

March Newsletter

General Meeting:

Wednesday, March 9, 2005

Location: Arkansas Tech University  
McEver Science Building  
Room 162

5:30 PM: Dinner with the Speaker  
Dixie Café in Russellville  
105 East Harrell Drive

7:30 PM Program  
Dr. John Meister  
Director of the Forest Products Research Center  
Albuquerque, NM

“Synthetic Lumber: The Preparation of Polymers and Plastics from Forest Products.”

To obtain driving directions, visit <http://membership.acs.org/c/centralarkansas>

Dr. John Meister is a chemist involved in the synthesis, application, and analysis of polymers. He worked his way through Pennsylvania State University as a dishwasher and laboratory technician before attending the California Institute of Technology as a graduate student in chemistry and physics. After working in the oil industry for 5 years as a research scientist designing better ways to recover oil from oil reservoirs, he entered academia and is now an associate professor of analytical and polymer chemistry at New Mexico Institute of Mining and Technology. John specializes in developing new polymers that can be made from natural products such as lignin and wood. He has designed process polymers based on lignin and wood. He has designed process polymers based on lignin for use in oil recovery and mineral processing. He is currently developing plastics from forest products and methods to form composites using parts of the corn plant.

“Synthetic Lumber: The Preparation of Polymers and Plastics from Forest Products.”

Polymers are the fastest growing class of bulk chemicals and constitute the end product or use for one-half of all chemicals made in the United States. Plastics, the solid, thermoplastic polymers, are widely known because of the rapid transformation of consumer goods from items made of metal and wood to items made from synthetic polymers. Plastics are only a small subset of all polymeric materials, however. Polymers are being used more frequently in all of our activities. These materials now play major roles in water purification, oil recovery, mineral recovery, refining, shipping,

construction, and other processes in an almost endless list. This increasing use of polymers will continue as long as cheap feedstocks are available. Such cheap feedstocks have, for the past 40 years, been obtained from petroleum. In the next two decades, that must change, and polymers must be developed that are derived from natural resources. Our supply of feedstocks based on fossil hydrocarbons is becoming precarious and ever more limited. Forests and agriculture supply us with four polymers in large supply: lignin, cellulose, hemicellulose, and starch. The conversion at low cost of these four products to commercial polymers with increased performance will be described, with some emphasis on the chemistry of the conversion of natural product to processing chemical or consumer product. The plant products can be drafted, blended, or surface modified to create plastics with high modulus and strength or polymers with high surface activity. Applications of these polymers to the needs of industry or the demands for cleaning up the environment will be detailed.

## **Local Section News**

### **Attention Student Affiliate Chapter and Chemistry Club Advisors: Call for Nominations for 3<sup>rd</sup> Annual Professor of the Year Award**

For the third consecutive year, the Central AR Section will honor a college or university chemistry professor. 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. As a chapter, you can decide whom to nominate and assemble supporting material for your nomination. The supporting material should include a cover letter explaining why you are nominating your chosen faculty member and supporting letters of recommendation (three to five) from current and former students. In addition, you can include one or more letters of support from other faculty members. The cover letter should highlight the faculty member's accomplishments at your academic institution – for example, you can discuss items such as teaching awards, participation in research with undergraduates, and involvement with your ACS Student Affiliates chapter. Please submit three copies of your completed nomination to:

Mr. Steve Zimmer, Director  
Math & Science Institute  
Arkansas Tech University  
Russellville, AR 72801-2222

By Friday, April 8, 2005.

The local section officers will judge the nominations (unless there is a conflict of interest), and the winner of the award will be announced at the Awards Banquet. You may contact Mr. Zimmer at 479-964-0825 or [steve.zimmer@atu.edu](mailto:steve.zimmer@atu.edu) if you have any questions.

Dr. Joe Jeffers of Ouachita Baptist University was last year's recipient and Don England of Harding University was the first recipient. If you would like your nominee to be kept in the dark, we are more than willing to assist you in this endeavor

### **Student Recognition at the Annual Awards Banquet**

ATTENTION FACULTY MEMBERS! The Central Arkansas Local Section Annual Awards Banquet will be held in Rooms B & C of the Donaghey Student Center, UALR, on Tuesday, April 26, 2005, at 6:30 p.m. As is our tradition, we will present certificates of recognition to outstanding chemistry students from each of the colleges and universities within the Central Arkansas local section. The dinner will cost approximately \$12 per person, and we are asking the college/university chemistry departments to cover the cost for the students they wish to honor. Faculty members should submit the names of students for recognition to Steve Zimmer ([steve.zimmer@atu.edu](mailto:steve.zimmer@atu.edu)) by Tuesday, April 6, so that certificates can be printed in a timely fashion. In addition, Marian Douglas ([msdouglas@ualr.edu](mailto:msdouglas@ualr.edu)) needs an accurate count of the number of people planning to attend the banquet before Monday, April 25th so that the caterers will know how much food to prepare.

### **Calling all high school chemistry students: Chemistry Olympiad is coming!**

The Central AR section sponsors a regional competition for high school chemistry students called the Chemistry Olympiad. All high school chemistry students are invited to participate. The local section exam will be administered at UALR on Saturday, March 19, 2005. The student with the top score on this multiple choice exam will receive a \$50 cash award at the awards banquet, and the top 8 students will be invited back on April 15<sup>th</sup> and 16<sup>th</sup> to take the national exam. This exam consists of three sections: a multiple choice test and an experimental design exercise. The top 20 students nationally will be invited to compete for 4 spots on the National Chemistry Olympiad team that will be competing in Taipei, Taiwan. For more information on Chemistry Olympiad, contact Marian Douglas at UALR ([msdouglas@ualr.edu](mailto:msdouglas@ualr.edu)), 501-569-8826.

### **National News**

#### **Visit the Membership Division Booth # 922**

#### **ACS National Meeting – San Diego, CA**

The ACS Membership Division Booth is a joint effort between the Department of Membership Activities and the Office of Local Section & Community Activities.

Stop by to purchase a unique gift for your colleagues (and yourself) ... listen to our guest speakers from the ACS Speaker Service .... or to talk with an ACS staff member in our Reception & Reference area.

We'll be selling your old-time favorites ... beaker mugs, mole dolls, tattoos, element pins and t-shirts ... AND we'll have numerous new items for sale as well. Come see the new

travel mugs and coffee mugs, messenger style bag, rolling backpack, lava light pen, 10 new element pins and much more. And for you bargain hunters we'll have a few SALE items, too.

For those of you who sent in a Comment/Suggestion Card we'll have our \$50 gift certificate prize drawing in appreciation for sending in your ideas.

And whatever you do ... don't forget to buy your San Diego show pin!

ACS is your organization, so go ahead and show off! Come by the Membership & OCA Booth #922 March 14th – 16th and see what is new!

### **“Chemistry Headlines” – A new online feature from chemistry.org**

Would you like to visit one ACS web page and access links to current chemistry news headlines, journal article briefs, and features on chemical patents, research advances, historical events, and meeting updates from the American Chemical Society?

\* A new online feature on chemistry.org, “Chemistry Headlines”, serves up all this and more. “Chemistry Headlines” is a compilation of headlines from external news sources and a variety of ACS magazines and journals, including C&EN Online, as well as headlines from Heart Cut, Patent Watch, Today in Chemical History, chemistry.org feature articles and other ACS products and resources. Staff members from chemistry.org, C&EN and ACS Publications have collaborated to help make a wide range of content available in this forum.

This new feature can be found at [www.chemistry.org/portal/a/c/s/1/newscenter.html](http://www.chemistry.org/portal/a/c/s/1/newscenter.html), the same URL that was used previously for the first generation of the chemistry.org Newscenter.

Interested in a personalized demonstration of this new resource?

\* Join staff from chemistry.org and C&EN on the exposition floor at Pittcon 2005 (Feb 28 – March 3, 2005 I Orlando, FL) and the 2005 ACS National Meeting (March 14 – 16, 2005 I San Diego, CA) for a personal demonstration of “Chemistry Headlines”, special daily meeting events, and prize drawings.

\* Pittcon 2005 – Booth # 4745

\* 2005 San Diego National Meeting – Booth # 820

Have questions or comments concerning “Chemistry Headlines”?

\* Email [webmaster@acs.org](mailto:webmaster@acs.org) and include "Chemistry Headlines" in the subject line of your message.

If you have an article or job posting that you would like to have considered for publication in our newsletter, send it to [odonej@hsu.edu](mailto:odonej@hsu.edu) for review.

The *Central Arkansas Chemist* is published as needed by the Central Arkansas Local Section of the American Chemical Society. Section Chair, Steve Zimmer. Arkansas Tech University Russellville, AR 72801-2222, 479-964-0825 Address all correspondence to the Section Secretary, Janice O'Donnell, Henderson State University, HSU Box 7551, Arkadelphia, AR 71999-0001, [odonej@hsu.edu](mailto:odonej@hsu.edu). 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>