Chair's Corner
Happy New Year!

When Dave Lewis described to me the responsibilities of the chair, he neglected to remind me that writing for the Alembic was part of the responsibilities. Since I tell my students that they should be grateful for opportunities to improve their writing skills, I suppose I should welcome this opportunity.

I thank Dave Thiel and other members of the executive committee for their hard work this past year. I found the recent seminars on Raman Spectroscopy and West Nile disease interesting and presented at a level appropriate for our audience. Our meeting topics for 2003 should be as stimulating and informative. Please invite your students, area chemistry teachers, friends and colleagues to our meetings as this is a great way to attract new participants. I am pleased and grateful that Martin Rudd and Dana Haagenson, two new residents in the Central Wisconsin Section, have agreed to assist the local section this year. Martin of UW-Marathon County has agreed to be our National Chemistry Week Coordinator and host our October Meeting and Dana of UW-Marshfield has agreed to host our November meeting.

For 2003, I would like to increase our efforts to improve the public understanding of chemistry. I spent last winter in London and had the opportunity to attend Friday Evening Discourses at the Royal Institution of Great Britain. Although the discourses serve less of the general public today than at the time of Faraday, they were well attended by adults of all disciplines and disseminated information on new directions in science. I ask in the section to provide ideas for how the ACS Central Wisconsin Section can participate in informing adults about current topics in chemistry.

Our February meeting will be at UW-Marshfield (Wood County) and feature the current work of Prof. John Droske (UW-SP) with the Smithsonian. John has been working to preserve the spacesuits used by NASA astronauts and will discuss his research efforts in a talk entitled “Polymers in Museums: Restoration and Preservation of the Saturn V Rocket and Apollo Spacesuits”. The seminar is on February 19, 2003 and hosted by Tom Marty. I look forward to seeing you all in Marshfield!

Robin

ACS - CWS
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Polymers in Museums: Restoration and Preservation of the Saturn V Rocket and Apollo Spacesuits
by
John Droske
Professor of Chemistry, UWSP

Wednesday, February 19, 7:30 pm
UW-Marshfield/Wood County
Aldo Leopold Science Building Room 127

Dinner: 6:00 pm – China Chef

Abstract:
Space-age materials generally are believed to “last forever”. Unfortunately, especially for artifacts with historical significance, this is proving not to be the case. Synthetic polymers, like other organic-based materials, may degrade over time and some artifacts from the Apollo program are showing significant degradation. For example, some rubber gloves from the Apollo missions are hardened and literally are crumbling. We have been using thermogravimetric analysis and infrared spectroscopy to characterize Apollo spacesuits that are part of the Smithsonian collection. Our efforts to characterize the degradation of the suits and to suggest ways to improve the storage and display of these important suits will be discussed. Last summer, we were contracted by the Smithsonian to analyze the external foam from the Saturn V rocket that is on display at Johnson Space Center. The presentation will include the characterization that was done to determine the relative condition of the foam as part of the Save America’s Treasures Saturn V restoration project.

The Speaker:
JOHN P. DROSKE is Professor of Chemistry at the University of Wisconsin-Stevens Point. He received his B.S. and M.S. in Chemistry from DePaul University and his Ph.D. in Organic Chemistry from Colorado State University under the direction of the late John K. Stille.

His research interests are in synthetic polymer chemistry and his undergraduate research group has prepared high temperature resistant polymers, electrically conductive polymers, and degradable copolymers for bone replacement applications. In 2000, he was named Polymer Advisor for the Materials Research Group Panel at the Smithsonian Institution.

John is the founding director of the POLYED National Information Center for Polymer Education that is housed at UWSP and, for 2001-2003, is President of the Intersociety Polymer Education Council. With Bob Badger, John currently is involved in an NSF-funded effort to develop college-level, polymer curricular materials that will be disseminated via the internet. He has received the UWSP University Scholar Award and the ACS Polymer Divisions’ Joint Distinguished Service Award.

Dinner with our guest speaker will be at the China Chef, 233 S. Central Avenue (downtown Marshfield) at 6 pm. Make reservations by Tuesday at 4 PM by contacting Tom Marty at 715-389-6502 or tmarty@uwc.edu.

UW-Marshfield/Wood County is located on the west side of town, 2000 W. Fifth St. From Hwy. 97 (North Central Ave.) go to 5th Street, turn west. Once on 5th Street, continue 20 blocks to campus.
### ACS - Central Wisconsin Section 2003 Meeting Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>LOCATION</th>
<th>SPEAKER</th>
<th>TOPIC</th>
<th>HOST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 19</td>
<td>Marshfield</td>
<td>John Droske</td>
<td>Polymers in Museums: Restoration and Preservation of the Saturn V Rocket and Apollo Spacesuits</td>
<td>Tom Marty</td>
</tr>
<tr>
<td>March 5</td>
<td>Eau Claire</td>
<td>William Zoller</td>
<td>The Former Soviet Union and the Nuclear Waste Program</td>
<td>Dave Lewis</td>
</tr>
<tr>
<td>April 16</td>
<td>Eau Claire</td>
<td>Jim Phillips</td>
<td>A Concerned Scientist’s Best Attempt at Assessing Global Climate Change</td>
<td>Dave Lewis</td>
</tr>
<tr>
<td>May 7</td>
<td>Stevens Point</td>
<td>John Fortman</td>
<td>The Chemistry of Flight</td>
<td>Marv Lang</td>
</tr>
<tr>
<td>October 15</td>
<td>Wausau</td>
<td>Robert Bates</td>
<td>The Chemistry and Alchemy of Brewing</td>
<td>Martin Rudd</td>
</tr>
<tr>
<td>November</td>
<td>Marshfield</td>
<td>Kevin Lang</td>
<td>Monoclonal Antibodies</td>
<td>Dana Haagenson</td>
</tr>
</tbody>
</table>

ACS-CWS Web Page

www.uwsp.edu/chemistry/acscws/

Contains the most up-to-date information about section activities including all issues of the Alembic and meeting notices.

**UW-SP Professor Honored**

C. Marvin Lang, professor of chemistry at the University of Wisconsin-Stevens Point, was awarded the Harry and Carol Mosher Award on January 17th by the Santa Clara Valley Section of the American Chemical Society (ACS).

Lang is one of only 20 people in the nation to have received this prestigious award. He joins such world-renowned chemists as Robert Brasted of the University of Minnesota, Jeanne Shreeve of the University of Idaho and Harry and Carol Mosher for whom the award was named. This year’s presentation was held in San Jose, Calif., at which time Lang presented an address.

This award was established in 1980 by the Santa Clara Valley Section of ACS to recognize and encourage outstanding work in chemistry, to advance chemistry as a profession, and to recognize service to ACS. The award is named for Professor Harry Mosher of Stanford University, Palo Alto, Calif., and Dr. Carol Mosher of Stanford Research Institute, Menlo Park, Calif., charter members and long-time supporters of the organization. Only scientists residing in the United States who are ACS members are eligible for the award.

Lang came to UWSP in 1964. He received a bachelor’s degree in mathematics and chemistry from Elmhurst College in Illinois, a master’s in chemistry from UW-Madison and a doctorate in physical chemistry from the University of Wisconsin. He has presented numerous lectures, workshops and school demonstrations to a wide range of audiences throughout the country including in Hawaii and at Disneyworld’s EPCOT Center, as well as in the nation of Finland. In 1997 Lang received the national Helen M. Free Award for Public Outreach from ACS. In 2001, UWSP’s Academy of Letters and Science designated him a Eugene Katz Distinguished Letter and Science Faculty Member.

Lang has conducted many educational workshops and written several technical articles for the Finnish Chemical Society. For his efforts in support of Finnish chemical education, he was elected to lifetime corresponding membership in the Finnish Chemical Society (SKS) in 1999, the eighth American so designated.
Chemistry Olympiad Time
By Laura Cole

The local competition for the Chemistry Olympiad is fast approaching. Announcements will be sent out this week to high schools within our section. Please encourage high school teachers you know to participate in the program. From the local competition, which is a multiple choice test, a high school senior will be awarded the Outstanding High School Student award from our section. Once the local competition is complete, 8 students are selected to participate in the National Chemistry Olympiad Exam. This year the National Exam for our section will be hosted by UW-SP on April 26. Contact Laura Cole, UW-SP, email: lcole@uwsp.edu, phone: 715-346-4302 for more information.

Molecules of the Month

**H₂** is the elemental state of hydrogen—the most abundant element in the universe. As a fuel, when hydrogen reacts with oxygen, it produces energy and water. During his State of the Union address last week, President Bush proposed $1.2 billion in research funding "so that America can lead the world in developing clean, hydrogen-powered automobiles."

**Tetrachloroethylene** (perc) is the most popular solvent and degreaser used by dry cleaners.

Environmental concerns and costs associated with tetrachloroethylene disposal have lead some businesses to pursue alternative silicone- and supercritical CO₂-based cleaning processes.

**Diflufenican** is an herbicide used to control weeds around winter cereal crops. It works by inhibiting carotenoid biosynthesis.

Chemjobs Launches
Feb. 10, 2003

Chemical & Engineering News Classifieds & Careers Online (Chemjobs) will launch on February 10, 2003. This new “one-stop career shop” combines the features of Jobspectrum.org—for example, resume posting—with the C&EN online classified ads to provide career resources for both job-seekers and employers. ACS members will be able to view the most recent C&EN classified ads that appeared in the print version of the magazine; non-members will be able to view them after two weeks. Chemjobs will be the prime site for “quality jobs and quality chemists” to find each other. Chemjobs will also have an archive of useful career resource information and articles from C&EN and a direct link to ACS Department of Career Services. Stay tuned and log on Feb. 10: http://www.cen-chemjobs.org

This Month in Chemical History

Harold Goldwhite, California State University, Los Angeles
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Prepared for SCALACCS, the Journal of the Southern California Section of the American Chemical Society

The start of a new year turns my attention to some of the noteworthy anniversaries that mark the year 2003. The quatercentenary of what is probably the first scientific society falls in this year. In 1603 Federigo Cesi established the Accademia dei Lincei in Rome. The name means, literally, the Academy of Lynxes, but a freer translation might be the Society of the Sharp-eyed. Galileo became a member of this academy, and I believe it is still in existence. It predates the British Royal Society by over 50 years. Also in 1603 William Gilbert, the English physician and natural philosopher, died. Gilbert published his best-known work, De Magnete, in 1600, and this book can be claimed as the first scientific monograph. Based extensively on Gilbert’s experiments it describes phenomena in the areas of magnetism and static electricity, and likens the earth to a great spherical magnet.

In 1703 Isaac Newton was elected President of the Royal Society. His Principia had been published in 1687 and his reputation as a leading world scientist was firmly established. In the following year, encouraged by his colleagues, Newton published his most accessible book, Opticks, in which the famous experiment of the colors, the refraction of white light into its components, is described. Opticks contains a fascinating set of unanswered Queries as an appendix, in which Newton’s views on the particulate nature of matter, and the forces driving chemical reactions, are...
implied. As is well established now, Newton was a practicing alchemist and spent much of his time on alchemical experiments; this work was not published by Newton.

In 1753 Linnaeus published his great work on the classification of plants, Species Plantarum, for which he developed his system, which is still used, of binary nomenclature. It is very likely that this system influenced the group of French chemists, including Lavoisier, Berthelot, Fourcroy, and De Morveau, to put forward their new binary system of chemical nomenclature at the end of the eighteenth century, and that system is also still with us. Also in 1753 Benjamin Thompson was born in Woburn, Massachusetts. One of the most colorful figures in science, Thomson sampled careers in commerce and teaching, and studied briefly at Harvard. He married a wealthy widow (who predeceased him), and served briefly with a British regiment. This unpopular choice in just pre-revolutionary New England made him decide to leave for England, where he became acquainted with many leading figures, including scientists. He was elected Fellow of the Royal Society in 1779. He returned briefly to America but left again to enter the service of the Elector of Bavaria. He developed soup kitchens for the poor, planned a major public park, invented an efficient new stove and was made a Count of the Holy Roman Empire in 1791, taking the title of Count Rumford. As Minister of War for Bavaria he oversaw the Munich arsenal, and in observing the boring of cannon was impressed by the large amount of heat energy released in the process. He hypothesized that this demonstrated that heat was a mode of motion, and not a substance (caloric) as the most prevalent view of the time held. Returning to England in 1798 he helped found the Royal Institution, choosing Humphry Davy as one of its first laboratory directors. But Rumford could never stop moving, it seems. In 1801 he returned to France, settled in Paris, and in 1805 married Lavoisier's widow, a marriage that turned out to be stormy and unsuccessful. Rumford died in Paris in 1814.

I'll whet your appetite for more 2003 anniversaries by mentioning just one from 1803, a very rich year in chemical history. William Henry, a member of the Manchester Literary and Philosophical Society, and a good friend of John Dalton, announced to the Society and published in its journal his studies of the solubilities of gases in water at different pressures, which we now summarize as Henry's Law. This law which implies the mechanical behavior of gas particles influenced Dalton's thinking on his way to the atomic theory.