



# NEWSLETTER

## Oklahoma Section American Chemical Society

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Volume 11 Number 6

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### **Application of Spectroscopy in the Museum**

**Thursday – October 20, 2005  
Room 106 - Noble Research Center  
Oklahoma State University  
Stillwater OK 74078**

**Janice H. Carlson  
Scientific Research & Analysis Laboratory  
Conservation Department  
Winterthur Museum & Country Estate  
Winterthur DE 19735**

**F**or more than a century, artists, art historians, and art conservators and restorers have made use of numerous techniques that rely on the interaction of electromagnetic radiation with materials **to study, examine and authenticate works of art.** Light microscopy, x-radiography, and examination under infrared or ultraviolet light sources are perhaps the most common examples of these methods. A number of more sophisticated spectroscopic techniques, widely used in industry, have now become standard tools in many museums for the examination of artistic and historic objects. These include non-destructive energy-dispersive x-ray fluorescence spectroscopy, Fourier transform infrared spectroscopy, Raman spectroscopy and scanning electron microscopy with energy dispersive x-ray microanalysis. This presentation will discuss the application of a number of spectroscopic methods to a variety of works of art including silver alloys, painted Pennsylvania German fraktur and furniture, Chinese pith paintings on rice paper and others to uncover forgeries. [[www.winterthur.org](http://www.winterthur.org)]

**[Reservation Information on Page 2]**   
Schedule:

**6:00 PM Dinner:** The Sequoyah Room, Room 208, OSU Student Union Building.

**7:30 PM Speaker:** Room 106, Noble Research Center

**Immediately After The Talk:** Reception and Social Hour in the Atrium of The Noble Research Center

**Menu:** Smokehouse brisket with firecracker sauce; Southwest grilled chicken; Picnic potato salad; Frijoles borrachos; Seasoned corn; Chocolate sheet cake; Iced tea; Water.

**Cost:** \$15.00-ACS Member; \$10.00-ACS Student Affiliate.

**Deadline:** **Friday, 14 October, 2005 - 5:00 PM. Barry Lavine 405.744.5945**  
bklab@chem.okstate.edu

## Janice H. Carlson

**Janice Carlson** will be the National Chemistry Week speaker for the Oklahoma Section of the American Chemical Society. Currently, she is senior scientist and Head of the Analytical Laboratory in the Conservation Division of the Winterthur Museum. Carlson also serves as adjunct associate professor in the Winterthur/University of Delaware Program in Art Conservation (WUDPAC) where her primary responsibility is teaching instrumental analysis. Carlson received a B.A. in chemistry from the College of Wooster and an M.S. in analytical chemistry from the University of Michigan. She joined the staff of Winterthur in 1974, after several years working in industry. Over the past 28 years, she has done research on x-ray fluorescence analysis of silver, brass, pewter and glass objects as well as on the use of infrared spectroscopy in the examination of artistic and historic objects. Carlson has presented her work at a number of national and international conferences, has authored or co-authored more than 25 papers, and has been co-organizer and instructor for two international courses on “Instrumental Techniques for Conservators”

Carlson’s presentation is scheduled for Thursday, October 20<sup>th</sup> in Room 106 of the Noble Research Center at 7:30 PM. A reception and social hour in the atrium of the Noble Research Center is planned and will immediately follow her presentation. There will also be a dinner preceding her talk where meeting participants will have the opportunity to meet the speaker and renew old acquaintances. The dinner is scheduled for 6:00 PM in the Student Union. . . . .



## SWOSU chemistry professor new provost

**Dr. Blake Sonobe** was named provost and vice president for academic and student affairs at Southwestern Oklahoma State University in Weatherford and Sayre effective June 1, 2005 according to SWOSU President Dr. John Hays. As provost, Sonobe will be the chief academic officer at SWOSU.

Sonobe joined the faculty of SWOSU in 1990 after a 20-year career in the Air Force. He served more than 11 years on the faculty of the Air Force Academy in Colorado Springs, Colorado and retired as a professor of chemistry and director of operations.

He then came to SWOSU where he has taught general chemistry, organic chemistry, physical chemistry and senior seminar. He has served as the chair of the Chemistry Department [1997-99]; interim chair and chair of the Department of Chemistry and Physics since 1999.

He holds a B.S. in chemistry from the United States Air Force Academy and an M.S. in nuclear chemistry from Texas A&M. His Ph.D. in organic chemistry is from the University of California, Davis.

At SWOSU, Sonobe has served on numerous faculty committees including the Faculty Research and Scholarly Activities Committee, Faculty Development Committee [chair, 1996-97], Panorama Committee, Radiation Safety Committee [chair since 1994], Protection of Human Subjects Committee, Retention Management Council, Appellate Committee on Dismissal of Tenured Faculty Members and Faculty Senate.

Sonobe has been active at SWOSU in the upgrade of the laboratory program. He received grants from the NSF to develop a computer interfaced laboratory program where students collect and analyze chemical data in real time and to upgrade an NMR from a continuous wave to a Fourier transform instrument.

Sonobe's research interests have been in photochemical dynamics and mechanisms of cheletropic reactions. He has directed the research efforts of many students in the synthesis and photochemistry of these molecules. Some of his students have presented results of their work at the Southwestern Scholarly Activities Fair and at a national meeting of the American Chemical Society.

He has served on review panels for the course, curriculum, and laboratory improvement program of the National Science Foundation five times and was a panel chair twice.

The new provost received two Eisenhower grants from the State Regents for summer workshops for high school chemistry teachers to help them incorporate small-scale chemistry experiments and chemical demonstrations into their curriculum.

He also has received two State Regents grants to direct the Southwestern Summer Science and Math Academy for exceptional high school students. Recently, he received a NASA/Bernard Harris Foundation of Houston, Texas for a summer science camp for 20 middle school students from underrepresented groups.

## New Student Awards

The Oklahoma Section recently created two new awards for undergraduate students. The **Terrill Smith Travel Award** is designed for undergraduates to travel to a regional or national ACS meeting to present a paper or poster. Two awards of up to \$600 will be awarded each year, one for fall travel and one for spring travel. This award is named in honor of Dr. Terrill [Terry] Smith, longtime Oklahoma Section officer and councilor, who retired from UCO in 1999. Terry was a strong supporter of undergraduate research and student affiliates at UCO and in the section.

The **Roger Baldwin Graduate School Award** is designed for undergraduate students who have been accepted to attend graduate school in the chemical sciences. One award of \$500 will be presented each spring. This award is named in honor of Dr. Roger Baldwin, another longtime Oklahoma Section officer who is retired from Kerr McGee Corporation. The section is able to offer these new awards partially due to Roger's persistent fund-raising efforts associated with the Southwest Regional Meeting in 2003.

Applications for both awards are available from Section officers or on our website, <http://membership.acs.org/O/Oklahoma/Index.htm>. For more information about these awards, contact Gordon Eggleton, [geggleton@sosu.edu](mailto:geggleton@sosu.edu).

### **50 Year Section Member Awards**

The Section's 2005 50 year members will be honored at the November Section meeting at ECU, Ada. Put the November ACS Section meeting on your schedule: help honor our 50 year ACS members.

The 2005 50 year members are:

**Dr. K. Darrell Berlin - Stillwater**

**Dr. Elliot Porter Doane – Oklahoma City**

**Dr. Floyd Farha Jr – Oklahoma City**

### **Committee On Local Sections**

The Committee on Local Section Activities [LSAC] met in March 2005 at the San Diego national meeting. LSAC is pleased to announce that eight local sections are celebrating significant anniversaries in 2005. The anniversaries are 50 years, 75 years and 100 years.

Of these eight sections, two are from Oklahoma.

**MO-KAN-OK, The Tri State [526]** – 75<sup>th</sup> year anniversary.

Chair: Mr. Howard A Kivett, Ft. Scott, KS.

**North Central Oklahoma [543]** – 50th year anniversary.

Chair: Dr. Frankie Wood-Black, Ponca City, OK

## **Councilors Report**

The Fall ACS meeting was held in Washington, DC August 28 - 31, 2005. The council meeting was held on Wednesday, August 31 at 8:00 am. Here are some of the highlights.

### **Actions Of The Council**

#### **Candidates for President-Elect and Board of Directors**

The Council was informed that John W. Kozarich had withdrawn as a candidate for President-Elect. The candidates for the fall 2005 ACS national election were as follows:

#### **President-Elect 2006**

George E. Heinze, Rockland Technimed, Ltd, New York

Catherine T. Hunt, Rohm and Haas Company, Pennsylvania

#### **Directors-at-Large - 2006-2008**

James D. Burke, Retired, Rohm and Haas Company, Pennsylvania

Edwin A. Chandross, MaterialsChemistry, LLC, New Jersey

C. Gordon McCarty, Retired, Bayer Corporation; Adjunct Professor University of South Carolina

Frankie K. Wood-Black, Conoco Phillips, Texas

#### **Registration Report and 2006 National Meeting Registration Fee**

As of August 30, 2005, the ACS fall national meeting had attracted 13,040 registrants: Regular attendees 7,584; Students 2,715; Guests 478; Exhibit Only 468; and Exhibitors 1,795. The 2006 national meeting registration fee of \$305 was announced.

### **Membership Statistics**

As of July 31, 2005, total ACS membership: 155,567; an increase of 282 over the end of July 2004.

### **Special Discussion Item**

A special discussion item was again put on the Council agenda for this meeting. ACS President William F. Carroll described the process being used to develop a Society vision hypothesis that is to be tested with members, customers, governance and other interested parties. Dr. Carroll described the methods used to get member input at the national meeting. ACS national meeting attendees reported 15 common themes to be considered as important to the Society's future. Dr. Carroll sought Council input on the most frequent themes: diversity, young people, governance, multidisciplinary, globalization and outreach. Councilors then engaged in a thoughtful, lively exchange of their vision of the Society's long-term future.

## **ACTIONS OF THE BOARD OF DIRECTORS**

### **The Board's Committees and Task Forces**

The Board, through its Committee on Grants and Award, approved the following: nominees for the 2006 Perkin and Othmer Gold Medals; actions relative to pilot programs of the PRF; continuation of the Fund's 1% distribution to the Green Chemistry Institute; approval of a new national award, the ACS Award for Achievement in Research for the Teaching & Learning of Chemistry, sponsored by Prentice Hall .

The Board approved actions resulting from the Member Satisfaction Survey, from the Board-Presidential Task Force on Multidisciplinarity as prioritized by the Committee on Professional and Member Relations [P&MR]. The Board authorized P&MR to develop, or ensure the development of action plans for implementation of the task force recommendations in coordination with other appropriate Society entities.

The Board also received a status report on the activities of the Joint Board-Council Policy Committee Task Force on Governance Review. This task force is charged with conducting a review of the Society's governance structure and Constitution and Bylaws to ensure that the Society has a governing framework to enable it to best fulfill its mission, meet member needs, and remain a world-class organization.

### **The Society's Finances**

The Board, through the Committee on Budget and Finance, voted to include requests for funding of the following programs in the development of the Society's 2006 proposed budget:

- o A two-year pilot program for ACS High School Chemistry Clubs
- o ACS activities in connection with the International Science and Engineering Fair
- o A Leadership Development Program that delivers a pool of capable, effective and motivated leaders for volunteer roles throughout the Society
- o Reauthorization of, and continued funding for the Green Chemistry Institute
- o A complete reinvention of the Society's Web Presence

**Cheryl Baldwin Frech**  
**Councilor Oklahoma Section ACS**

## Oklahoma Chemist Award - 2006

Nominations for **Oklahoma Chemist of the Year - 2006** are now being accepted.

**Five [5] copies** of a single nomination should be sent by **no later than January 20, 2006 to:**

**Dr. K. Darrell Berlin**  
**Department of Chemistry**  
**Oklahoma State University**  
**Stillwater OK 74078**  
**405.744.5950**  
**kdb@okstate.edu**

### Criteria and Guidelines for the Preparation of the Nomination and For Selection of the Recipient of The Oklahoma Chemist Award.

1. A nomination letter for the candidate by a colleague, friend, etc.
2. A complete, **up-to-date resumé** of the candidate.
3. A two-page **“highlight”** of the candidate's **major accomplishments**.
4. Five (5) letters of support for the nominee.
  - [a] Two (2) letters from colleagues at the candidate's place of employment.
  - [b] Three (3) letters from outside the candidate's place of employment. Letters from individuals with expertise in the candidate's field are especially welcomed.
5. Special information on the candidate is also solicited, especially as to how the candidate has advanced chemistry in the state of Oklahoma.
6. Candidates may be involved in research or in chemical education within the state.

kdb . . . . . 

## The Oklahoma Mesonet

The Oklahoma Mesonet is a world-class network of environmental monitoring stations. The Oklahoma Mesonet consists of over 110 automated measuring stations covering Oklahoma, with at least one in each county. At each site, the environment is monitored by a set of instruments located on or near a 10-meter-tall-tower. Measurements are packaged into “observations” every 5 minutes, then the observations are transmitted [using the Oklahoma Law Enforcement Telecommunications System] to a central facility every 15 minutes — 24 hours per day year-round. The Mesonet was designed and implemented by scientists at the University of Oklahoma and Oklahoma State University.

The Oklahoma Climatological Survey receives the observations, verifies the quality of the data and provides the data to Mesonet customers. It only takes 10 to 20 minutes from the time the measurements are acquired until they become available to customers.

Certain instruments are located at every Mesonet site to measure the “core variables”:

- Air temperature 1.5 meters above the ground,
- Relative humidity 1.5 meters above the ground,
- Wind speed and direction 10 meters above the ground,
- Barometric pressure
- Solar radiation and
- Soil temperature 10 centimeters below the ground under both the natural sod cover and bare soil

Additional instruments are placed at over 90 sites to measure "supplementary variables":

- Air temperature 9 meters above the ground,
- wind speed 2 and 9 meters above the ground,
- skin temperature [downward-pointing infrared thermometer],
- soil moisture, 5, 25, 60 and 75 centimeters below the ground,
- soil temperature 5 and 30 centimeters below the ground under natural sod cover, and 5 & 30 centimeters below the ground under bare soil meters above the ground,
- net radiation and
- ground heat flux 5 centimeters below ground.

Oklahoma Mesonet data are distributed in several ways. The primary method to access Mesonet data is to connect to the Mesonet's Web: <http://www.ocs.ou.edu/> Some data and products are available only to Mesonet data subscribers at a minimal monthly fee [waived to Oklahoma government agencies and schools]. To find out more or to obtain a subscriber's account, contact OCS at **405.325.2541** or [ocs@ou.edu](mailto:ocs@ou.edu)

### **Aluminum can recycling increases**

The Aluminum Association, Can Manufacturers Institute, and Institute of Scrap Recycling Industries have released statistics indicating that consumers and the can-recycling industry recycled 51.5 billion aluminum cans in 2004, representing a recycling rate of 51.2%. The 1.2% increase over the 2003 rate is the first increase since 1997.

For additional information, visit [www.aluminum.org](http://www.aluminum.org)

### **Upcoming Oklahoma 2005 Section Meeting:**

**November:** Thursday, November 17, 2005  
Speaker: Dr. Daniel Resasco  
Honor Section's 50 Year Members  
Location: ECU/Ada

**October 2005 Section Meeting**

**Thursday, 20 October, 2005**

**Oklahoma State University**

*Application of Spectroscopy in the Museum.*



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