

# The Alembic

Newsletter of the Central Wisconsin Section of the American Chemical Society



## Chair's Corner

Greetings from a (finally) warming Eau Claire! This month, we have a speaker who will be talking about the hydrogen economy, a topic that has been in and out of the news for the last several years. As we move towards a greener, more sustainable society, the use of fuels other than fossil carbon fuels is obviously going to become important. The ACS, including our membership at the local level, is certainly going to have to be part of the push towards using renewable resources.

One way that we can help reduce our own carbon footprint is to take advantage of electronic resources. This month, we are asking you to let us know if you are willing to receive your copy of the Alembic in the form of an e-mail with an attached pdf file that you can print if you want to. It is a small step, but we believe that this small step sends an appropriate message of environmental responsibility.

While talking about the environment, you are probably aware that next month is Earth Day. ACS is sponsoring "Chemists Celebrate Earth Day," and this year's theme is "Air: The Sky's the Limit." Please visit the ACS web site (<http://www.acs.org>) through this series of links: Education > Community Outreach > Chemists Celebrate Earth Day. Our local CCED coordinator is Robin Tanke at UWSP.

On another note, last month's Alembic omitted the name of our Chair-Elect, who is Steve Leiterman. I take the responsibility for that: as Chair it is my job to make sure that our Alembic Editor has all the information that he should. In any case, I am very pleased that Steve has agreed to come back into the Section's leadership -- he has been a strong supporter of our efforts in the past, and I am grateful to him for his willingness to step up.

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FOR IMPORTANT INFORMATION . . .

The ACS-CWS Web Page  
([www.uwsp.edu/chemistry/acscws/](http://www.uwsp.edu/chemistry/acscws/))  
contains up-to-date information about  
section activities including the  
Alembic and meeting notices.



Visit the ACS web site at:  
[portal.acs.org/portal/acs/corg/content](http://portal.acs.org/portal/acs/corg/content)

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At our Executive Committee meeting last month, his historical perspective was really useful in our discussions.

With the high school basketball tournament coming this month, I am bracing for the mandatory 6" snowfall.

Regards,  
**David**

### ***Chemists Celebrate Earth Day (CCED)***

Earth Day is April 22, 2009 and the American Chemical Society (ACS) would like the local sections to participate. The theme this year is "Air—The Sky's the Limit".

[Earth Day](#) was first officially recognized on April 22, 1970 as a way to raise awareness about environment issues. Earth Day was founded by US Senator Gaylord Nelson of Wisconsin. The ACS joined the Earth Day celebration on April 22, 2003.

ACS local sections and Student Affiliates Chapters are encouraged to take part in the Earth Day celebration. One way you can participate is by exploring different air and environment related websites. The U.S. EPA Climate Change Site (<http://epa.gov/climatechange/wyacd/school.html>) has activities that are geared towards reading age elementary students to administrators. For example, there is a spread sheet that allows high school students to calculate the green house gas emissions generated at their school. The

calculation includes emissions from stationary sources (such as boilers, heaters, and generators); purchased electricity and steam; mobile sources (such as cars and buses); waste sent to landfills; wastewater sent to treatment plants; land management (such as fertilizer application and operating maintenance equipment); and equipment that uses refrigerants (such as air conditioners).

Another site you might find of interest is one on stratospheric ozone ([http://www.ucar.edu/learn/l\\_6\\_1.htm](http://www.ucar.edu/learn/l_6_1.htm)). This site suggests activities that teach middle school students about the importance of ozone high in the stratosphere and how chlorofluorocarbons (CFCs) contribute to its destruction. On a lighter note, if you want to view some beautiful auroras and learn why they occur, visit the Exploratorium site, [http://www.exploratorium.edu/learning\\_studio/auroras/happen.html](http://www.exploratorium.edu/learning_studio/auroras/happen.html). You could also take on a history lesson and read up on gas laws and Robert Boyle in the free on-line February issue of *Journal of Chemical Education*. (Williams, Kathryn R. J. Chem. Educ. 2009, 86, 148 <http://jchemed.chem.wisc.edu/>). My hope is that after exploring these websites you become motivated to further participate in Earth Day by holding an event at a local school, museum, or library, sharing with others what you learned about "air". If you do participate in any Earth Day events, please let me know about them!

If you know any K-12 teachers in our section, let them know about the ACS Earth Day Contest. Students are requested to write and illustrate a haiku related to

this year's Earth Day theme "Air - The Sky's the Limit". Winners will be selected in each of the following categories: • K - 2nd grade • 3rd - 5th grade • 6th - 8th grade • 9th - 12th grade. Additional details about the contest, including rules and evaluation criteria, can be obtained by contacting me (Robin Tanke: [rtanke@uwsp.edu](mailto:rtanke@uwsp.edu) or 715-346-4325).

For other ways to celebrate Earth Day, see [www.acs.org/earthday](http://www.acs.org/earthday).

Hope you have a great Earth Day!

**Robin**

### ***Editor's Corner***

Both David and Robin bring up excellent environmental points this month. If you would like to do your part and receive the *Alembic* via e-mail, please send me a note at [jdacchio@uwsp.edu](mailto:jdacchio@uwsp.edu). I'll make sure to send you the *Alembic* electronically from now on. Of course, if you'd still prefer your print copy, I'll be happy to send yours via snail-mail. Happy readings!

**Jason**

THE ACS-CWS WELCOMES E. GERALD MEYER

***The Hydrogen Economy:  
The Good, the Bad, and the Ugly***  
**7:30 PM, Wednesday, March 11, 2009**  
**A121 Science Building**  
**UW-Stevens Point**

Much has been written about the "hydrogen economy" with the theme that with the substitution of hydrogen for gasoline the nation can (a) reduce its dependence on foreign oil, and (b) have a pollution-free transportation fuel. That is "the good". There is, however, the matter of transporting, distributing and storing. With hydrogen these are very difficult problems to solve. In addition there is the problem of utilizing hydrogen in a vehicle which means either the traditional combustion system or a new fuel cell system. The former may not pose serious problems, but the latter does as fuel cells currently do not have the power, the reliability, and the stability needed. Further the cost of the fuel cell system is very much above that of the gasoline system it is to replace. That is "the bad". Hydrogen production is "the ugly". Current hydrogen production of about 9 tons/yr. must be increased some eighteenfold just for current use. Further, hydrogen is a secondary energy type and

must be produced with a primary energy type. Hydrogen, unlike electricity the other secondary energy type, requires a substrate for its production. The two possibilities are hydrocarbons, and "hydrooxygen" (water). The former produces CO<sub>2</sub> along with



hydrogen so that fossil fuel pollutant it not eliminated. The latter must either be thermally dissociated or electrolyzed, and if fossil fuels are not to be used the only alternative is nuclear energy. The hydrogen economy concept is fine, but the realization will be very very difficult.

#### BIOGRAPHY

Dr. E. Gerald Meyer was born in Albuquerque, NM and attended Carnegie Mellon University (B.S. in 1940 and M.S. in 1942), and the University of New Mexico (Ph.D. in 1950). He was a laboratory chemist for the U.S. bureau of Mines, the U.S. Naval Research Laboratory (as a naval officer during WWII), and the Research Division of New Mexico Tech before returning to complete his graduate work. He was on the

faculty of the University of Albuquerque (1950-92), and New Mexico Highlands University (1952-63) where he was successively department head, and dean of graduate studies and research. In 1963 he was appointed professor and dean of arts and sciences at the University of Wyoming, and in 1976 vice president for research. In 1990 he retired and is currently emeritus professor and dean and works part-time. Dr. Meyer has

served as State Science Advisor, as president of Council of Colleges of Arts and Sciences, of the Associated Western Universities, and the Laramie Regional Airport Board. He chairs the ACS Rocky Mountain Regional Meeting, is past president of the American Institute of Chemists, is past chair and councilor of the ACS Wyoming Section, and has served and continues to serve on the ACS national committees.

**Dinner will be held at Michelle's Restaurant (513 Division Street, Stevens Point, WI) at 6:00PM (Socializing at 5:30PM)**

**Dinner reservations can be made with Jason D'Acchioli ([jdacchio@uwsp.edu](mailto:jdacchio@uwsp.edu), 715-346-2297) by Tuesday afternoon, March 10, 2009**