



**AMERICAN CHEMICAL
SOCIETY**

PERMIAN BASIN SECTION

Newsletter

Volume 7, Number 3

December, 2014



Permian Basin Election Results

The results from our most recent Permian Basin section election were:

Chair:	Dr. Kathryn Louie
Secretary:	Mr. Kevin Boudreaux
Treasurer:	Dr. Kyle Beran
Alternate Councilor:	Dr. John Osterhout

Upcoming Local Meetings, Events, and Announcements

ACS Permian Basin Section Meeting: Thursday, January 22, 2015

Speaker: Dr. Tracy Hamilton (University of Alabama at Birmingham)

Title: “Zymurgy: The Art and Science of Brewing Beer”

When: Thursday, January 22, 2015; 7:00 p.m.

Where: Cavness Science Building (corner of Dena and Johnson), room 200; ASU (San Angelo)

Biographical Sketch:

Tracy P. Hamilton is a theoretical chemist by profession, with a PhD from the University of Arkansas in 1987 (Peter Pulay) and a post-doc at the University of Georgia (Henry F. Schaefer III). He is currently an associate professor at UAB. Brewing beer was his only outlet for chemical synthesis for many years. He has been brewing since 1997, and is a certified beer judge (www.bjcp.org). Dr. Hamilton is a member of the Birmingham Brewmasters, a group dedicated to the appreciation of all beer styles and to brewing them.

Dr. Hamilton started consumption of coffee late in life, when he was forty years old. Through the influence of a fellow Brewmaster, he started roasting coffee in 2006 and has been doing so ever since.

Dr. Hamilton has also been Chair-Elect and Chair of the Alabama Section of the ACS (1995, 2009), is currently Councilor for the local section, and serves on the Committee on Local Section Activities for the ACS.

Title: Zymurgy: The Art and Science of Brewing Beer

The presentation will start with a brief history of brewing, followed by how to brew beer step by step, with pictures. The chemical processes at each step are discussed for the chemists in the audience, making connections to various undergraduate topics such as kinetics, organic chemistry and biochemistry. The talk will be topped off by a list of important flavor compounds (both desirable and undesirable) in beer. The mixture of humor and practical knowledge makes this talk suitable for a general audience. The topic of beer is very popular and venues where good beer is served enhance attendance significantly.

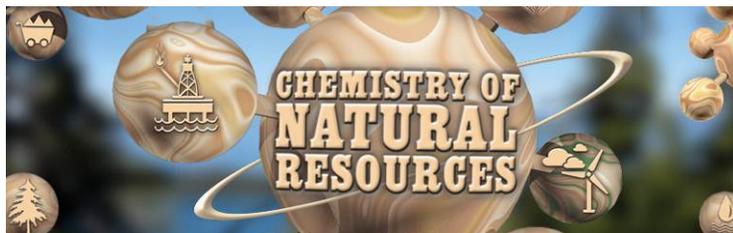
Upcoming National and Regional Meetings and Programs

249th ACS National Meeting & Exposition – Spring 2015

Denver, Colorado, USA

March 22-26, 2015

Theme: Chemistry of Natural Resources



Permian Basin News

Two student chapters of the ACS in the Permian Basin section have received national awards. The chapter at Angelo State University (faculty sponsors Dr. Edith Osborne and Mr. Kevin Boudreaux) has received a Commendable award, and has been recognized as a Green Chemistry chapter. The chapter at Midland College (faculty sponsor Dr. Pat Nandakumar) has received an Honorable Mention award. These awards will be presented at the National Meeting in Denver, in March of 2015.

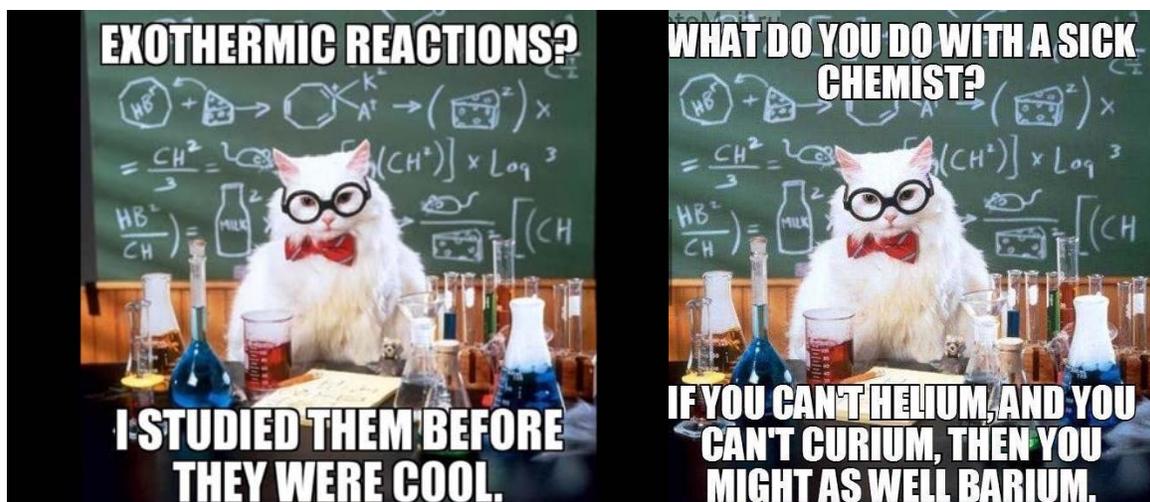
A Chemical Thought

In France, a chemist named Pilatre de Rozier tested the flammability of hydrogen by gulping a mouthful and blowing across an open flame, proving at a stroke that hydrogen is indeed explosively combustible and that eyebrows are not necessarily a permanent feature of one's face.

Bill Bryson, *A Short History of Nearly Everything* (2003)

Chemists Just Want To Have pHun

A couple of jokes from the Chemistry Cat:



Permian Basin ACS Local Section Officers 2015

<p>Chair: Dr. Kathryn Louie Angelo State University phone: (325) 942-2181 e-mail: klouie@suddenlink.net</p>	<p>Treasurer: Dr. Kyle Beran University of Texas of the Permian Basin phone: (432) 552-2238 e-mail: beran_k@utpb.edu</p>
<p>Secretary: Mr. Kevin Boudreaux Angelo State University phone: (325) 486-6623 e-mail: kevin.boudreaux@angelo.edu</p>	<p>Alternate Councilor: Dr. John Osterhout Angelo State University phone: (325) 486-2181 e-mail: kevin.boudreaux@angelo.edu</p>
<p>Councilor: Dr. Kathryn Louie Angelo State University phone: (325) 942-2181 e-mail: klouie@suddenlink.net</p>	

If you have news about local activities, student activities, new employees, new members, good (or bad) science/chemistry jokes, or any other events related to the local section that you want to be included in the newsletter, please send the information to Kevin.Boudreaux@angelo.edu.



Discoveries!

From the American Chemical Society, the World's Largest Scientific Society

Electronic 'tongue' to ensure food quality

ACS Applied Materials & Interfaces

An electronic "tongue" could one day sample food and drinks as a quality check before they hit store shelves. Or it could someday monitor water for pollutants or test blood for signs of disease. With an eye toward these applications, scientists are reporting the development of a new, inexpensive and highly sensitive version of such a device in the journal *ACS Applied Materials & Interfaces*.

S. V. Litvinenko and colleagues explain that an electronic tongue is an analytical instrument that mimics how people and other mammals distinguish tastes. Tiny sensors detect substances in a sample and send signals to a computer for processing just as taste buds sense and transmit flavor messages to the brain. The food and beverage industry and others have started deploying electronic tongues for a range of purposes from authenticating Thai food to measuring beer quality. But existing devices are limited in how they can be used. Litvinenko's team decided to make an improved instrument that could have applications in medical diagnostics, pharmaceutical testing and environmental monitoring, as well as food testing.



Cognac and other drinks and foods have unique chemical signatures detectable by a new electronic "tongue."
Credit: DimaSobko/iStock/Thinkstock

The researchers developed a low-cost and environmentally friendly "e-tongue" with a silicon base that could be easily incorporated into existing electronic systems of the same material. When they tested it with Armagnac, cognac, whiskey and water, they were able to establish precise signatures for each. They conclude that their work serves as a first step toward a novel tasting instrument with potentially diverse applications.

The authors acknowledge funding from [Lyon Science Transfert](#).



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