

April Meeting features Walter Klemperer

Our Section's April speaker meeting will feature Dr. Walter Klemperer, Professor of Chemistry at the University of Illinois, who will speak on the topic: Self-Assembled Inorganic Monolayers: Coordination Chemistry in Two Dimensions. Dr. Klemperer received a B.A. in chemistry from Harvard College in 1968 and the Ph.D. in inorganic chemistry under the supervision of Professor F. A. Cotton from MIT in 1973. After eight years at Columbia University, he joined the faculty at the University of Illinois at Urbana-Champaign, where he is currently a professor of chemistry and Beckman Institute Professor. His research has dealt with the application of graph

theory and combinatorial algebra to dynamic stereochemistry, the organic and organometallic chemistry of early transition meta polyoxoanions, and most recently, inorganic materials chemistry, including zeolite, cement, and sol-gel chemistry as well as the chemistry of self-assembled inorganic monolayers.

About the Talk: The past 15 years have seen rapid development of self-assembled organic monolayer chemistry, the chemistry of ordered organic molecular arrays formed spontaneously on solid surfaces upon immersion in a solution of adsorbate.

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Speaker: Walter Klemperer

Topic: Self-Assembled Inorganic Monolayers: Coordination Chemistry in Two Dimensions

Date/Time: April 22, 7:30 p.m.

Place: Columbia Basin College, Pasco Campus, Library Auditorium

(A map of the Pasco campus can be found at <http://cbc2.org/pasco.html>)



All Section members, as well as the general public, are invited to attend a symposium to be held on May 21, 2004, to honor Karen Grant, the Richland Section's 2003 Chemist of the Year. Grant is being presented this award in recognition of her exceptional success as a chemistry teacher at both the university and community college levels, unique ability to stimulate young minds, outstanding contributions to the advancement of science education, and her contributions as a mentor to students and to the Columbia Basin College ACS Student Affiliate.

The symposium will feature a talk by Dr. Joe Karchesy of Oregon State University, with whom Grant has collaborated on several research projects. Dr. Karchesy will speak on the topic: Natural Products and Our Forest Resources - The Undiscovered Heritage. Following the talk, a dinner will be held at the Sundance Grill in Richland. The cost for the dinner will be \$25 and those attending will be able to choose from prime rib, fillet of salmon, or chicken chardonnay. Those planning to attend the dinner should rsvp to Tom Jones at (509) 373-3969, email: Thomas_e_tom_jones@rl.gov.

About the Talk: People have used the forests of the Pacific Northwest for centuries to obtain materials and medicines. The wide variety of both present day and ancient uses reflects a vast chemical diversity held by these forests. Even more important, this diversity, which is still largely unexplored in many cases, will provide the basis for a heritage of future scientific discoveries. The forest can be viewed as a library of chemical structures and bioactivities which have not yet been fully cataloged. In the present seminar, natural biocides to protect human health, antioxidants, polyphenols, some indigenous uses and prospective research will be discussed.

Symposium to Honor
Karen Grant
May 21

Info and to RSVP for dinner: Tom Jones, (509) 373-3969, email: Thomas_e_tom_jones@rl.gov

Speaker: Dr. Joe Karchesy

Topic: Natural Products and Our Forest Resources - The Undiscovered Heritage

Schedule: Talk, 4:00 p.m., CBC Pasco Campus, Library Auditorium
Social Hour, 6:00 p.m., Sundance Grill, 450 Columbia Point Dr., Richland
Dinner, 7:00 p.m., Sundance Grill, Richland

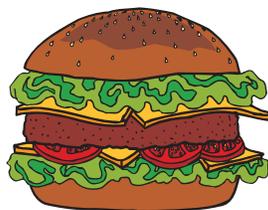


This chemistry provides a facile and versatile route to functionalized surfaces through incorporation of various organic functional groups into the adsorbate molecules. The self-assembly of inorganic monolayers, while recognized as an important objective due to the potentially superior stability and mechanical properties of inorganic monolayers, has remained an elusive objective. The lecture will describe the recent discovery that the silicotungstate ion and other polyoxoanions spontaneously form adherent, passivating, monolayer-thick molecular arrays on silver(111) surfaces upon immersion of the surfaces in acidic aqueous solutions of the anions. These monolayers represent the first examples of inorganic monolayer self-assembly and offer a new way to provide surfaces with inorganic functionality. STM studies show that the structures of these overlays are controlled both by the shape of the individual anions and the metal surface structure.

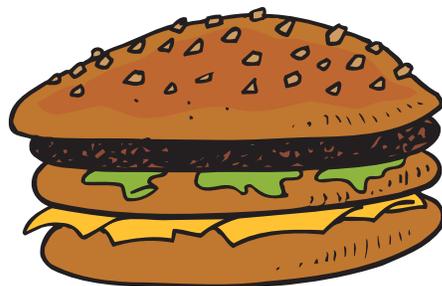
If you have any questions, or would like to have dinner with Dr. Klemperer before the talk, please contact Tom Jones; (509) 373-3969, email: thomas_e_tom_jones@rl.gov.

Dr. Walter Klemperer

Have It Your Way

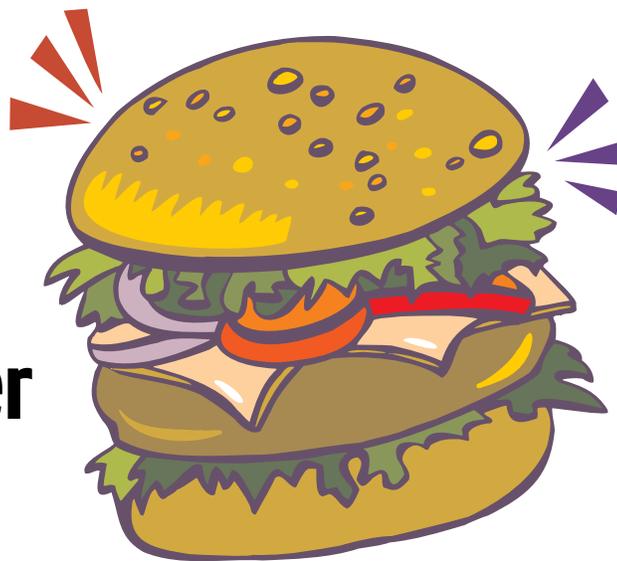


Just Meat and Cheese



The (Free) Six Dollar Burger

at the annual picnic on Friday, June 18



MARK YOUR CALENDARS! The annual picnic will be on Friday, June 18, 2004.

As has been the case the last few years, the picnic will be co-sponsored with the local section of the American Institute of Chemical Engineers. Be sure to come and bring the family! The picnic will be held in Leslie Groves Park, at the pavilion at the end of Park Street in Richland. Grilling will start at 5:30. Chicken, hamburgers, and all the fixings, as well as drinks will be provided. Please bring a dessert or side dish to share. A map showing Leslie Groves Park may be found at <http://www.pnl.gov/acs/lesliegroves.html>

Award Winners

The Eastern Oregon University Student Affiliate Chapter was presented a Commendable Chapter Award at the 227th National ACS meeting in Anaheim, CA, March 28, 2004. Congratulations!



Richland Section Helps Scouts



Scouts learn how to build an electroscope with help from Bob Bromm (Fluor). Scout David Bergsman (right) readies to charge his electroscope.



Section members Sandra Fiskum and Gary Troyer took the initiative in planning and implementing an ambitious two-weekend program to help local scouts earn the Atomic Energy merit badge. Fiskum and Troyer garnered support from local professional associations and companies, and recruited counselors from across the Hanford Site, representing a broad range of occupations in the nuclear energy industry. The training was offered on March 6 and March 13 to boy and girl Scouts ages 13 through 17. A total of 30 Scouts representing 13 local troops earned the merit badge which included practical equipment use, model building, individual study, and a field trip.

The Scouts learned about basic atomic (or nuclear) energy concepts such as radioactivity, alpha, beta, and gamma radiation, half-life, isotope, fission, chain reaction, criticality, and natural sources of radioactivity. Each scout built and tested an electroscope. They built models of hydrogen isotopes and a model nuclear reactor. They found radiation sources hidden in suitcases using Geiger-Mueller counters as might be

conducted at a security checkpoint. The Scouts studied and presented information about pioneering scientists of nuclear energy such as Madam Curie, Enrico Fermi, and Albert Einstein.

The grand finale for the Scouts was a tour of Areva (previously called Framatome) where uranium fuel for nuclear power plants is processed. According to Fiskum, the Atomic Energy merit badge training was so well received by scouts, parents, and counselors that plans are being made to offer it again next year.

Fiskum and Troyer would like to thank the following individuals and organizations who offered support of time and resources: Scott Stephens, Bob Schenter, Matt O'Hara, Bob Bromm, Dave Ottley, Syd Koegler, Clint Bouslaugh, Frank Roddy, Dennis Fiskum, the American Chemical Society, the American Nuclear Society, Health Physics Society, Fluor, Seltech Instruments and Columbia Basin College. 

Volunteer Opportunities

You Are Needed as an ISEF Grand Awards Judge

The International Science and Engineering Fair (ISEF) began in 1950 as a means of encouraging pre-college students to conduct scientific research. It has grown in size and prestige to become the crowning achievement in high school science competitions. The ISEF will be held this year in Portland, Oregon. Judging for the competition will be held on May 12, 2004. If you are interested in being a judge, you may find information on the competition and sign-up information at www.intelisef2004.org.

Hail & Farewell

We would like to welcome the following new members to the Richland Section: **Mark Engelmann, Gregory Fies, You-Jun Fu, Keith Geiszler, Jeanine Kay-Shoemake, Thomas Blake, Andrew Del Negro, Mitzi Miller** and **Teresa Wenda**.

We wish departing members **Cal Delegard, David Dixon**, and **Carey Haas** the best of luck in their future endeavors.

Member Reminder

Fall 2004 National Chemistry Week

Each year National Chemistry Week (NCW) reaches over 30 million people with positive messages about the contributions of chemistry. This year's theme is "Health and Wellness." Help is needed in planning for our Section's participation. If you are interested, please contact section chair, Sam Bryan at 509-376-6949 or sam.bryan@pnl.gov.

Coming Events

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|---------------|---|
| April 22 | Tour Speaker: Walter Klemperer, Topic: Self-Assembled Inorganic Monolayers: Coordination Chemistry in Two Dimensions |
| May 21 | Chemist of the Year Award Symposium |
| May 22 | Expanding Your Horizons (Science Program for Middle School Girls, Contact Jane Bryant: janetlbryant@pnl.gov) |
| June 6-9 | NORM '04 Call for Papers (Contact Steve Scheiner: scheiner@cc.usu.edu) |
| June 18 | Picnic (Jointly with American Institute of Chemical Engineers) |
| September 14 | Tour Speaker: Kenneth Kolb, Topic: <i>Glass, Its Many Facets</i> |
| October 19 | Tour Speaker: John Fortman, Topic: Demonstrations of Everyday Applications of Chemistry |
| October 17-23 | National Chemistry Week |

Richland Section
Home Page

www.pnl.gov/acs/



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Point To Ponder

If we had no winter, the spring would not be so pleasant... – Charlotte Bronte