



NEWSLETTER

Oklahoma Section American Chemical Society

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April 2012

Section Meeting
Thursday 12 Apr 2012

What does CSI have to do with Environmental Forensics?

R. Paul Philp
School of Geology and Geophysics
University of Oklahoma



Environmental Forensics is a field that has seen a rapid evolution over the past couple of decades. There is an almost unlimited number of environmental cases where a pollutant (pollutants) has been released into the environment causing numerous problems. However the issues then become determination of the nature of the product, who was responsible for its release, and is it going away or degrading? In this presentation we will be primarily concerned with discussing the origin and fate of organic pollutants in the environment and the techniques that are used to address the questions listed above. There is a broad range of organic pollutants ranging from simple compounds like MTBE, PCE, TCE, to more complex molecules such as PCBs, PDBEs or complex mixtures such as crude oils or refined hydrocarbon products such as gasoline.

continued on page 2 with the speaker's biographical sketch. →

Oklahoma Christian University
2501 E. Memorial Rd. Edmond, OK
Gotcher Room, Gaylord University Center

6:00–6:30 pm Reception
6:30–7:30 pm Dinner
7:30–8:30 pm Presentation

Parking is free after 5pm



OC
campus map

Dinner Reservation Information

Menu, Fajita Buffet

Chicken and Beef fajitas
Spanish rice
refried beans
grilled onions & peppers
lettuce & tomato
pico de gallo
salsa
sour cream

Cost
\$20 members
\$5 students

RSVP Deadline

Monday 09 Apr noon
Contact: Amanda Nichols
405-425-5420
amanda.nichols@oc.edu

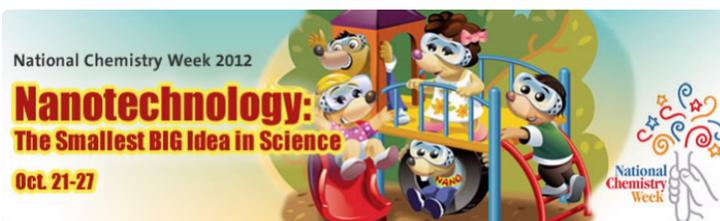
RSVP is not required to attend the presentation.

Oklahoma Section Chair Prof. Donna J. Nelson 2012 Oklahoma Chemist

Dr. Donna J. Nelson is presented the 2012 Oklahoma Chemist Award at the 57th Pentasectional Meeting at Cameron University (story on page 3).



NCW 2012 marks 25 Years of National Chemistry Week



2012 Service Milestones

Our section is pleased to honor three members for 50 years of service and one member for 60 years of service.

50 Years of Service

- Donald C. Sanders, OKC
- Roland J. Schultz, Edmond
- John C. Schwartz, Weatherford

60 years of Service

- Ronald G. Menzel, Durant

Does ACS have your current email address?

Quick facts

- The Oklahoma section of the ACS membership is 531.
- 498 of you have submitted email addresses to the ACS.
- Of the 498, approximately 25 addresses are undeliverable.

If you are not receiving the newsletter my email, your current email address does not appear in the local section roster we download monthly from the ACS.

Councilor's Report

Allen W. Apblett (Oklahoma Section Councilor)

At the open meeting of the ACS Board of Directors the topic for discussion was the Presidential Commission on Graduate Education. The commission was charged with two major questions: "What are the purposes of graduate education in the chemical sciences?" and "What steps should be taken to ensure that important societal issues as well as the needs and aspirations of students are addressed in graduate school?" The Commission has formed its own working groups to: address current strengths and weaknesses of graduate education at all types of institutions; profile graduate students and their employment opportunities; support mechanisms for graduate education and research; address the length of the Ph.D. and postdoctoral programs, and other considerations related to innovations in master's and Ph.D. degree programs, e.g., diversity, talent development, and the aspirations of graduate students. If you have any suggestions or comment for the commission you can E-mail them at graduatecommission@acs.org.

At the ACS Council meeting, Thomas Barton and Luis Echegoyen were chosen as the nominees for president elect by a vote of the council. The results of the selection process for a District Director for District V (Oklahoma Section's district) were reported by the Committee on Nominations and Election. This fall our choices for director will be John Adams and Peter Dorhout. The nominee's for director at large are Carol A. Duane, Valerie J. Kuck, Helen (Bonnie) A. Lawlor, and Ingrid Montes. The Council elects directors at large so please communicate with me (allen.apblett@okstate.edu) if you have any comments for or against any of these candidates. The Leadscope case was discussed but there was not a lot to report. The Supreme Court of Ohio listened to arguments on the case on September 7th. A decision should be reached soon. The council approved an increase of dues to \$151 for 2013. The special topic for discussion was the Toolkit on Climate Change that the ACS is developing. Interestingly, there was a quiz of 4 questions about climate change that the Council failed (fortunately I passed). The councilors' largest response to one question mistakenly identified carbon dioxide rather than water vapor as the number one contributor to the greenhouse effect. Clearly there is a need for the toolkit! It appears that the toolkit will use a balanced scientific approach. The councilor's discussion was a very civil scientific discourse that contrasts with the highly charged political rhetoric that one sees in the news media. The ACS gained about 24,000 members but lost 23,000 members last year. This leaves the membership at an all time high of 164,215 people. We do need to do a better job at retaining members. Perhaps the Council's approval of a motion to allow for test marketing of new membership concepts that would attract more members and retain them will help the society achieve this goal.



2011 Oklahoma Chemist Prof. Dale Teeters

will speak on *Nanoscale Chemistry for Enhanced Power Systems* at the May 03 section meeting and awards banquet to be held at OSU-OKC.

(Speaker—continued from front page)

The purpose of the first part of this presentation will be to provide examples of the various techniques that are available to detect these compounds in the environment and illustrate how you correlate them with their suspected source or sources. This will also incorporate some examples of some relatively recent major environmental issues. The second part of the talk will focus more specifically on utilization of CSI in these environmental issues. Although CSI has played a role in many episodes of CSI we are not discussing the TV series here but rather compound specific isotopes. Many of the traditional techniques for correlating pollutants with their suspected sources are fine for mixtures but in the situation where you might have a single component contaminant there are of little use. Enter the technique of CSI about a decade ago and it has continued to grow exponentially in applications to environmental cases and in many other areas.

In this presentation a number of examples will be discussed where isotopes have been used in environmental issues. In addition examples of where isotopes have been used in other areas will also be described including drug testing, food adulteration, diet studies and currency forgeries.

R. Paul Philp Biographical Sketch

Dr. R. Paul Philp is Professor of Petroleum and Environmental Geochemistry at the University of Oklahoma. He received his Ph.D. from the University of Sydney, Australia in 1972 and a D.Sc. from the same University in 1998 on the basis of his research in geochemistry over the past 20 years. Prior to starting at the University of Oklahoma in 1984 Dr. Philp was a Principal Research Scientist, C.S.I.R.O., Sydney, Australia. His current research interests center around petroleum, environmental and forensic geochemistry with an emphasis on molecular and isotopic characterization of oils, gases, rock extracts and contaminants for the purposes of source determination, characterization of depositional environments, maturity, biodegradation and for correlation purposes. Much of the current research activity in the area of forensic geochemistry involves the use of stable isotopes for the purposes of fingerprinting contaminants in the environment for correlation purposes; source determinations and evaluating whether or not natural attenuation is active. This approach is particularly valuable in the case of refined products or single component contaminants when the more traditional GC and GCMS techniques are of little or reduced use.

58TH ANNUAL PENTASECTIONAL MEETING

mark your calendars

Saturday 09 Mar 2013

Hosted by the Tulsa Section

2012 Oklahoma Chemist

Prof. Donna J. Nelson
The University of Oklahoma

Donna Nelson was born and reared in Eufaula, OK. She has been a professor of chemistry at the University of Oklahoma for about 25 years. She took her B.S. in Chemistry at the University of Oklahoma, obtained her Ph.D. in chemistry at the University of Texas under the direction of Michael Dewar, did her postdoctorate at Purdue University under the direction of Nobel Laureate, H. C. Brown, and then joined the University of Oklahoma faculty. She was a Faculty Fellow in the OU Provost's Office 1989–1990, and she has been a Visiting Professor at MIT, at UC-San Diego, and at UT-Austin. Donna is the recipient of many awards (most recently the 2011 Southwest Regional ACS Stan Israel Award for outstanding contributions to diversity and the 2011 Southwest Regional E. Ann Nalley Award for outstanding volunteerism). She is an AAAS Fellow, an ACS Fellow, a Guggenheim Fellow, and Fulbright Awardee.

Dr. Nelson's current research pertains to nanoscience, communicating science to the public, and scientific workforce development and she frequently speaks on the interrelationship of these topics. In 2010, she chaired the American Chemical Society's national Nanoscience Subdivision, and she is currently Oklahoma's Nanoscience Email Listserve Manager. The American Chemical Society (the world's largest scientific organization) recently appointed her to its national Committee on Chemistry and Public Affairs, which requires that she "provide expert advice to the government on questions concerning the chemical sciences and technologies" and "encourage and facilitate participation by the members of ACS in government relations." Making use of such connections enables an additional opportunity for Oklahoma to be more aware of and to influence national level science policy.

A national-level example of her furthering the universal goal of presenting accurate science to TV and movie audiences, is her advising television programs, such as AMC's *Breaking Bad*.

SWRM 2012

68th Southwest Regional Meeting 4–7 November 2012

Hosted by The Baton Rouge Section (Baton Rouge, LA)



<http://www.swrm2012.org/>



Donna Nelson is presented with a Citation from the State of Oklahoma by Representative Scott C. Martin in recognition of her Oklahoma Chemist Award.

CHEMISTRY OLYMPIAD



- March 1–31 — Local Section Competitions
 - April 21 — National Exam
 - June 5–20 — Study Camp
 - July 21–30 — 44th IChO Washington, DC
- Contact Nathan Malmberg for more information
nathan.malmberg@okbu.edu 405.878.2048



2012 Oklahoma ACS Section Officers and Standing Committee Chairs

Donna J. Nelson	Chair
Dane W. Scott	Chair Elect
Amanda J. Nichols	Immediate Past Chair
Lloyd A. Bumm	Secretary + interim Newsletter ed.
Jason Wickham	Treasurer
Allen Apblett	Councilor + Nominations Com.
Nicholas F. Materer	Alternate Councilor
Charles V. Rice	Awards Com.
Nathan Malmberg	Chemistry Olympiad Com.
Valerie Ferguson	National Chemistry Week Com.
Cheryl Frech	Public Relations
Jim Dechter	Web Master



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Oklahoma ACS 2012 Calendar of Events.

Visit the Oklahoma ACS WWW site for the latest information.

<http://oklahoma.sites.acs.org/>

- Apr 12 (Thu) OC**, R. Paul Philip, *Department of Geology, Univ. Oklahoma*
What does CSI have to do with Environmental Forensics?
- May 03 (Thu) OSU-OKC**, Dale Teeters, *Department of Chemistry, Univ. Tulsa*
Nanoscale Chemistry for Enhanced Power Systems
- Sep 14 (Fri) OBU**, Kacey Cilburn, *Sr Criminologist, Toxicology Div, OSBI*
Forensic Toxicology: The Good, the Bad, the Ugly
- Oct 16 (Tue) OU**, Gary Foutch, *Dept of Chemical Engineering, Okla State Univ*
Amines as pH Control Agents in Coal and Nuclear Power Plant Water Chemistry
- Nov (4-7) SWRM 2012**
Baton Rouge, LA
- Nov 15 (Thu) OSU**, Lloyd Sumner, *The Samuel Roberts Nobel Foundation*
Exploiting metabolic diversity for gene discovery
- 2013 Mar 09 (Sat) 58th** Pentasectional Meeting, hosted by the Tulsa Section.
- 2019** Oklahoma Section Centennial