



Richland Section American Chemical Society

WINTER 2008

60th Anniversary Symposium

HANFORD HOUSE, RED LION INN
NOVEMBER 8, 2008

- 12:00 LEE BURGER** - *Early Radiochemistry (1940 - 1960's) Chronology of the Manhattan Project and early chemical processes at Hanford*
- 12:30 JIM CAMPBELL** - *The organic-analytical methods that were developed in the 90's and were critical to understanding the degradation of organics in the tanks.*
- 1:00 GLEN FRYXELL** - *Chemical Separations in the 21st Century*
- 1:30 JIM FRANZ** - *From the Primordial to the Nanoscale Catalyst: Development of Mechanistic Chemistry in Coal Conversion*
- 2:00 BREAK**
- 2:30 MORRIS BULLOCK** - *Metal Hydrides in Molecular Catalysis Cheap Metals for Noble Tasks*
- 3:00 KEITH THOMPSON** - *Energy from Biomass: Ongoing work at the Center for Bi-Products and Bioengineering at the Bioproducts Science & Engineering Lab at WSU-TC*
- 3:30 MIKE DAVIS** - *Energy and Energy Infrastructure Going Forward*
- 4:00 ANNA CAVINATO** - *Active Learning Strategies in the Chemistry Classroom and Laboratory*
- 4:30 - 6:00 POSTER SESSION / MIXER**
- 6:00 - 9:00 DINNER**

*This is Your Life:
A Celebration of Six Decades of Service*

RICHLAND SECTION TO CELEBRATE 60 YEARS

1948 - Harry Truman was president and the postwar economic boom was on. In the Tri-Cities, a group of scientists, under the leadership of Robert Moore, formed and chartered the Richland Section of the American Chemical Society. To celebrate the 60th anniversary of its founding, the Richland Section will hold a symposium on the afternoon of November 8, 2008, to be followed by a poster session/mixer and dinner at 6 PM. **All events will be at the Red Lion Hanford House in Richland.**

The symposium speakers will take a chronological look at chemistry in the Tri-Cities. Starting off will be Lee Burger, who worked on the Manhattan Project at Columbia University, and started work at Hanford in 1948. Each talk will be half an hour. Following the talks, students from Eastern Oregon University will be on hand with posters of their research. The talks and poster session/mixer are open to the public and there is no charge.

The theme for the dinner is "This is Your Life, A Celebration of Six Decades of Service". The cost for the dinner is \$35 (\$20 for students). Dinner tickets can be obtained from Novella Bridges by email at Novella.Bridges@pnl.gov or phone 509-372-4806. Tickets will also be available at the door.

City of Richland Proclaims November in Honor of the Richland Section

In honor of the Richland Section's anniversary and service to the community over the years, the City of Richland has issued a proclamation declaring November to be in honor of the Richland Section. The proclamation can be seen at the city's website, <http://www.ci.richland.wa.us/>



DR. RALPH ALLEN *details inside*

FORENSIC SCIENCE: Developing Analytical Techniques for Terrorism and the Courtroom

WHO: Dr. Ralph Allen

WHAT: Forensic Chemistry

WHEN: November 12, 2008, at 6:00 PM

WHERE: Badgley Hall, Eastern Oregon University, LaGrande, Oregon

Map at <http://www.eou.edu/visitor/map/>



SECTION
ELECTIONS

BALLOTS
INSIDE

return the ballot by December 1

SPEAKER TALK *from page 1*

ABOUT THE TALK: The role of the scientific expert witness is to provide information that helps jurors decide upon the facts of a case. In the past most laboratory analysis confirmed the composition of material (eg. was the powder an illegal substance) or found a material to belong to a certain class (eg. was a fiber from the crime scene consistent with fibers from the clothing of the suspect). With the advent of DNA analysis, the role the forensic examiner has changed dramatically. As the prospect of using DNA markers to characterize individuals is considerable, effort went into developing a better understanding of the molecular biology in order to identify the most useful "markers" to use. However analysis of the DNA continued to rely upon slab gel electrophoresis. As the forensic community began to understand the impact of DNA evidence, there was a technical working group that helped bring a consensus on the best "markers" and procedures to utilize. Initially analysis was slow (relied upon slab

gel electrophoresis) but analytical chemists developed new approaches using CE (capillary electrophoresis) and MAL DC toe, (mass spectrometry) which dramatically reduced analysis time. The technique has become so powerful for human identification that it is now used as an investigative tool for law enforcement. In addition, the same methods have been applied to looking at animal and plant DNA. More recently the concern about bilateralism has increased the work in rapid analysis of DNA to characterize organisms.

ABOUT THE SPEAKER: Dr. Ralph O. Allen, professor of chemistry and director of environmental health and safety at the University of Virginia (UVA), has published over 80 articles on applications of analytical chemistry and the management of hazardous materials. Dr. Allen earned a Ph.D. degree from the University of Wisconsin at Madison for his studies of trace elements in meteorites. He has been a co-principal

investigator for the materials collected from the surface of the moon. At UVA, Dr. Allen's interests have expanded into several other areas. Applying a geochemical approach to the study of archaeological materials led to several expeditions to archaeological sites, including predynastic sites in Egypt. He is presently chairman of the Archaeological Chemistry Subdivision of the History of Chemistry Division of the ACS and is editor of Archaeological Chemistry IV. For his interests in the use of chemical techniques in forensic investigations, he has served as a member of the Operations and Program Committee for the FBI's Forensic Science Research and Training Center at Quantico, VA, and was given the E. E. Erikson Award for his services to the law enforcement community. As director of environmental health and safety, Dr. Allen has been responsible for the management of hazardous materials at UVA and has served as a lecturer on chemical safety for numerous professional organizations.

GIRLS IN SCIENCE

Seventh Annual Girls in Science event held at Eastern Oregon University

"Who killed the mystery guest?" was the theme of Girls in Science, held on Saturday October 25, 2008 on the campus of Eastern Oregon University. A record number of 108 sixth, seventh and eighth graders from 27 different towns in Eastern Oregon and Southern Washington turned into forensic investigators for a day. The challenge this year was to solve the mysterious murder of Dracula at a Halloween party. Dracula's body disappeared on its way to the morgue!

The daylong event included activities in biology, chemistry, forensic anthropology, and database and image analysis. Some chemistry activities focused on the National Chemistry Week theme of "Having a Ball with Chemistry" including analyzing sports drinks and fabrics.

Girls in Science was supported in part by the Richland Section Committee for Minority Affairs with a donation of \$500 and with participation from ACS student affiliates and EOU chemistry faculty members. Pictures available at http://www.kodakgallery.com/ShareLanding.action?c=smtwk1e.4vc32yza&x=0&y=-tdqfhx&localeid=en_US



Working on a chemical analysis as part of the Girls in Science Day at Eastern Oregon University.

ACS OUTSTANDING AWARD



The Eastern Oregon University student ACS affiliate has been awarded an outstanding award for their activities during the 2007-08 academic year. They will be recognized at the Salt Lake City meeting next March. They are one of 40 chapters in the nation to receive an outstanding award. This photo of the group was taken at last spring's New Orleans meeting.

2008 SECTION ELECTIONS CANDIDATE BIOS

CHAIR-ELECT *Asanga B. Padmaperuma*



Asanga Padmaperuma has a Ph.D. which focused on the study of organic light emitting polymers from the University of Southern California. He has conducted research on the synthesis of organic small molecules, polymers and other metal complexes for the use as organic electroluminescent devices. He also has hands on experience in working with: novel emissive materials based on organic and organo-lanthanide compounds, structure-property relationship of polymers and small molecules, the effect of ligands on the energy of lanthanide complexes, improving energy transfer from polymers to lanthanides, and experience in combining theoretical simulations and experimental data to predict and evaluate molecular properties of organic molecules.

Asanga joined the Battelle Memorial Institute at the Pacific Northwest National Laboratory (PNNL) as a post doctoral intern in 2004, and progressed to a senior research scientist in 2006. At PNNL his major projects include the development of high energy conducting hosts for the use in white organic light emitting devices. He currently contributes to several projects in this area of research. He is actively engaged in identification of suitable materials for radiation detection and Luminescent solar concentrators. He also held the post of Section Secretary last year.

TREASURER *Phillip K. Koech*

Phillip K. Koech received his Ph.D. in synthetic organic chemistry from the University of Texas at Austin, Texas in 2007. His research focused in the development of novel synthetic methodology and total synthesis of biologically active compounds. He subsequently joined Battelle Memorial Institute at the Pacific Northwest National Laboratory (PNNL) as a post doctoral intern under the direction of Dr. Linda S. Sapochak in 2007, and progressed to research scientist in 2008. At PNNL his research involves design and synthesis of new materials for organic light emitting devices (OLEDs).



David M. Merrill graduated from Brigham Young University in Chemistry in 1982. During a summer work-study program in 1980, David worked at the USDA in Albany California where he learned about some of the techniques used in today's renewable energy projects such as vacuum distillation of ethanol from fermentation of corn. Here he learned about a data acquisition system, which used a minicomputer to collect gas chromatographs.

David continued his career after graduation from BYU, working for Tegal Scientific in Concord California, where he met some of the pioneers in chromatography data systems (DYSC) and the Laboratory Information Management Systems (LIMS) industry (Dave Nelson). He then worked for Hercules Aerospace in Magna, Utah. While there he worked on a team developing robotic instrumentation used to test rocket propellant samples, and presented the paper "Robotic Tensile Testing the Integration Issue" which discussed integration of robotics, instrumentation and an Oracle database at the 1987 summer Society of Manufacturing Engineers (SME) conference.

David has been a member of the American Chemical Society (ACS) for 26 years. For the past 17 years he has worked as a "Chemist and LIMS Administrator", at what is now the Richland facility of AREVA, an international nuclear fuel manufacturing company. David volunteered as a chess coach at Sacajawea Elementary School (1993 – 2002). He has been a scout leader for Boy Scouts of America (BSA), and is currently a BSA Merit Badge Counselor for the chemistry merit badge. Over the past 5 years he has assisted with the "physical chemistry" portion of our local ACS section's presentation of the chemistry merit badge. David has also served as a PTA treasurer for 4 years.

David is currently president of a non-profit corporation "Washington Elementary Chess Champions" which he founded, and promotes analytical thinking in elementary school-age children by providing them with opportunities to learn and play chess. www.chesschampions.org

David feels volunteering in the community is important and he stated, "I feel we should serve in our community. I look forward to serving our local section of ACS. As I serve, I hope to bring more opportunities to our members to help our children learn about science and chemistry so they can improve their analytical thinking skills. I am also looking for opportunities for our members to learn more about where and how chemistry is used to improve our community."

VERIFY CONTACT INFORMATION

ACS has recently upgraded its member database. Please take a moment to review your contact information to verify that it is correct. To help maintain the integrity of our roster files please report any changes to:

service@acs.org

Please be sure to include your Member ID along with any changes that you report.

TRAVEL AWARD

Women Chemist Committee

Eli Lilly and Company and the ACS Women Chemists Committee (WCC) sponsor a program to provide funding for undergraduate, graduate, and postdoctoral women chemists to travel to ACS meetings to present the results of their research. If interested, please submit your application by February 15, 2009 for travel between July 1 and December 31, 2009. For additional information please go to **www.acs.org/diversity > Awards & Recognition > Eli Lilly/WCC Travel Award.**

COMING EVENTS

NOVEMBER 8 **60TH ANNIVERSARY OF RICHLAND SECTION CELEBRATION**, Hanford House, Red Lion Inn, Richland, WA

NOVEMBER 12 **RALPH O. ALLEN**, U. of Virginia, Forensic Science: *Developing Analytical Techniques for Terrorism and the Courtroom*. Talk to be held in La Grande, OR

Richland Section
Home Page

www.pnl.gov/acs/



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Point to Ponder

I dream my painting, and then I paint my dream. – Vincent Van Gogh