



NEWSLETTER

Oklahoma Section American Chemical Society

Volume 20 Number 2

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

April 2014

Pentasectional Meeting Keynote Lecture

8:30 am Saturday 12 Apr 2014
PARTNERS FOR PROGRESS
AND PROSPERITY

Marinda Li Wu

*2013 President
American Chemical Society*



A major challenge facing the global chemistry enterprise is the need to promote a deeper appreciation and understanding from our policy makers and the general public for the wonderful benefits that chemistry contributes to everyday life. A brief overview of the American Chemical Society (ACS) and highlights of various public outreach programs will be presented. My personal professional journey and experiences with successful ways to show the general public the valuable contributions to society resulting from chemistry and science will be shared. The audience should gain some ideas of how to effectively share enthusiasm for chemistry and its benefits with young students and the general public through the ACS

continued on page 2 with Wu's biographical sketch. →

Pentasectional Friday Night Lecture

7:00 pm 11 Apr 2104 Physical Sciences 103 OSU

FREE ADMISSION TO ALL

*Join us for a reception
preceding the lecture
in Physical Sciences 117*

ECONOMIC GROWTH BASED ON
SCIENCE AND TECHNOLOGY:

An Illustration using
the Unmanned Aerial Systems
Industry in Oklahoma

Stephen W.S. McKeever
Oklahoma State University



States throughout the nation are grappling with new models for economic development based on the knowledge revolution, internet communications, and the availability of a skilled workforce. The need for a workforce skilled in the STEM disciplines has never been greater. In Oklahoma various leader-

continued on page 3 with McKeever's biographical sketch. →

59TH ANNUAL PENTASECTIONAL MEETING *Partners for Progress and Prosperity*

*bringing together scientists, educators, students,
and industry throughout Oklahoma*

Saturday 12 Apr 2014

8:30 am – 4:30 pm

Wes Watkins Center, Stillwater, OK

Hosted by the Oklahoma Section

Keynote Lecture 8:30 am

PARTNERS FOR PROGRESS AND PROSPERITY

Dr. Marinda Li Wu

2013 President, American Chemical Society

Symposium Session Topics

Analytical Chemistry
Chemical Education
Nanoscience
Physical and Computational Chemistry
Organic and Biochemistry
Environmental Chemistry
Materials and Polymer Chemistry
Inorganic and Organometallic chemistry



Pentasectional
Web site

Lunch Program

Poster awards

Presentation of the Oklahoma Chemist of the Year

For more information and updates please visit

<http://pentasectional.chem.okstate.edu/>

or contact Allen Apblett

[\(allen.apblett@okstate.edu\)](mailto:allen.apblett@okstate.edu)

!! MARK YOUR CALENDARS !!

Oklahoma ACS Awards Banquet

Friday 02 May at OU

William Chamberlin

WBC LubeTech

**Fueling Our Future
Transportation Needs**



Location: Stevenson Life Science Research Center

Councilor's Report

ACS Spring 2014 National Meeting, Dallas, TX
Allen W. Apblett (Oklahoma Section Councilor)

At the open meeting of the ACS Board of Directors the topic for discussion was "What is the one thing you like that ACS does, and why?" The meeting was well attended and the discussion was quite lively with a myriad of answers to this question. I believe we should follow up with the question "What is the one thing that the ACS doesn't do that we should" or perhaps "What is the one thing that the ACS does poorly and should improve"

The ACS Council meeting for a change was rather routine without any contentious issues. Our most important business was the selection of Peter K. Dorhout and William A. Lester, Jr. as candidates for 2015 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election. It will be a difficult decision since both candidates are of extremely high caliber.

This fall our choices for Director at Large for a 2015–2017 term are Dawn A. Brooks, William F. Carroll, Jr., Barbara A. Sawrey, and Ellen B. Stechel. The election of two Directors-at-Large from among those candidates and any selected via petition will be conducted in the fall. Ballots will be mailed to the Council on or before October 10, 2014. 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 council approved an increase of dues to \$158 for 2015. This increase is established according to an inflation-adjustment formula in the ACS Constitution and Bylaws. The ACS membership cost remains very competitive with many other comparable scientific societies.

The special topic for discussion was "What can ACS do to increase the quality of science education in grades K-12? Numerous Councilors engaged in an extensive discussion on the factors impacting the quality of K-12 science education in the U.S. that mostly focused on what people were already doing either individually or in local sections. For their part, the ACS Board of Directors is creating the American Association of Chemistry Teachers (AACT) that will focus on supporting K-12 teachers of chemistry. The AACT will be established this summer and will be designed to serve an important coordinating function that will make resources developed by disparate ACS entities accessible to K-12 teachers of chemistry. The AACT will be the means by which ACS can develop resources, build community, and advocate with K-12 teachers of chemistry rather than for them. I think we also should consider what the local section might do to help our teachers. I would definitely like to hear from the schoolteachers in our membership what assistance we might provide. I also encourage anyone who wish to be involved in our schools to consider becoming an ACS Science Coach, See the following website for details:

<http://www.acs.org/content/acs/en/education/outreach/science-coaches.html>

The Committee on Chemical Safety (which I serve on) reported publishing its first-ever Safety Alert concerning the Rainbow Demonstration, in Chemical and Engineering News, March 17, 2014. I have been requested to provide this alert to you in this newsletter.

(Wu keynote—continued from front page)

vision: "Improving people's lives through the transforming power of chemistry." I will conclude by sharing some highlights from my 2013 ACS Presidency and discuss how we can all "Partner for Progress and Prosperity."

Marinda Li Wu Biographical Sketch

Dr. Marinda Li Wu has over 30 years of experience in the chemical industry. She received a B.S. cum laude with Distinction in Chemistry from Ohio State University and a Ph.D. in inorganic chemistry from the University of Illinois. She has been an ACS member since 1971, and has served on the ACS Board of Directors since 2006. She was President of the ACS in 2013 and now serves as Past President.

During almost twenty years employment by Dow Chemical R&D and Dow Plastics, Dr. Wu led both fundamental and applied research in various applications involving polymers, medical devices, membrane separations, advanced electrochemical batteries and catalysis. In later years, she worked to help forge strategic business/education/community/ government alliances to educate the general public on environmental issues. After this, Dr. Wu was recruited to join a small company involved with high-energy plasma instrumentation for the semiconductor and medical industries. There she had responsibility for both R&D and marketing. Upon sale of that company, she became an entrepreneur and co-founded a start-up to develop new technology for polymer surface modifications.

Dr. Wu has also long been a strong advocate for improving science education and has worked with organizations, local communities, school districts, and government officials at the local, state, and national levels. She founded Science is Fun! to introduce young students to the joys of science and actively works in public outreach to promote science education and awareness with the general public.

Oklahoma State Science & Engineering Fair

Join us in congratulating this year's winners of our section's sponsored awards at the OSSEF held at East Central University in Ada, OK 6–7 Mar 2014.

ACS-Oklahoma Section Awards –Best use of chemistry
1st Place-Div I: Ryan Caudill (10th grade, Grove High School) *The Viability of Tree Leaves for Cellulosic Ethanol.*
2nd Place-Div I: John Martinez (10th grade, Bartlesville Mid-High) *The Fast and the Freeziest.* **3rd Place-Div I: Gracie Rule** (10th grade, Cascia Hall Preparatory School) *Evaluating the Efficiency of Antacids when taken with Over the Counter Pain Relievers.* **1st Place-Div II: Nathan Boone** (9th grade, Grove High School) *Time for Enzyme: The quantitative analysis of optimal conditions required for invertase reduction of sucrose.* **2nd Place-Div II: Paul Paquin** (8th grade, Grove Middle School) *Corrosion Control.* **3rd Place-Div II: Mollie Allen** (7th grade, McCall Middle School) *Piece of Cake.*

Check out the OK section's web site
<http://oklahoma.sites.acs.org/>

(McKeever Friday night—continued from front page)

ship organizations are facing these issues with new initiatives and programs in support of the state's primary wealth generating industries. One of the leading industries in the state is Aerospace, and the fastest growing sector in Aerospace is Unmanned Aerial Systems (UAS). This is a time of intense expectation for this industry and Oklahoma is positioning itself to be a national leader. This talk will outline the various initiatives in support of STEM education and training that, in turn, will support the state's strategy to grow the UAS sector.

Stephen W. S. McKeever Biographical Sketch

Stephen McKeever is the Oklahoma Secretary for Science and Technology, Director of the Oklahoma State University National Energy Solutions Institute, and Regents Professor of Physics at OSU. He is also the former Vice President for Research and Technology Transfer at Oklahoma State University (2003–2013). As Secretary of Science & Technology he serves on the Governor's Cabinet and is Chairman of the Governor's Science & Technology Council and UAS Advisory Council. He also sits on numerous Boards and has served on several national scientific committees.

Stephen McKeever obtained his PhD from the University of Wales and after postdoctoral work at the universities of Birmingham and Sussex in the UK he joined the OSU physics faculty in 1983, attained the rank of Associate Professor in 1986 and Full Professor in 1990. He was named a Noble Research Fellow in Optical Materials in 1987, served as head of the Department of Physics from 1995–99, and Associate Dean for Research in the College of Arts & Sciences from 2000–03. Dr. McKeever was named the MOST (More Oklahoma Science and Technology) Chair of Experimental Physics in 1999.

He has authored or co-authored over 200 scientific publications and 6 books, and has 6 US and 9 International patents in the area of radiation detection and measurements, specializing in development and applications of luminescence in radiation dosimetry. He is a Fellow of the American Physical Society, a Fellow of the Institute of Physics, a Fellow of the National Academy of Inventors, and a Member of the Health Physics Society. He has also served co-Editor-in-Chief and is presently Consulting Editor of the journal *Radiation Measurements*.

SOLICITING NOMINATIONS

Oklahoma Section Awards for Undergraduate Students

- The *Roger Baldwin Graduate Student Award* provides \$500 for students entering graduate school in chemistry or a chemistry related field. The application deadline this year is 01 May 2014.
- The *Terrill Smith Travel Award* is a grant of up to \$600 for travel to present a paper or poster at a national or regional ACS meeting. The application deadline is 4 weeks prior to the meeting start date.

For more information and forms please visit the web site:

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

—Chuck Rice (Awards Committee)



Safety Alert

Stop Using the Rainbow Demonstration

The American Chemical Society Committee on Chemical Safety recommends that the "Rainbow" demonstration on open benches involving the use of flammable solvents such as methanol be discontinued immediately. When carried out on open benches (outside of a chemical hood) these demonstrations present an unacceptable risk of flash fires and deflagrations that can cause serious injuries to students and teachers. On an open bench, invisible flammable vapors can flow across and off of the bench to the floor where they can be ignited by a flame, a spark (even static electricity), or even a hot surface. Even carrying out this demonstration in a hood poses risks if solvents are not adequately controlled. If you are considering this "Rainbow" demonstration or have used it in the past, we urge you to stop using this demonstration. There are alternatives available that demonstrate the same rainbow colors but don't use flammable solvents on an open bench. These alternate demonstrations involve soaking wooden splints in salt solutions and then placing the splints in a Bunsen burner to observe the salt's characteristic color.

Rainbow Demonstration Alternatives

- [Flame Tests without Nichrome Wire](#), New Zealand Association of Science Educators, *Science Teacher* 2011, Number 126, p. 45.
- [Flame Tests, Atomic Spectra & Applications Activity](#), University of Manitoba, C12-2-02&03
- [The Flame Test Student Work Sheet](#).

NATIONAL CHEMISTRY WEEK 19–25 OCT

THEME: *THE SWEET SIDE OF CHEMISTRY – CANDY*

**SOUTHWEST
REGIONAL
MEETING
2014**



<http://www.swrm2014.org/>

Fort Worth, TX | November 19-22, 2014

2014 Oklahoma ACS Section Officers and Standing Committee Chairs

Paul A. Sims	Chair
Luis D. Montes	Chair Elect
Dane W. Scott	Immediate Past Chair
Lloyd A. Bumm	Secretary + interim Newsletter ed.
Jason Wickham	Treasurer
Allen Applett	Councilor + Nominations Com.
Nicholas F. Materer	Alternate Councilor
Charles V. Rice	Awards Com.
Nathan Malmberg	Chemistry Olympiad Com.
J. Michael Ferguson	National Chemistry Week Com.
Cheryl Frech	Public Relations
Jim Dechter	Web Master



L. A. Bumm
Oklahoma Section of the ACS
Homer L Dodge Dept of Physics & Astronomy
The University of Oklahoma
440 W Brooks St
Norman, OK 73019-2061

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Oklahoma ACS Calendar of Events.

Visit the Oklahoma ACS WWW site for the latest information.

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

CALENDAR OF EVENTS

2014 Dates & Speakers

Feb 12 (Wed) UCO, Tammy Dugas, Dept Pharm, Tox, & Neurosci, LSU HSC
Red Wine, Resveratrol and Drug-Eluting Stents

Mar (6-7) Oklahoma State Science and Engineering Fair
East Central University, Ada, OK

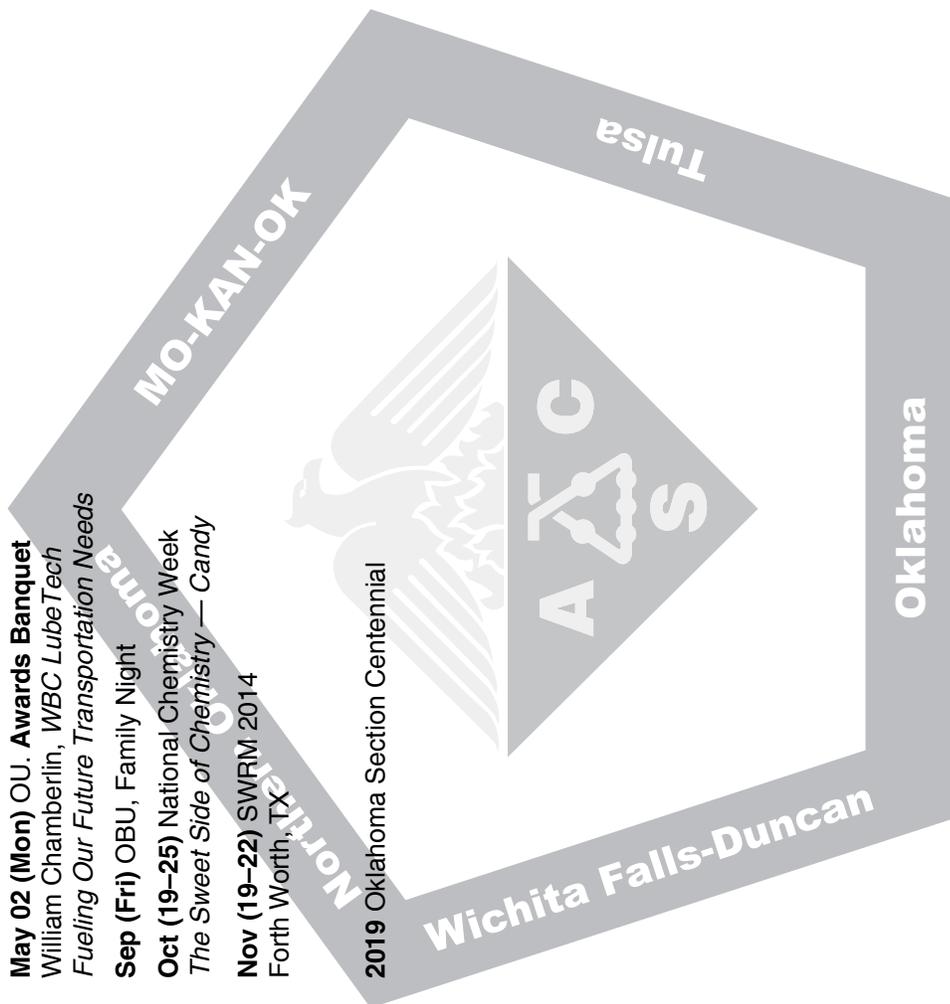
Apr 12 (Sat) 59th Pentasectional Meeting, hosted by the Oklahoma Section.
Oklahoma State University, Wes Watkins Center, Stillwater, OK

May 02 (Mon) OU. Awards Banquet
William Chamberlin, WBC LubeTech
Fueling Our Future Transportation Needs

Sep (Fri) OBU, Family Night

Oct (19-25) National Chemistry Week
The Sweet Side of Chemistry — Candy

Nov (19-22) SWRM 2014
Forth Worth, TX



2019 Oklahoma Section Centennial