



PENN-OHIO BORDER SECTION

NEWSLETTER

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A Chemist's Adventure: Dating the Rock Art of Cueva La Conga, Nicaragua

October 22, 2010

Thiel College

Sawhill-Georgian Room

Howard Miller Student Center

7 pm



Ruth Ann Armitage, Ph.D.
Department of Chemistry
Eastern Michigan University
Ypsilanti, MI

Abstract:

Indiana Jones and the Mass Spectrometer? No, but you will hear about the out-of-lab experiences that this chemist went through to collect samples from rock paintings in a cave in Nicaragua. The cast of characters in this adventure includes an archaeologist who wants to understand what people created the paintings in Cueva La Conga; a friendly missionary who helped make the trip possible; and two chemists, set free from the laboratory to complete the most important part of the mission: to collect good samples! Hear about the trek by plane, car, Range Rover, and mule, from the heart of the capital city to the very border of Honduras. Find out how an earthquake and a blizzard almost kept our intrepid chemists from returning to the safety of the lab. Then learn how chemistry, physics, and archaeology come together to tell us how the paint was made, and how long ago.

Ruth Ann Armitage, Ph.D.



Biography:

Ruth Ann Armitage, Associate Professor of Chemistry at Eastern Michigan University, earned a B.A. in Chemistry from Thiel College in Greenville, PA, graduating summa cum laude in 1993. While still a student, Ruth Ann participated in an archaeological field school at Slippery Rock University that confirmed her desire to combine these seemingly disparate disciplines. She completed a Ph.D. in Analytical Chemistry at Texas A&M University with Dr. Marvin Rowe in 1998 on radiocarbon dating of charcoal-pigmented rock paintings. For three years, she was an assistant professor in the Chemistry Department at St. Mary's College of Maryland, working closely with the archaeologists at Historic St. Mary's City, the site of the original settlement of the Maryland Colony. Dr. Armitage then moved to EMU in Ypsilanti, MI in 2001, where she has continued her studies of 17th century bricks and soils from that site. During her tenure at EMU, she has been the major research advisor to nine M.S. students and 20 undergraduates. She has had 18 papers published in peer-reviewed journals and conference proceedings, has given 24 invited talks, and is a co-author and/or presenter of more than 80 scientific presentations at regional, national, and international meetings. Dr. Armitage and her students are currently using GC-MS and direct analysis in real time (DART) mass spectrometry to characterize and date by plasma-chemical oxidation-AMS archaeological materials, including rock paintings, fragile organic artifacts, and residues. These projects are supported by both internal and extramural funding. In addition to her research, she actively participates in developing new laboratory experiences for the analytical chemistry courses, incorporating research whenever possible to make analysis relevant to non-chemists. She and her husband, Daniel Fraser, live in southeastern Michigan where they enjoy having solved the two-body career problem, and canoeing in their spare time.

Directions to Thiel College

From the North: Follow Route 79-S to the 322 (Conneaut Lake) exit. Follow 322-W to the Route 18-S intersection. Follow 18-S to the Thiel Campus.

From the South: Follow Route 79-N to the 80-W (Sharon) exit. Follow Route 80-W to the Route 19-N (Mercer) exit. In Mercer take Route 58-W into Greenville. Turn right on Main Street (Route 358-E). Follow Main Street to College Avenue. Turn left on College at the Sheetz Convenience Store. Follow College Avenue (Route 18-N) to the Thiel Campus.

From the West: Follow Route 80-E to Exit 4-B (Sharon-Hermitage). Pick up Route 18-N, which takes you into Greenville (approximately 16 miles north). Turn right on Main Street (Route 358-E); follow Main Street to College Avenue. Turn left on College at the Convenience Store. Follow College Avenue (Route 18-N) to the Thiel Campus.

From the East Follow Route 80-W to the Route 19-N (Mercer) exit. In Mercer take Route 58-W into Greenville and then follow Route 18-N to the Thiel Campus or...

Take the PA Turnpike to the I-79N exit. Follow 79-N to the 80-W (Sharon) exit. Follow Route 19-N (Mercer) exit. In Mercer take 58-W into Greenville and take 18-N to the Thiel Campus.

CONGRATULATIONS TO US!
THE PENN-OHIO BORDER SECTION
HAS BEEN AWARDED THE
ACS 2010 CHEMLUMINARY AWARD!



*Courtesy of Peter Cutts Photography

LISTED BELOW ARE THE REVIEWER COMMENTS TO THE LOCAL SECTION:

"THE STRENGTH OF THIS SECTION IS VERY EXCELLENT PROGRAMMING REACHING OUT TO CHEMISTRY STUDENTS AND EDUCATORS FROM ELEMENTARY SCHOOL THROUGH COLLEGE. ALSO IMPORTANT IS THAT THEY HAVE AWARDS PROGRAMS TO RECOGNIZE STUDENT AND FACULTY EXCELLENCE IN CHEMICAL EDUCATION, AND AWARDS ALSO FOR SPEAKERS VISITING THEIR SECTION (THE REGIONAL COASTERS) AS WELL AS THEIR OWN SECTION VOLUNTEERS. THEY HAVE USED AN IPG TO START A NEW, SUCCESSFUL SYMPOSIUM AT CERMACS THAT HONORS HIGH SCHOOL TEACHERS THAN CAN BE REPEATED EVERY FEW YEARS. IT'S ADMIRABLE FOR A SMALL LOCAL SECTION TO PARTICIPATE IN PROJECT SEED PROGRAM, AS YOU DO. POBS LEADERS ARE TO BE CONGRATULATED FOR RECOGNIZING IYC2011 AS AN OPPORTUNITY TO CELEBRATE CHEMISTRY WITH NEARBY LOCAL SECTIONS AND THE PUBLIC, ALSO FOR WELCOMING STUDENT MEMBERS INTO THE SECTION AND UPDATING THEIR BYLAWS. YOU SHARE CHALLENGES FACING MAY LOCAL SECTIONS, SUCH AS GETTING HIGH SCHOOL TEACHERS REGULARLY INVOLVED IN YOUR SECTION ACTIVITIES AND KEEPING YOUR WEBPAGE UP-TO-DATE. YOU HAD SOME SUCCESS GAINING 7 NEW TEACHERS AFFILIATES IN 2009. KEEPING YOUR WEBPAGE TIMELY IS ESPECIALLY IMPORTANT, AS IT IS THE FACE OF POBS TO NEW CHEMISTS IN THE AREA. YOU ARE DOING SUCH GOOD THINGS AND CAPTURING THEM FOR THIS ANNUAL REPORT DOCUMENT; IT'S A SHAME THAT YOUR FINE REPORTS AREN'T ROLLED OVER TO YOUR WEB PAGE. HAPPILY, I NOTE THAT YOU HAVE IDENTIFIED A NEW WEB MASTER TO WORK ON THIS. ALSO, I'M SORRY TO HEAR THAT NATIONAL ACS WASN'T MORE HELP ON THE WEBPAGE ISSUE. YOU NOTED A FRUSTRATION WITH UPLOADING FILES TO YOUR ANNUAL REPORT. HOPEFULLY THIS IS THE LAST YEAR OF THE CURRENT FORMAT AND THE NEW REPORT FORMS SHOULD ACCOMMODATE ATTACHMENTS READILY."



AMERICAN CHEMICAL SOCIETY

Penn-Ohio Border Section

NATIONAL CHEMISTRY WEEK

October 17 – 23, 2010

Chemistry is everywhere, whether prominent as a science fair project or tucked behind the scenes of a special effect or book. Current shows such as MYTHBUSTERS and books such as *The Science of Harry Potter* bring behind the scenes science to prominent view. This allows the public to understand it is not magic, but rather common chemistry topics which can explain the mystery behind the seemingly “magic” that is shown. We want to diminish the term “magic” associated with the “unexplainable” and direct attention to the chemistry which makes these items work.

As part of its annual celebration of National Chemistry Week, the Penn Ohio Border Section of the American Chemical Society is distributing 7500 copies of the newspaper “Celebrating Chemistry, Behind the Scenes with Chemistry” to fourth graders in twenty-eight local school districts in both Ohio and Pennsylvania. This year’s theme for National Chemistry Week is “Behind the Scenes with Chemistry” in honor of the 140th Anniversary of the periodic table.

The section includes Mahoning, Trumbull, and Columbiana counties in Ohio and Lawrence and Mercer counties in Pennsylvania. The active members are mainly faculty at the six college campuses located in the area. Among the purposes of the Penn-Ohio Border Section of the ACS, in cooperation with the national parent organization, are the advancement of chemistry as a profession, promotion of chemical research and education, and dissemination to the public of information on these subjects. The American Chemical Society (ACS) is the largest scientific organization in the world with more than 161,000 members and is a global leader in providing access to chemistry-related research through its multiple databases, peer-reviewed journals and scientific conferences. Its main offices are in Washington, D.C., and Columbus, Ohio. The members of the ACS carry out many programs that help the public learn about chemistry. One of these programs is National Chemistry Week, held annually during October, the week containing October 23rd, National Mole Day.

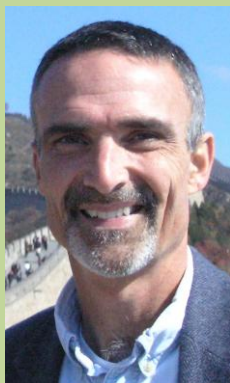
For games and activities that can be done at school or at home, see www.acs.org/ncw.

For more information, contact:

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Dr. Scott A. McLuckey



3rd Annual Ken and Nancy Long Lecture Westminster College

McKelvey Campus Center – Mueller Theater

November 2, 2010

7-8:30 pm

****Reception preceding lecture at Carlson Atrium (Level 3)***

Dr. McLuckey is the John A. Leighty Distinguished Professor of Analytical Chemistry at Purdue University. He is a 1987 graduate of Westminster College and received his Ph. D. at Purdue University. Dr. McLuckey's research focuses on the chemistry of gas-phase ions as well as instrumentation for organic and biological mass spectrometry. The overall goal of his research is to "improve the capabilities of analytical mass spectrometry."

In 2007 Dr. McLuckey was honored with the ACS Division of Analytical Chemistry Award in chemical instrumentation. The following year, he received the ANACHEM Award which is presented annually to an exceptional chemist for progress in the field of analytical chemistry through research and/or teaching.

Dr. McLuckey's lecture will focus on the competing viewpoints between science and science policy. He asserts that science education today "is focused on training and education that is highly technical and discipline-related," which is divergent from the traditional liberal arts value of broad perspectives for an important view of the "big picture." This educational approach prepares students for excellence in their individual science endeavors, but not necessarily in forming science policy. Dr. McLuckey intends to provoke thought and discussion in his audience, exposing this dichotomy and helping them to look "both ways."

(Taken from the Westminster College Chemistry Department's "Titan News")

CERMACS Report - Dayton, Ohio

June 16-19, 2010

The Central Regional Meeting was held at the Dayton Convention Center and Crown Plaza Hotel from June 16-19, 2010. This was a very busy meeting as there were many good plenary lectures and social events. The Plenary Lectures were "The Changing Landscape of Human Performance – The Impact of Nanosciences and Bio-chemistry" by Dr. Morley O. Stone, "Drug Discovery: Ingenuity or Serendipity?" by Professor Richard B. Silverman, "Nanotechnology and Energy" by Dr. Wade Adams, "Innovative Technology Needs to Meet Air Force Operation Energy Requirements" by Mr. William Harrison, "Climate Change and Atmospheric Chemistry in the Arctic" by Professor Paul Shepson. The social events were a welcome reception, presentation of the Patterson-Crane Award, breakfast with ACS Governance, Chemipalooza at the local Science Museum, and local baseball game. On Saturday I attended the teacher workshop "Engaging Students in Science" which was well attended and well presented.

The schedule for upcoming regional meeting is as follows:

42nd CRM

June 8-10, 2011

INDIANA

Dr. Jeannie R. Phillips

jrphillips@dow.com

Dow AgroSciences

317-337-4533

43rd CRM

2012

DETROIT (100th anniversary)

Dr. Mark Bevenuto

benvenma@udmercy.edu

Detroit Mercy Dept. of Chemistry

313-993-1184

44th CRM

2013

MIDLAND

Phil Squattrito

p.squattrito@cmich.edu

Chem Dept.

Central Michigan University

45th CRM

2014

PITTSBURGH

Dr. Christina Mastromatteo

mastromatteo@pittcon.org

50th CRM

2019

MIDLAND

(100th anniversary)

General Chair to be named

REPORTS:

The 40th CRM Committee, Cleveland Section had over 800 attendees, but a rather small exhibitor's area. The meeting had a surplus of \$26,787.45. The 41st CRM Committee, Dayton Section reported 623 registrants. A leadership development course was offered at no cost because of a grant. Seven ACS divisions sponsored symposia. There were 215 posters. The 42nd CRM Committee, Indiana Section has secured sponsorship from Lilly. Publishers are to give workshops. Their budget was approved. The 43rd CRM Committee, Detroit Section reported the venue will be the Hyatt Dearborn, close to Henry Ford Museum. It will be held in mid June. The 44th CRM Committee, Midland Section will be held at Central Michigan University the last of May.

The Central Region website is running. It includes archives from 1968 to the present. The address is www.acscentralregion.org. Remember 2011 is the International Year of Chemistry.

Volunteers Welcome!

The Executive Committee would like to welcome any POBS member to join us in planning activities. If you have ideas or time to contribute, we will happily accept your help! Just email Joelle Wells at wellsjoelle@yahoo.com or Doris Zimmerman at ZIMDORIS@aol.com with questions about ways to get involved.

Attention Younger Chemists!

The Younger Chemists Committee (YCC) is a group that represents chemists under the age of 35 or chemists at the beginning of their career. The YCC offers many events to assist with ways to help enter and adjust to the workforce and to help early career chemists advance. Visit www.ycc.sites.acs.org for more information.

POBS 2011 BALLOT

**This will be voted on at the October meeting, if quorum is present.
If quorum is not present, an electronic ballot will be distributed.**

Chair	Timothy Sherwood
Chair-Elect	Doug Motry
Secretary	Joelle Wells
Treasurer	Fred Koknat
Members at Large:	
	Kathryn Frantz
	Susan Cramer
	Sherri Lovelace Cameron

POBS Tentative Schedule for 2010

October 17-23 – National Chemistry Week - “Behind the Scenes with Chemistry”

– (Showcases the difference between what we see in television, movies and literature and the real science behind the “magic” and mystery of special effects, hair/make-up, and forensics.)

Oct. 22 – Thiel College, Dr. Ruth Ann Armitage –

- **“A Chemist’s Adventure: Dating the Rock Art of Cueva La Conga, Nicaragua**

November 2 – Ken and Nancy Long Lecture – Westminster College MCC – Mueller Theater

- **Dr. Scott A. McLuckey**

2011 - International Year of Chemistry! Get involved!