
THE Central Arkansas



CHEMIST

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

October 2007

General Meeting

Tuesday, October 16

Location: Henderson State University
Reynolds 322
Arkadelphia, AR

5:30 pm Dinner, The Fish Net

7:30 p.m. Program
Mr. Charles Deak,
**“Forensic Chemistry in the
Private Sector”**

*To obtain driving directions, visit
membership.acs.org/c/centralarkansas*

Abstract:

The role of the scientist -- particularly the chemist involved in litigation, civil or criminal, -- is discussed. Expert witness testimony in court cases is described, including required qualifications and the qualifications process. More interesting or unusual case histories involving the author are discussed in some detail. These case histories include cases involving counterfeit gold coins, product liability, vehicular homicide, domestic cases, and a first degree murder trial. Methods used are discussed, such as atomic absorption for detection of traces for evidential purposes and thin layer chromatography (TLC) for the identification of ballpoint and felt pen inks. Application of microscopy is discussed in conjunction with some

cases. The "common sense" approach is emphasized.

Speaker's Biographical Sketch

Charles Deak earned his bachelor's degree in 1948 in Budapest, Hungary. After spending several years at Paris at the Sorbonne and working on the development of chemical fire-fighting agents, he immigrated to the United States in 1955. Mr. Deak developed analytical procedures for the analysis of secondary metals and alloys. He established and became manager of Analytical Associates in 1973 and its president when it was incorporated in 1979. He specializes in chemical analysis of aerospace metals such as titanium, nickel, and cobalt base superalloys with emphasis on the determination of trace level impurities in these metals and the investigation of failures of metals. He regularly performs forensic and criminalistic testing and has testified as an expert witness in criminal and civil trials in both state and federal courts. He retired after 35 years with Analytical Associates, Inc., and its parent company in 1992 and started C. K. Deak Technical Services, Inc., where he performs consulting and forensic testing.

Looking Ahead

Tuesday, November 13, 2007

Location: Arkansas Public Health Laboratory
Little Rock, AR

Speaker: Dr. Cheryl Lichti

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.

Other Meetings Around the Local Section

Ouachita Baptist University to Host Nobel Laureate

Speaker: Professor Sir John Walker

Time: 7:30 pm, October 25

Location: Jones Performing Arts Center,
Ouachita Baptist University

Speaker's Biographical Sketch

Professor Sir John Walker FRS is Director of the Medical Research Council Dunn Human Nutrition Unit in Cambridge, UK, since 1998. In 1974 he was recruited by Fred Sanger to the world-famous Laboratory of Molecular Biology in Cambridge, UK, and early on he helped to uncover details of the modified genetic code of mitochondrial DNA. In 1978 he began studying the ATP synthase from mitochondria and from bacteria, resulting in a complete sequence analysis of this complex enzyme from several species. This was the overture to his painstaking and elegant work leading, in 1994, to the resolution of the 3D structure of the headpiece and stalk of this remarkable energy transducer by X-ray crystallography. Most significantly, the crystal structure was obtained in conditions where three nominally identical units ($\alpha_3\beta_3$) of the catalytic headgroup (F_1), were each in a different configuration due to differential binding of adenine nucleotides, which at once pointed towards a rotary mechanism of ATP synthesis mediated by the asymmetry to the structure imposed by the rotating "stalk" - the gamma subunit. Since this work, Sir John has continued to unravel the secrets of this all-

important enzyme for virtually all forms of life, including the structure of its membrane part (from yeast mitochondria), which demonstrated an unforeseen subunit stoichiometry that has led to new theories of the molecular mechanics of this intriguing nanomachine - the smallest one known. Apart from these monumental achievements, Sir John has made key contributions towards unravelling the subunit composition of Complex I, another membrane-bound enzyme of the mitochondrion, as well as elucidating the structures of substrate transporter molecules in that membrane. In 1995 he was elected Fellow of the Royal Society. In 1997, he received the Nobel Prize in Chemistry for his work, and in 1999 he received his knighthood for his services to medical research from HRH The Prince of Wales. Sir John's many other honours include the A.T. Clay Gold Medal in 1959, the Johnson Foundation Prize (University of Pennsylvania) in 1994, the CIBA medal and prize of the British Biochemical Society and the Peter Mitchell medal of the European Bioenergetics Conference, in 1996. In 1993 he was elected a Foreign Member of L'Accademia Nazionale dei Lincei, Rome, Italy and, in 2004 he was elected a Foreign Member of the National Academy of Sciences, USA.

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) for more information.

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.

New ACS podcast debuts with science news for broad general audience

The American Chemical Society (ACS) Office of Communications has launched a podcast that will make cutting-edge scientific discoveries from ACS journals available to a broad public audience at no charge.

The podcast, Science Elements, describes research reported in ACS's prestigious suite of 35 peer-reviewed scientific journals and Chemical & Engineering News, ACS's weekly news magazine. Those journals, published by the world's largest scientific society, contain about 30,000 scientific reports from scientists around the world each year. The reports include discoveries in medicine, health, nutrition, energy, the environment and other fields that span science's horizons from astronomy to zoology.

Those discoveries improve peoples' lives, and Science Elements will make that information more widely available. The podcast draws on an Office of Communications product, PressPac, which initially was developed to assist science journalists in researching and reporting news.

The podcaster for Science Elements is Steve Showalter, Ph.D., a chemist at the U. S. Department of Energy's Sandia National Laboratories in Albuquerque, New Mexico. Showalter's work at Sandia focuses on the design and development of new batteries. "As an active member of the ACS since 1987, I view these podcasts as part of a broader commitment to improving public understanding of chemistry," Showalter said. He also works toward that goal as a member of the ACS Committee on Public Relations and Communications and as a councilor for the Central NM Section, ACS.

Podcasting is an increasingly popular way of accessing news, information, and entertainment content from the Internet. The term was derived from Apple's "iPod," a portable digital audio and video player, and "broadcasting." Podcasts allow users to subscribe to a "feed" and receive new files automatically whenever posted to the Internet. New installments of Science Elements will be posted weekly and available without charge.

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).

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
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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). 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).

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).

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, 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>.
