

---

# THE Central Arkansas



# CHEMIST

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

February 2007

---

## General Meeting

Monday, February 12

Location: Ouachita Baptist University  
Young Auditorium,  
Hickingbotham Hall  
Arkadelphia, AR

6:00 pm Dinner, Panda China  
Restaurant

7:30 p.m. Program  
Bill Carroll, Ph.D.  
“Where Everything Comes From:  
Industrial Chemistry 101”

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

chemistry there. Bill is a past President (2005) of the American Chemical Society, a member of the ACS Budget and Finance Committee, and past chair of its International Activities Committee. He is a Fellow of the Royal Society of Chemistry, a member of the US National Committee for the International Union of Pure and Applied Chemistry, and chair of the Science Advisory Board for DePauw University. He has been an active member of and chaired various committees for a number of chemistry, plastics, fire protection and recycling organizations. He has served on expert groups commissioned by the United Nations Environmental Program, the State of Florida, and the Oregon Department of Environmental Quality. He received the Vinyl Institute's Roy T. Gottesman Leadership Award for lifetime achievement in 2000. He holds two patents, and has over forty publications in the fields of organic electrochemistry, polymer chemistry, combustion chemistry and physics, incineration, dioxin, plastics recycling and chlorine issues.

## Speaker's Biographical Sketch

Dr. William F. Carroll, Jr. holds a B.A. in Chemistry and Physics from DePauw University, Greencastle, IN, an M.S. from Tulane University in New Orleans, and a Ph.D. from Indiana University, Bloomington, IN, majoring in Organic Chemistry. Bill started his industry career in 1978 and after a year with Rohm and Haas Company, Bristol, PA, moved to what is now known as Occidental Chemical Corporation. He is currently Vice President, Chlorovinyl Issues for OxyChem and works on public policy issues and communications related to chlorine and PVC. He is also Adjunct Professor of Chemistry at Indiana University, Bloomington, Indiana and teaches polymer

## Looking Ahead

**Thursday, March 8, 2007 7:30 p.m.,** Dr. Jeffery Moran, ADHHS Public Health Laboratory. Tentative Title: “Chemistry and Internship Opportunities at the Arkansas Public Health Laboratory.” UALR, Little Rock, AR

**Tuesday, April 24, 2007, 6:30 p.m.,** Central Arkansas Local Section Annual Awards Banquet, UALR, Donaghey Student Center (rooms B&C).

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.

## Other Meetings Around the Local Section

### Upcoming Seminars at Harding:

**Dr. Howard Hendrickson, Assistant Professor of Pharmaceutical Sciences in the College of Pharmacy at the University of Arkansas for Medical Sciences**, will be speaking at Harding University on February 19, 2007 at 5:00 p.m. in the Pryor-England Science and Engineering Building. Dr. Hendrickson's talk will be on the medical effects of methamphetamine use. If you would like to attend this informative and important talk, contact Ed Wilson at [wilson@harding.edu](mailto:wilson@harding.edu) or 501 279 4513.

**Dr. Neera Gopee, Dr. of Veterinary Medicine at the National Center for Toxicology** will be speaking at Harding University on February 1, 2007. Her talk, sponsored by the Society of Sigma Xi will be about her research on the medical effects of exposure to nanoparticles. We welcome all interested parties to attend this informative talk. Please contact Ed Wilson at [wilson@harding.edu](mailto:wilson@harding.edu) or 501 279 4513.

### Upcoming Sigma Xi Seminar at HSU

**Dr. Edmond Wilson, Professor of Chemistry at Harding University**, will be speaking about the possibility of life on Mars at a Sigma Xi presentation at noon on February 27 at Henderson State University. Dr. Wilson has been a Solar System Ambassador for Jet Propulsion Laboratory for three years. His appointment as Ambassador to spread the good news about NASA and the projects at Jet Propulsion Laboratory has been renewed for an additional two years. If you would like to attend this presentation or have Dr. Wilson speak on space research projects, contact him by email at [wilson@harding.edu](mailto:wilson@harding.edu). Information about Dr.

Wilson is given on his web page at [www.harding.edu/wilson](http://www.harding.edu/wilson).

## Central Arkansas Mass Spectrometry Users Group (CAMSUG)

This group meets monthly on the first Friday 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.

---

## Local Section News

### Harding Welcomes New Faculty Member

We welcome to the Central Arkansas Section Dr. Burt Hollandsworth, the newest Assistant Professor at Harding University. He came to Harding following adjunct work at The Ohio State University -- Mansfield Campus and then a postdoc at the University of South Carolina with Dr. Rick Adams. Dr. Hollandsworth earned his Ph.D. from The Ohio State University in 2004, having worked with Prof. Malcolm Chisholm. His teaching responsibilities include general, inorganic and medicinal chemistry. His research interests include homogeneous catalysis using transition metals, quantum dots as biomarkers, and synthesis of pre-biotic molecules in hydrocarbon solvents. He is an associate member of the executive board of the Younger Chemists Committee of the ACS for 2007.

Dr. Hollandsworth will be speaking about some of his proposed catalysis work at UA-Fayetteville on April 17th at 12:30 PM. Interested folks can contact him at [bhollan1@harding.edu](mailto:bhollan1@harding.edu) or Thomas Anderson at [tjander@uark.edu](mailto:tjander@uark.edu)

## **Attention Student Affiliate Chapter and Chemistry Club Advisors: Call for Nominations for 5<sup>th</sup> Annual Professor of the Year Award**

For the fifth consecutive year, the Central AR Section will honor a college or university chemistry professor at our upcoming local section awards banquet. We are inviting each Student Affiliate chapter or chemistry club in the Central Arkansas Section to nominate a faculty member from their college or university for this award. Keep an eye on this space for further information!

### **2006 National Chemistry Week a Success!**

I would like to thank the Museum of Discovery for hosting National Chemistry Week activities in 2006. The theme was "Your Home – It's All Built on Chemistry". We had several hundred children come through making peanut butter playdough and watching some demonstrations with electrochemistry and hydrogen rockets. I would also like to thank my volunteer helpers from Arkansas Tech University, University of Central Arkansas, Henderson State University, and University of Arkansas for Medical Sciences. The kids really seemed to enjoy themselves and that wouldn't be possible without all the help from volunteers like you. This year's theme is "The Many Faces of Chemistry" and is scheduled for Oct. 21-27. If you would like to be part of a National Chemistry Week planning committee, contact Robin Lasey at [rlasey@atu.edu](mailto:rlasey@atu.edu), or 479-968-0391. I look forward to working with you to make this year a success as well.

*-Robin Lasey, 2006 National Chemistry Week Coordinator*

---

## **Volunteer Opportunities**

### **Local Section Awards Banquet**

The annual ACS Central Arkansas Section Awards Banquet will be held on April 24, 2007 at UALR. Persons to be honored at this banquet include outstanding senior college chemistry students, science fair winners, Chemistry Olympiad winners, 50-Year ACS Members, and our High School Teacher of the Year and Professor of the Year. Your

assistance is needed in organizing this event! If you are interested in helping, please contact Cheryl Lichti ([Cheryl.Lichti@arkansas.gov](mailto:Cheryl.Lichti@arkansas.gov)) for more information.

### **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 ([perrym@obu.edu](mailto:perrym@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. 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 ([perrym@obu.edu](mailto:perrym@obu.edu)).

---

## **Local Section Highlights**

### **Zimmer Receives ACS Innovative Project Grant for Symposium**

Steve Zimmer, Director of the Math & Science Institute at Arkansas Tech University, received a \$2000 Innovation Grant award from ACS to fund a one-day symposium, titled "Issues in Transporting Hazardous Material." The symposium is scheduled for April 20, 2007. The symposium will feature four presenters, each speaking on the preparedness and mitigation plans that are in place in case of a hazardous materials incident during the transportation of these materials on the highways, railroad, or rivers in the state. Speakers tentatively

scheduled will represent the AR Department of Highway Transportation, Union Pacific Railroad, and the U.S. Coast Guard. A representative from the Arkansas Department of Emergency Management will explain the role the state will have in such an incident. The keynote speaker will be Dr. Dieter Heinz (Heinz Training and Management), an internationally recognized expert on preparedness and mitigation for transportation of hazardous materials. Following the speakers in the morning will be a luncheon with the keynote address after which there will be an open panel discussion between the speakers, including the keynote speaker, and those in attendance.

The target audience includes emergency responders in the area (local area law enforcement, both paid and volunteer fire personnel, emergency medical personnel and first responders), students currently enrolled in the Emergency Administration Management program at Arkansas Tech University as well as the general public. There will be a \$15 registration fee and a maximum attendance of 225. For more information regarding the symposium, contact Steve Zimmer ([szimmer@atu.edu](mailto:szimmer@atu.edu)).

## **At a Glance.....The Arkansas State Crime Laboratory.**

Q. What careers are available at the Arkansas State Crime Laboratory (ASCL) for a graduating chemist or biologist?

A. With television programs such as CSI, NCIS, Crossing Jordan, etc., careers in the field of forensic science are becoming popular. In fact, many institutions have now developed and are offering degrees in Forensic Science. There are several disciplines at the laboratory available for graduating chemists and biologists. This month we will discuss the discipline of Forensic Chemistry.

The Forensic Chemistry section currently employs 18 forensic chemists and 6 illicit laboratory chemists and receives the most cases at the laboratory- approximately 16,000 cases per year. Analysts in this section must have at least a B.S./B.A. degree in chemistry (or an equivalent degree).

The main duties of the forensic chemist are the following: ① To test evidence items received from law enforcement agencies that are suspected to contain a Controlled Substance. ② Prepare a *Report of Laboratory Analysis* of the chemist's results. ③ Testify as an expert witness in Federal, State, and/or Municipal Court. (An additional duty of the illicit laboratory chemist is to be on call to render illicit labs safe for law enforcement, as well as collect samples to bring back to the laboratory for testing.)

What is a controlled substance (CS) and who determines what becomes a CS? There are two CS lists that apply to Arkansas- The Federal CS List (formulated through the Drug Enforcement Agency) and the State of Arkansas CS List.

In the State of Arkansas, the CS List is generated and updated annually through the approval of the director of the Division of Health. Substances are placed on the list with consideration to applicable federal regulations, current scientific knowledge regarding the listed substances, the evidence of actual or relative potential for abuse, the history and current patterns of abuse, the risk to the public health, and potential to produce psychic or psychological dependence liability. Each substance is placed in a Schedule and drug class. The Schedules include I-VI, and substances are placed in the appropriate Schedule number based on the substance's potential for abuse and pharmacological use. A Schedule I substance has a greater penalty than a Schedule V substance because of its high potential for abuse and no pharmacological use. Drug classes include Narcotic Drugs, Hallucinogenic Substances, Depressants, Stimulants, Anabolic Steroids, and Immediate Precursors. Below is a link to the most current Arkansas Controlled Substances list. [http://www.sos.arkansas.gov/elections/elections\\_pdfs/register/march\\_06/016.24.06-002.pdf](http://www.sos.arkansas.gov/elections/elections_pdfs/register/march_06/016.24.06-002.pdf)

The main job function of a forensic chemist is ① **to test evidence items received from law enforcement agencies that are suspected to contain a Controlled Substance.** The most frequent substances tested at the ASCL are marijuana, cocaine, and methamphetamine, however ecstasy, psilocin mushrooms, anabolic steroids and pharmaceutical prescription tablets/capsules are also commonly seen. On rare

occasions heroin and LSD are submitted to the laboratory. Common testing techniques used to confirm such substances include Fourier Transform Infrared Spectrometry (FTIR) using an ATR accessory, Gas Chromatography (GC) and Gas Chromatography Mass Spectrometry (GCMS). Other analytical techniques used for testing are Thin Layer Chromatography (TLC), chemical Color Tests, Pharmaceutical Identifiers and Microscopic Examination.

② **Prepare a Report of Laboratory Analysis of the chemist's results.** Once the chemist has performed sufficient testing to confirm a substance, the chemist will formulate a laboratory report detailing the findings. The report is then sent to the investigating agency.

③ **Testify as an expert witness in Federal, State, and/or Municipal Court.** Often the chemist is required to testify to his/her findings in court. Because the ASCL receives cases from the entire state of Arkansas, the chemist must be available to travel anywhere in the state. Occasionally chemists must also testify out of state.

The undergraduate training that I received as a chemist sufficiently prepared me for my job tasks as a Forensic Chemist. It not only gave me the chemical knowledge and laboratory exposure that one would expect, but it also gave me the necessary writing and speaking skills needed to prepare laboratory reports and testify as an expert witness. In closing, all aspects of my undergraduate training gave me the confidence that I need to be successful.

For information about job openings at the ASCL, visit [www.arstatejobs.com](http://www.arstatejobs.com)

**-Cindy Moran**

*Cindy Moran is a 1999 graduate of Lyon College with a BS in Chemistry.*

---

### ***Thoughts to Ponder.....***

If you're not part of the solution, you're part of the precipitate.

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.

---

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, ADHHS 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>.

---