



the Alembic



Chair's Corner



Dear Colleagues:

It never rains, but pours, to begin with a tired, hackneyed cliché.

In last month's column, I made an impassioned appeal for someone to step forward to help with the leadership of this section. Now I must add the voice of my doctor to that strident cry. Just days after I finished writing my last column, I ended up in Luther Hospital here in Eau Claire for an angiogram to determine the cause of chest discomfort that I was having. Fortunately, the angiogram showed that it was not a recurrence of my coronary artery disease, but the heart catheterization surgery itself is still no laughing matter. The upshot, however, is that I must cut back on my activities -- and this means that I must relinquish the office of Chair-elect of the section. I can remain as Chair for the remainder of this term, but you will have to replace me in January.

I am not going to try to minimize the job -- nothing

worthwhile doing is ever a total breeze. But I believe that it is important, and that is why I agreed to take it on. We have a good local section here, and I believe that it is worth trying to keep vibrant. I just cannot be the individual to do it as Chair next year. Of course, the job of Chair has its down side too: the national ACS office will bombard you with so much stuff that you will think you have been found by the junk mail list to end all junk mail lists. There are also reports that you will need to fill out (I hate them, myself, but they are necessary). Fortunately, here you will have the able assistance of Ilona Lin, who takes excellent care of the financial paperwork.

I want you all to know that I will remain an active member of the section after my term as Chair, but my health (currently good) demands that I give myself a break.

So there's the pitch. Is anyone in the batter's box?

Dave

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American Chemical Society

Central Wisconsin Section



Optical Sol-Gel Materials Based on Binding and Catalysis by Biomolecules

by

Prof. Jeffrey I. Zink

UCLA

Wednesday, April 25, 2001

8:00 PM Phillips Hall 007

UW - Eau Claire

5:30 - 6:00 Cash Bar, 6:00 - 7:30 Dinner, Sweetwaters Restaurant

Abstract:

Enzymes and other proteins are physically encapsulated in porous, transparent sol-gel matrices, and the binding of small molecules and the enzymatic reactions carried out by the encapsulated biomolecules are discussed. The sol-gel process has been used to encapsulate a wide variety of molecules in an inorganic medium because of the flexible solution chemistry and the ability to prepare the inorganic matrix with little or no heating. Three types of studies are discussed. First, fundamental studies of rates of chemical reactions in the pores of the materials are presented. Secondly, reactions in which the biomolecule acts as a receptor for small molecules are described. Myoglobin encapsulated in TMOS sol-gel binds oxygen, and hemoglobin binds CO and NO with characteristic absorption spectroscopic changes. The binding is monitored by changes in the absorption spectrum. In the third series of studies, the biomaterial acts as a catalyst. Encapsulated enzymes exhibit their sensitivity and selectivity when encapsulated. The enzymatic activity of oxalate oxidase, glucose oxidase, peroxidase, and acetylcholine esterase will be discussed. The specificity and sensitivity of enzymes toward substrates or inhibitors make them attractive candidates for molecular sensors.

The Speaker:

B.S., 1966, University of Wisconsin; Ph.D., 1970, University of Illinois; NDEA Fellow, 1966-69, University of Illinois; industrial fellow, 1969-70, University of Illinois; assistant professor, 1970-76, associate professor, 1976-82, professor, 1982 to present, UCLA member, American Chemical Society, Interamerican Photochemical Society, National Audubon Society, Phi Kappa Phi, Phi Lambda Epsilon, Alpha Chi Sigma. UCLA Summer Faculty Fellowship, 1971; Camille and Henry Dreyfus Teacher-Scholar, 1975; Alexander von Humboldt Stipendiat, 1979; Herbert Newby McCoy Award, 1982; Glenn T. Seaborg Award, 1983; John Simon Guggenheim Fellow, 1987-1988; UCLA Dow-Hanson Distinguished Teaching Award, 1994.

The social mixer at 5:30 and dinner at 6:00pm will be at Sweetwaters Restaurant, 1104 W. Clairemont Ave, Eau Claire (near the intersection of Clairemont (US 12) and State Highway 37). Dinner reservations should be made by contacting **Dave Lewis** at 715-836-4744 or email lewisd@uwec.edu **before noon on Tuesday, April 24.**

ACS - Central Wisconsin Section 2001 Meeting Schedule				
DATE	LOCATION	SPEAKER	TOPIC	HOST
March 21	Wausau	John Meister	Synthetic Lumber	Iona Lin
April 25	Eau Claire	Jeffrey Zink	Optical Sol-Gel Materials	Dave Lewis
May ?	Marshfield	TBA	Awards Banquet & Spouse's Night	
September 19	Stevens Point	Ronald DeLorenzo	Mysteries in Science	Marv Lang
October 17	Eau Claire	Anthony Trozzolo	Photochromism	TBA
November ?	Marshfield		Student Research Meeting-In-Miniature	Dave Lewis
December ?	Marshfield		Tour of Marshfield Clinic Labs	Ron Haas

ACS-CWS Web Page

<http://chemdept.uwsp.edu/acscws/>

or you can link there from the American Chemical Society home page - Local Sections. Contains the most up-to-date information about section activities.

HELP!

Do You Want a Local Section?

Join the Fun!

The Central Wisconsin Section needs your help in finding people willing to carry on the work of the ACS at our local level. We need nominations/volunteers to run for **Chair Elect** next year. We need a person to act as **National Chemistry Week Coordinator** for the section. We need **nominations for section awards**. Please contact Dave Lewis or any other member of the Executive Committee.

Councilor's Report 221st National ACS Meeting San Diego, California

C. M. Lang; UW-Stevens Point

The 125th Anniversary Meeting of the ACS was held April 1-5, 2001 in San Diego, California and I attended the meeting as your Councilor. All told, there were 17,824 attendees/registrants, more than 7,700 technical papers and posters presented, 472 booths sold to 364 exhibitors located in the Convention Center, and all was conducted during a 4-1/2 day time period! The San Diego meeting will probably wind up as the 2nd largest ACS meeting ever as measured by both attendance and/or exhibits. Moreover, the National Clearing House (NCH) had over 1490 employment opportunities posted by 208 employers but only 966 "job seekers" registered. As Councilor from the Central Wisconsin Section, I represented the local membership at the Council meeting

on April 4th. Further, I continued my service on the Council Committee on Constitution & Bylaws, which met all day Saturday (3/31) before the official start of the meeting and B&F held a 2 hour session immediately following the close of the Wednesday Council meeting. **Note:** CWS should review its Bylaws in the next calendar year. Any volunteers???

This meeting was the first of two designed to celebrate the 125th Anniversary of the founding of the American Chemical in April 1876. As noted in *C&EN* (April 9, 2001), there were several "presidential events" programmed to highlight the accomplishments of ACS and the contributions of chemistry to science and humankind. Further such events are planned for the fall meeting in Chicago.

Let me now take a few moments to share some "random thoughts and miscellaneous items" which I've

noted regarding the Council meeting and other sessions which I attended. Hopefully you'll find them of interest. You may also refer to the April 9 issue of *C&EN* and subsequent issues for further details.

President-Elect (2002): Next fall (Oct 2001) the ACS membership will be asked to choose between candidates for the position of President-Elect in the year 2002. Four nominees were brought before the Council and two were selected to be candidates. *Elsa Reichmanis* from Bell Laboratories – Lucent Technologies, Murray Hill, NJ and *William Carroll, Jr.* of Occidental Chemical Corp, Dallas, TX (along with any petition candidate(s) which surface by Jul 15th) will vie for a three year spot on the ACS Board of Directors (as P-Elect in 2002, P in 2003 and Immediate Past P in 2004).

Dues: Your national membership dues in the ACS will increase by \$4 in 2002 to \$112. This represents a \$4 increase over the 2001 dues which haven't been changed since 1999.

ACS Units: Chemical Abstract Service (CAS) has introduced "eService" – a Web based tool that allows users with STN Easy, SciFinder or SciFinder Scholar to search the CAS database and to then expand their searches to the entire Web. "JobSpectrum.org" is a new online career resource and recruiting web-site which will go operational June 1. Check out the new ACS Web page at "www.chemistry.org" Further, it

was mentioned that some ACS Divisions will consider "electronic preprints" as *referred* publications.

Undergraduates: On the 2001 ACS list of approved undergraduate institutions offering chemistry majors will be found the names of 619 schools. Only a small number (5) have the Chemical Education option and the fate of this option is in serious question. The lack of use by undergraduates of the chemical literature is reported to be "alarming." Future reports and evaluation of approved programs may be scrutinized regarding this issue. On a positive note, undergraduates are "alive and well." The San Diego meeting served as host to over 2000 undergraduate students who prepared and presented 700 research poster papers!

Bullets: Some quick notes taken from my personal journal ...

● "At its 150th Anniversary, the ACS will be a Society of minorities, *i.e.*, women, under-represented groups, etc will be the majority of the membership. We must prepare the Society now!" – Attila Pavlath, President

● "Environmental concerns must be uppermost in the preparation and production of all chemical products."

– Darryl Busch, Immediate Past President

● A Task Force on "Women in the Chemical Professions" has been established by the ACS Board of Directors.

● Current ACS membership exceeds 163,000.

● The amendment to increase the size of Council Standing Committees from 15 to 20 passed, and

● The *corpus* of the Petroleum Research Fund (PRF) has been successfully transferred to ACS's coffers.

Finally, let me once again thank you for choosing me to represent the Central Wisconsin Section as your National ACS Councilor. It is a pleasure and challenge I continue to relish and enjoy.

Marv



Unknown to the rest of the world, members of the scientific community have been making their own babies to order for quite some time now.

TEN STRATEGIC THRUSTS

- * Be the world's leading provider and deliverer of chemical information.
- * Provide programs and activities to facilitate the career development of chemical professionals.
- * Provide programs to improve science literacy of students and ensure quality education in the chemical sciences.
- * Increase participation of students and young chemists in the activities of the Society.
- * Provide programs and activities to encourage the participation and leadership in all aspects of the chemical sciences by women, underrepresented minorities, and persons with disabilities.
- * Expand services to members and prospective members working in industry.
- * Expand activities at the interdisciplinary boundaries of chemistry.
- * Encourage funding of research in science, technology, and engineering.
- * Encourage activities and programs applying scientific principles to environmental issues.
- * Provide programs and activities to improve the public's recognition and appreciation of the contributions of chemistry.

MEASURES OF PROGRESS

SERVING **INDIVIDUAL** MEMBERS AND USERS

- Growth of the member/user base
- Growth in the proportion of members participating in ACS events, services, and programs
- Degree of satisfaction and rate of retention of members
- Degree to which a product, program or service is appropriately custom-tailored
- Extent to which the users choose ACS services over alternative professional services

EFFECTIVE USE OF THE **INTERNET**

- Growth in the number of individuals accessing the ACS Web sites
- Reported levels of satisfaction with the ACS Web sites
- The extent to which ACS is providing its products and services via the Internet
- The degree to which information content is tailored to individual needs of the user
- User satisfaction in comparison with alternative Internet-based services
- Numbers of repeat visits to the ACS Web site, repeat use of the offerings, and similar measures
- Impact on the image and profession of chemistry

INTERNATIONAL DELIVERY OF SERVICES

- Quantity and types of international alliances
- International portion of the total audience for specific offerings
- Improved services and enhanced Internet-based offerings for members abroad
- Reputation of ACS in the eyes of international scientific audiences
- Use of ACS products and services by international scientific and engineering professionals

For guidance on progress measurement, see the *Long-Range Planning Manual for ACS Governance*, Chapter 5: "Evaluation and Feedback."