu

www.yellowbook.acs.org

Update Councilor Preference Form (membership number required)

nomelect@acs.org

Email address for the Committee on Nominations and Elections and to submit questions to Town Hall Meetings

www.acs.org

Click on "About Us" and scroll down to ACS Financial Information for information on the Society's audited finances and IRS Form 990 filings

safety@acs.org

Email address for comments and suggestions about chemical safety to the Committee on Chemical Safety

www.acs.org/bulletin5

ACS governing documents including information on petitions and certified bylaws for all units



www.acs.org/earthday

Chemists Celebrate Earth Day (CCED) 2014

<http://www.acs.org/content/acs/en/about/governance/committees/cwd/publications.html>

Teaching Chemistry to Students with Disabilities digitized version will be published here in April 2014.

<http://www.acs.org/chemistry-over-coffee>

Conversations with Celebrated Chemists

Local Section Resources

- www.acs.org/getinvolved
Grant information, important deadlines and officer resources
- www.acs.org/forms
Submit annual reports, record meetings, activities and events year round

COLUMBUS SECTION ACS CALENDAR OF EVENTS

Year	Month	Date	Day	Location	Comments
2014	May	5	Mon		Deadline for reservations for May Section meeting
2014	May	8	Thu	J. Liu Restaurant	May Section meeting – Dr. Fus (The Ohio State University). See details elsewhere in this issue of <i>The Chemical Record</i>
2014	May	10	Sat	OSU French Field House	State Science Day. Volunteers are needed to help judge the projects; see details elsewhere in this issue of <i>The Chemical Record</i> .
2014	June	TBA	TBA	TBA	Columbus Section Meeting – Columbus Section Award
2014	July	TBA	TBA	TBA	Baseball game
2014	August	10 – 14	Sun – Thu	San Francisco	248 th ACS National Meeting and Exposition
2014	October	15	Wed	Chemical Abstracts Service	Monthly Section meeting – Dr. Diane Grob Schmidt (ACS President-Elect)
2014	October	19 – 25	Sun – Sat	Here, There, Everywhere	National Chemistry Week 2014 Theme: <i>The Sweet Side of Chemistry – Candy</i> , Showcasing the chemistry involved in candy and confections Stay tuned to <i>The Chemical Record</i> and the Section website for details.
2014	October	25	Sat	Main Branch, Columbus Metropolitan Library	NCW interactive chemistry demonstrations for children of all ages. Volunteers are needed; contact Professor John Blaha (Jblaha@csc.edu) for more information.
2014	October/ November	29 – 1	Wed – Sat	Pittsburgh	45 th ACS Central Regional Meeting
2014	November	TBA	TBA	TBA	Joint meeting with the Central Ohio Section of the American Institute of Chemical Engineers



ABOUT THE CHEMICAL RECORD

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. Electronic mail contributions should be in MS Word file attachments (preferred) or plain-text messages. *Thank you very much!*

CHANGE OF ADDRESS

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

ADVERTISING RATES

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.

MOLECULE OF THE MONTH: AZODICARBONAMIDE FROM THE ACS WEBSITE

Azodicarbonamide, the diamide of azodicarboxylic acid, is an orange-red crystalline solid. It is made industrially by the condensation reaction between hydrazine sulfate and urea under high temperature and pressure, followed by oxidation with NaOCl.

Azodicarbonamide has several commercial uses: It is a blowing agent for foaming rubbers and plastics, a bleaching (oxidizing) agent in cereal flours, and a dough conditioner for baking bread.

In the United States, azodicarbonamide has GRAS (generally recognized as safe) status for food use. The World Health Organization also says it's safe. But European countries and Australia have banned its use in food products, and some European countries have outlawed it for making plastics that come into contact with food. Some studies suggest that consuming it or its byproducts may lead to respiratory problems.

Earlier this year, the Subway fast-food chain, calling it a "shoe rubber chemical", decided to remove azodicarbonamide from its bread-making process.



[More about this molecule](#) from CAS, the most authoritative and comprehensive source for chemical information.

