

# THE Central Arkansas



## CHEMIST

The Newsletter of the Central Arkansas Local Section of the American Chemical Society

September 2007

### General Meeting

**Monday, September 10**

**Location:** Conway Country Club  
Conway, AR

#### NOTE TIME CHANGE

6:00 p.m. Program  
Dr. Ernie Simpson, California State  
Polytechnic University  
**“The Chemistry of Wine”**

Cost: \$10 for those drinking wine; free for  
everyone else

7:30 pm Dinner, Mike's Place

*To obtain driving directions, visit  
[membership.acs.org/c/centralarkansas](http://membership.acs.org/c/centralarkansas)*

### Speaker's Biographical Sketch

Dr. Simpson joined the Chemistry Department at California State Polytechnic University, Pomona, in 1968 after completing his B.S., M.S., and Ph.D. (organic chemistry) at the University of New Mexico and spending one year as a visiting chemistry professor at Pomona College. In 1973-74 he was on leave as visiting research associate in the Department of Enology and Viticulture at U.C./Davis. He is an active member of the American Society for Enology and Viticulture and has served on the editorial review board committee for the society's journal. He has published a California wine guide. At Cal Poly he has developed industrial chemistry and cooperative education courses/programs. He is currently the Director of Cooperative Education for Cal Poly. His research interests and publications are in the areas of polycyclic aromatic hydrocarbons, Carbon-13-labeled compounds, and phenolic compounds, especially in grapes and wine. In 1984 and 1986 through 1990 he was selected for Exceptional Merit Service Awards at Cal Poly. In 1996 he was selected as the outstanding advisor in the College of Science, and his co-op program was chosen as the best in California. He is a member of ACS (San Gorgonio section chairman, 1973), California Association of Chemistry Teachers (program chairman and southern section president, 1985-87), California Cooperative Education Association (president 1996-97), and Sigma Xi.

### Abstract:

The talk will include an overview of wine and wine making and more detailed descriptions of the chemical composition of grapes and wine, laboratory methods for analysis of grapes and wines, sensory and organoleptic methods used for wine, the role of tannin and other phenolic compounds in wine, and some potential health aspects of wine.

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## Looking Ahead

### Tuesday, September 18, 2007

SWRM Planning Committee  
UALR, Chemistry Dept. Conference Room  
Little Rock, AR  
Time: 4:00 p.m.

### Tuesday, October 16, 2007

Henderson State University  
Arkadelphia, AR  
Mr. Charles Deak  
"Forensic Chemistry in the Private Sector"  
Dinner: 5:30 p.m. at the Fish Net  
Talk: 7:30 p.m.

### Tuesday, November 13, 2007

Arkansas Department of Health  
Little Rock, AR  
Speaker: TBA  
Title: TBA  
Dinner: 5:30 p.m. at Oyster Bar in Little Rock  
Talk: 7:30 p.m.

Ever at a loss as to what's going on in the section?  
Simply visit the section's website:  
<http://membership.acs.org/c/centralarkansas>

You'll find the section's meeting schedule, announcements, and information about services provided by the section, along with other useful links.

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## Other Meetings Around the Local Section

### Central Arkansas Mass Spectrometry Users Group (CAMSUG)

This group meets monthly on the first Friday of each month at 2pm in the Reynolds Institute on Aging, Room G180, on the UAMS campus in Little Rock. The group focuses on practical aspects of mass spectrometry with an emphasis on current research projects from the participants' laboratories. Contact Howard Hendrickson

([HendricksonHowardP@uams.edu](mailto:HendricksonHowardP@uams.edu)) for more information.

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## National ACS News

### SOUTHWEST REGIONAL MEETING, NOVEMBER 4 – 8, HOLIDAY INN, LUBBOCK, TX

SWRM takes place in Lubbock, the home of Texas Tech, and is well known for cotton-growing, fine wines, and being the birthplace of Buddy Holly. Visit his museum and stop by his statue in the center of town. Their website, <http://www.depts.ttu.edu/chemistry/SWRM07/>, describes a unique meeting that includes time to visit the restaurants, museums, and shops in downtown Lubbock, as well as offering a winery tour and tasting.. "Fueling the Future" is their theme, reflecting presentations on new frontiers in electrochemistry and much more. There is still time to take advantage of the early registration rates, and to reserve a hotel room at the specially negotiated rate.

### Celebrate the 20th Anniversary of National Chemistry Week

This year's celebration of National Chemistry Week, with the theme, "The Many Faces of Chemistry," will be a very special celebration! 2007 marks the 20th anniversary of NCW. The mission of NCW is to reach the public, particularly students, with positive messages about chemistry and to provide a means of effectively mobilizing ACS local sections.

When former ACS President, George Pimentel, conceived the idea of celebrating National Chemistry Day in 1987, he never could have predicted where his idea would lead. From a one-day celebration, National Chemistry Day grew into National Chemistry Week. From a biennial celebration, the celebration became an annual event in 1993. The program has been the recipient of several prestigious public relations and association awards.

Join with ACS this October 21- 27, in this 20th anniversary year of National Chemistry Week to celebrate "The Many Faces of Chemistry,"

emphasizing the diversity of the discipline and its practitioners.

## Take an ACS Webcast Short Course This Fall

On-time performance of airlines has reached an all-time low and unless there's a sun-drenched beach or a cultural adventure on the other end of that flight, traveling can be more trouble than it's worth. So save your time and money and take a look at the courses available online through ACS. ACS offers a wide variety of webcast short courses and our fall schedule is open for registration now.

ACS Webcast Short Courses provide the same quality training that ACS has long been known for, but, because the courses are presented over the Internet, they offer added convenience and flexibility.

### Small Class Sizes and In-Depth Personal

**Attention** – The average class has 10 participants, and our instructors are available by email in-between sessions so you will have ALL your questions answered.

**Interactive** – We've chosen a great technology that allows you to participate just as in a live class; you can even write on the whiteboard.

**Ready when you are** – Scheduled class sessions are the best way to get the most out of your experience. But if you miss a session, it's okay. All class sessions are recorded and ready for viewing when you're available.

**More Application Time** – Instead of getting all the information in a few days, you have time between sessions to apply what you've learned and come back to class with your burning questions. Overall, an extended learning schedule means more impact for you.

There are expanded course offerings in analytical, organic, pharmacology, engineering, toxicology, and other areas. For the full list of Webcast Short Courses and more information, visit <http://chemistry.org/elearning>

## 2007 Fall Webcast Schedule

- [HPLC Basics](#) - Sept 7–Oct 19
- [Modern HPLC in Pharmaceutical Analysis](#) - September 11–October 23
- [Essentials of Organic Chemistry](#) - Sept 24–Oct 29
- [A Pharmacology Primer for Chemists](#) - Sept 4–20
- [Chemistry and Action of Therapeutic Drugs](#) - September 4–20
- [Gas Chromatography Basics](#) -Sept 7–Oct 19
- [Fourier Transform Infrared Spectroscopy](#) - Sept 17–21
- [Infrared Spectral Interpretation, Basic](#) - Sept 17–21
- [Toxicology for Chemists](#) - Sept 19–Oct 24
- [Effective Technical Writing](#) - Sept 24–Oct 29
- [Infrared Spectral Interpretation, Intermediate](#) - Oct 1–2
- [Infrared Spectral Interpretation, Special Topics](#) -Oct 11–12
- [From Beaker to Barrel: Chemical Engineering for Chemists](#) -Oct 12–

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## Volunteer Opportunities

### Local Section Officers Needed

Have you ever had a burning desire to select the speakers for our local section meetings? Have you ever read the newsletter and thought, "Writing that would be such fun!" If so, this is your golden opportunity. Our nominating committee is currently looking for persons to fill the offices of Chair-Elect and Secretary. Interested persons should contact Steve Zimmer ([szimmer@atu.edu](mailto:szimmer@atu.edu)).

## National Chemistry Week

It is that time of year again to volunteer to participate in our local National Chemistry Week activities. Our dates at the Museum of Discovery this year are Oct. 25-27. The theme this year is "The Many Faces of Chemistry". I cannot be there every day this year so I really need your help to put this together. Please let me know if you or your student groups can volunteer some time to come help. We will be doing hands-on activities with grade school kids. I would like to fit around the theme by doing 3-4 short activities that are from different areas of chemistry such as forensic, biochemistry, materials, pharmaceutical, etc. If you have an idea for an activity let me know. We will also be conducting a local poster contest to get entries to submit to the national competition. I will need a few volunteers to judge posters on Sat. Oct. 27.

Robin Lasey  
NCW Coordinator  
[rlasey@atu.edu](mailto:rlasey@atu.edu)  
479-968-0391

## SWRM 2008

ACS Central Arkansas Section will be hosting the Southwest Regional Meeting, which will be held Oct. 1-4, 2008, at the Peabody Hotel in Little Rock. If you would be interested in assisting in this meeting, please contact our Organizing Committee Chair, Dr. Marty Perry ([perry@obu.edu](mailto:perry@obu.edu)). We have several great opportunities for interested volunteers, including:

**Programming:** The program for our meeting will include general sessions in each of the traditional areas of chemistry, plus several special symposia – including Chemistry in Public Health, Computational Chemistry, and Bioanalytical Chemistry. We are also discussing the possibility of having plenary roundtable discussions on topics such as nanotechnology and biofuels. If you are interested in serving on the Programming Committee please contact Dr. Cheryl Lichti ([Cheryl.Lichti@arkansas.gov](mailto:Cheryl.Lichti@arkansas.gov)).

**Awards Banquet:** An awards banquet is traditionally held as a part of the regional meeting. We are excited to announce that the awards banquet for the 2008 Regional Meeting will be held in the Great Hall of the Clinton Presidential Library. If you are interested in serving on the planning committee for this event, please contact Dr. Marty Perry ([perry@obu.edu](mailto:perry@obu.edu)).

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## THIS MONTH IN CHEMICAL HISTORY

Harold Goldwhite, California State University, Los Angeles  
[hgoldwh@calstatela.edu](mailto:hgoldwh@calstatela.edu)

A towering giant of the physical sciences, and yet one of the most modest and unassuming of men, was born on September 22, 1791, in Surrey, England, third child of a blacksmith and a farmer's daughter. Michael Faraday has always been one of my scientific heroes. He was essentially self-educated, and born and raised in humble circumstances. By force of character and intellect he became a leader among chemists and physicists. His life is an exemplary one, and well worth recounting.

The Faraday family moved to London when Michael was only 5, and when he was still in his teens his father died. His early education was fragmentary: "consisting of little more than the rudiments of reading, writing, and arithmetic at a common day school" to quote the man himself. At the age of 13 he became an errand boy in the shop of a bookbinder and stationer, and at 14 became an apprentice in the same shop. "Whilst an apprentice I loved to read the scientific books which were under my hands, and among them delighted in [Mrs.] Marcet's Conversations in Chemistry and the electrical treatises in the Encyclopedia Britannica. I made such simple experiments in chemistry as could be defrayed in their expense by a few pence per week, and also constructed an electrical machine ..." We see here the themes of chemistry and electricity which were to become the center of Faraday's scientific work.

In 1812 a customer took Faraday to hear some lectures by Sir Humphrey Davy, Professor at the Royal Institution. Inspired by these, and by his own

reading, Faraday made careful copperplate notes of the lectures, embellished with drawings, and eventually sent them to Davy with a request to be considered for a position. Davy interviewed Faraday, gave him a realistic appraisal of the prospects of a career in science: "telling me that science was a harsh mistress and in a pecuniary point of view but poorly rewarding those who devoted themselves to her service"; and eventually appointed him as a laboratory assistant. Davy had recently married a rich widow, and was reducing his involvement with the Royal Institution. In 1813 he and Lady Davy, accompanied by Faraday, made an extended tour of Europe and in Florence, Faraday assisted Davy in combustion of diamond at the focus of a large burning lens. Faraday was promoted in 1815, and in 1816 gave his first course of lectures and published his first paper, analyzing the native caustic lime of Tuscany. In 1817 six publications of Faraday's appeared. His early chemical work included a variety of analyses, and experiments on novel alloys of iron. In 1821 Faraday was promoted again, to the post of superintendent of the laboratory, and this allowed him to marry, since living quarters were furnished for him at the Institution.

By 1824, when he was 33, Faraday had been elected to the Royal Society, had collaborated with Davy on the liquefaction of chlorine and ammonia, and had begun his work on the relationship between magnetism and electricity. He was also involved in some more practical matters. The Royal Society asked him to work on improving optical glasses. Faraday was a hard worker, and unsparing of himself. His laboratory notebooks, which have been published and which are models of note-taking, show how hard he drove himself. In 1827 he published a book on Chemical Manipulation which went through four editions, and is a wonderful

source of information about how early nineteenth-century chemistry was actually done. He took few holidays, and suffered periodically from fatigue and exhaustion. In 1833 and 1834, turning to electrical conduction, he established the principles of electrochemistry in what we now call Faraday's Laws. Seeking a nomenclature for this new subject he turned to Whewell at Cambridge, and they coined the terms so familiar to us all: electrode, ion, electrolysis etc.-- all derived from impeccable classical roots. Towards the end of the 1830's Faraday took on yet more public responsibilities, including acting as an elder in his church. The weight of his burdens broke him for a while. He had to stop his scientific work for a year, and for four years he greatly reduced his lecturing and research. However he maintained one important tradition of the Royal Institution, namely the presentation of a lecture course around Christmas time to a juvenile audience. One of these lecture series is one of the classics of popular science, and has remained in print continuously from the time it was first given. I refer, of course, to Faraday's *Chemical History of a Candle*. If you haven't yet read it, you have a treat in store.

Faraday's last years as a researcher were devoted to studying the effects of magnetic fields on light, and he did further work on gas liquefaction. The last decade of his life saw a great diminution of his scientific work, but he had well earned his retirement. He died on August 25, 1867. Let me end with a quotation from J. R. Partington, the eminent historian of chemistry. "In his time Faraday was a model for scientific men. Of humble origin, he rose by his genius to the highest rank of scientific eminence, and his moral character and integrity were on the same level."

If you have an article or job posting that you would like to have considered for publication in our newsletter, send it to the Section Secretary, Dr. Cheryl Lichti (Cheryl.Lichti@arkansas.gov) for review.

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The *Central Arkansas Chemist* is published as needed by the Central Arkansas Local Section of the American Chemical Society. Section Chair, Howard Hendrickson, University of Arkansas for Medical Sciences #611, 501-603-1547. Chair-Elect, Robin Lasey, Arkansas Tech University Russellville, AR 72801-2222 (rlasey@atu.edu). Address all correspondence to the Section Secretary, Cheryl Lichti, ADH Public Health Laboratory (Cheryl.Lichti@arkansas.gov). Newsletter contributions should be sent directly to the Section Secretary in electronic form. The Central Arkansas Local Section Web site is <http://membership.acs.org/c/centralarkansas>.

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