

# THE Central Arkansas



CHEMIST

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

October, 2003

## General Meeting

Thursday, October 23  
National Mole Day!

Location: Fribourgh Hall, Room 102  
UALR  
Little Rock, AR

5:30 p.m. Dinner with Speaker  
Catfish City  
South University Ave., LR

7:30 p.m. Program  
Dr. Derek Sears  
"Water on Mars: The role of  
laboratory simulations"

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

For our October meeting, we welcome Dr. Derek Sears of the University of Arkansas—Fayetteville.

## WATER ON MARS: THE ROLE OF LABORATORY SIMULATIONS

While enthusiasts of the nineteen and early twentieth centuries imagined Mars to be a populated planet, with a global irrigation system and means to invade Earth, the space age brought with it a Mars that long ago lost its ability to hold running water and was currently a cold, dry and barren place. In

recent years, tantalizing evidence has been found for water flowing on the surface in the recent past and perhaps even currently. This has, in a sense, evolved into a dispute between the physics that prohibits liquid water on Mars and the geology that suggests its presence. With this background in mind we have been performing a series of experiments in the Andromeda planetary environmental chamber designed at establishing conditions under which water might appear and its stability on the surface of Mars once it has appeared. These are early days for our work, but indications to date are that a dust layer covering ice can create conditions for liquid water and that once formed the water evaporates no more rapidly on Mars than water evaporates on Earth. In other words, we suspect that water is stable enough on the surface of Mars to produce the structures that have been ascribed to flowing water. We hope such work will help further refine our search for water on Mars and thereby life.

## Speaker's Biographical Sketch

Dr. Derek Sears is a Professor in the department of Chemistry and Biochemistry at the University of Arkansas. He is the director of the Arkansas-Oklahoma Center for Space and Planetary Sciences <http://www.uark.edu/misc/csaps/> and is a member of the Cosmochemistry Research Group. His areas of research interest include laboratory studies of extraterrestrial materials, chondrule formation, asteroid and comet surface processes, history of meteoritics, and chemical and physical studies of chondrites.

He received his B.S. degree in chemistry from the University of Kent, Canterbury, UK in 1970, a Diploma in Space Science from the University of

London (University College) in 1971, and his Ph.D. in Astronomy/Geology from the University of Leicester, UK in 1974. His postdoctoral and research stints include the University of Manchester, the University of Birmingham, and UCLA before assuming his present position the University of Arkansas—Fayetteville.



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## Looking Ahead

November 13 Dr. Jeffery Moran,  
“Managing Chemical Emergencies”, Center  
for Toxicology and Environmental Health,  
L.L.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.

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## Local Section News

National Chemistry Week is just around the corner.  
The dates are Oct. 19-25 with the topic, “Earth’s  
Atmosphere and Beyond!” Contact our section’s  
NCW coordinator, Howard Hendrickson, with your

ideas and if you need support from the local section.  
Howard’s email is [hendricksonhowardp@uams.edu](mailto:hendricksonhowardp@uams.edu).

A ballot is included in this newsletter. Please vote  
and submit electronically or via snail mail.

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## National News

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### ATTENTION STUDENT AFFILIATE CHAPTERS

#### Chemvention 2003

Chemvention is a team competition in which ACS Student Affiliate chapters compete against each other to solve a common problem. As the name implies, affiliate chapters must use their chemical intuition to invent a device or method that works better (generally based on accuracy and precision), and is more clever (based on originality and frugality) than their competitors. The competition will be limited to “active” ACS Student Affiliate chapters as defined by the [ACS Undergraduate Programs Office](#).

To help ensure a fair competition among chapters, a \$100 cap will be placed on the amount of money that can be spent on materials used in the competition. Expenses should be based on the fair market value for each item, and must be verified by the Student Affiliate Advisor. This cost includes all donated materials.

#### The Challenge

Develop a procedure and/or a device that will allow you to measure the amount of oxygen in air as accurately and precisely as possible.

#### Prizes for National Competition

- Five (5) affiliate chapters will be chosen as finalists, and encouraged to present posters describing their “chemventions” as part of SciMix at the 225th ACS National Meeting in Anaheim, CA (March 2004).
- The Grand Prize winner, chosen from the field of finalists, will be announced during the Student Affiliates Award Ceremony, and awarded \$150. The remaining finalists will each win \$50 pizza parties

<http://www.chemistry.org/portal/a/c/s/1/acdisplay.html?DOC=ncw\2003chemvention.html>



## ATTENTION CHEMICAL EDUCATORS

*Process Oriented Guided Inquiry Learning in the Classroom and Laboratory:  
An NSF Sponsored Workshop (DUE-0231120)*

**Where:**

Oklahoma City University

**When:**

Saturday, October 25th, 2003, 9:30 a.m. to 4:30 p.m.

**Cost:**

Free - including lunch and refreshments!

**Who:**

Andrei Straumanis, Sandia National Laboratories  
Renee Cole, Central Missouri State University

For more information and registration for this workshop, please visit:

[http://www.pogil.org/events/announce\\_Oklahoma.php](http://www.pogil.org/events/announce_Oklahoma.php)

You can register directly at:

[http://www.pogil.org/events/register\\_Oklahoma.php](http://www.pogil.org/events/register_Oklahoma.php)

For further information about POGIL:

<http://www.pogil.org>

Or contact James Wakefield, POGIL Project Associate at: [pogil@pogil.org](mailto:pogil@pogil.org)

*Host for this Workshop:*

Prof. John Nail

Department of Chemistry

Oklahoma City University

2501 N. Blackwelder

Oklahoma City, OK 73106-1493

405-521-5039

[jnail@okcu.edu](mailto:jnail@okcu.edu)

Recent developments in cognitive learning theory as well as results of classroom research suggest that most students experience improved learning when they are actively engaged and when they are given the opportunity to construct their own knowledge. These results counter the widespread misapprehension that effective teaching must be instructor-centered, involving the transfer of content directly from the expert (professor) to the novice (student). More "student-centered" approaches to

learning are based on the premises that students will learn better when: they are actively engaged and thinking in class; they construct knowledge and draw conclusions by analyzing data and discussing ideas; they learn how to work together to understand concepts and solve problems; and the instructor serves as a facilitator to assist students in the learning process.

This workshop will include discussion of the principles and philosophy of Process Oriented Guided Inquiry Learning (POGIL), a student-centered method of instruction. Participants will experience the approach from a student's perspective and will be introduced to various instructional techniques that support a "student-centered" learning environment. To as great an extent as possible, the workshop will be tailored to the interests and needs of the attendees. Possible additional topics may include: discussion of specific materials and courses; overcoming barriers to implementation; training and supervision of teaching assistants, etc.

**The Women Chemists Committee of the  
American Chemical Society  
is pleased to Call for Applications for Travel  
Awards**

For post-doctoral, graduate, and undergraduate women to make their first research presentation at a scientific meeting.

Sponsored by:

Eli Lilly & Company

For more information and an application form, contact

Cheryl Brown, 800/227-5558 ext. 6123

<http://membership.acs.org/W/WCC>

or e-mail: [wcc@acs.org](mailto:wcc@acs.org)

American Chemical Society

1155 Sixteenth St. NW

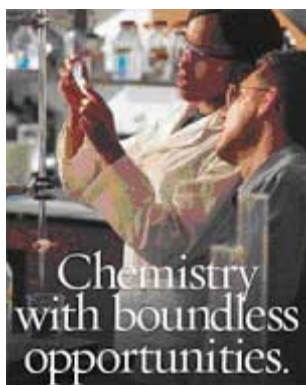
Washington, DC 20036

**Deadline for receipt of applications for 2004 meetings:** February 15, 2004 – Meetings between July 1 and December 31, 2004

## PROJECT SEED 35TH ANNIVERSARY

Since 1968, Project SEED has opened the door to science experiences for economically disadvantaged high school students who otherwise might not have this opportunity. More than 7,100 talented students have experienced scientific research during the summer months in local academic, industrial, and governmental laboratories with volunteer research chemists as mentors.

Your support for the summer program, college scholarships, and/or the endowment will enable ACS to keep the doors to a career in chemistry open to students in need.



YES, I WANT TO CELEBRATE THE SUCCESS AND INVEST IN THE FUTURE FOR PROJECT SEED.

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AMERICAN CHEMICAL SOCIETY  
SCIENCE THAT MATTERS

## Chemistry Humor

Q. What is the dieter's element?

A. Nobelium

A chemistry graduate student had the fortune to share their space with a cat they happened to name Ion. The student loved to introduce their feline friend as their cation! - submitted by Betsy Moll

Two hydrogen atoms bumped into each other recently.

One said: "Why do you look so sad?"

The other responded: "I lost an electron."

Concerned, One asked "Are you sure?"

The other replied "I'm positive."

Q. If a bear in Yosemite, and one in Alaska fall into water, which one would dissolve faster?

A. The bear in Alaska because it's polar.

A neutron walks into a bar, sits down and asks for a drink. Finishing, the neutron asks "How much?" The bartender says, "For you, no charge."

Q. Where does one put the dishes?

A. In the Zinc.

Q. What do you call a tooth in a glass of water?

A. One molar solution.

Q. What did the gambler do with his cards?

A. He Palladium.

A small piece of sodium which lived in a test tube fell in love with a Bunsen burner. "Oh Bunsen, my flame. I melt whenever I see you . . .", the sodium pined.

"It's just a phase you're going through", replied the Bunsen burner.

Q: Why does hamburger have lower energy than steak?

A: Because it's in the ground state.



If you have an article or job posting that you would like to have considered for publication in our newsletter, send it to [perrym@obu.edu](mailto:perrym@obu.edu) 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, Cindy Moran, Arkansas State Crime Laboratory, 501-227-5747, [cindy.moran@ascl.state.ar.us](mailto:cindy.moran@ascl.state.ar.us); Chair-Elect, Cheryl Lichti, University of Arkansas for Medical Sciences, 501-526-5978, [lichticheryl@uams.edu](mailto:lichticheryl@uams.edu). Address all correspondence to the Section Secretary, Marty Perry, Ouachita Baptist University, 870-245-5217, [perrym@obu.edu](mailto:perrym@obu.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>

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