

# the Alembic



## Chair's Corner



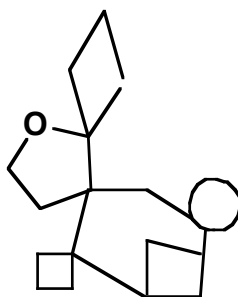
Happy Spring!

Today in Stevens Point the temperature was a balmy 73. The students in class always get a little restless at this time of year when the warm weather hits. They want to enjoy the outdoors a little more than they want to be in class. The March meeting was very informative about water filtration systems for water treatment plants. There were about twelve people at dinner and the meeting; it was a lively group. I was just reading a news article about a company that is planning on investing \$100 million in green technology for cleaner transportation, air, water and energy. It may be one of the hottest fields in the near future. Speaking of things that are green, the ACS is once again sponsoring Chemists Celebrate Earth Day-April 22. The theme this year is "Dig it!: Plant it for the Planet". I know that I will be celebrating by planting a few flowers in my garden.

April is a busy month for the section. High school students from our section will be taking the National Chemistry Olympiad Exam at UWSP on April 22.

The April meeting on the 19th looks very interesting – especially if you are interested in art and the analysis of art objects. I hope to see you in Eau Claire!

*Laura*



ether bunny

### ACS - CWS Mini-Directory

#### Chair

Laura Cole  
Dept. of Chemistry, UW-SP  
Stevens Point, WI 54481-3897  
Phone: (715) 346-4302  
email: lcole@uwsp.edu

#### Chair-Elect

Steve Nieland

#### Secretary - Treasurer

Tip Randall

#### Councilor

C. Marvin Lang

#### Alternate Councilor

Dave Lewis

#### Newsletter Editor

Tom Zamis  
Dept. of Chemistry, UW-SP Stevens  
Point WI 54481  
phone (715) 346-3258 (office)  
email tzamis@uwsp.edu



## The Application of Chemistry to the Examination of Works of Art

Dr. Suzanne Quillen Lomax  
National Gallery of Art, Conservation Division

7:30 PM Wednesday, April 19, 2006  
Phillips Hall 119, UW - Eau Claire

Dinner 6:00 Sweetwaters Restaurant  
1104 W. Clairemont Ave, Eau Claire



**Abstract** Scientists have been associated with museum conservation laboratories for many years. Only recently, however, have art curators and conservation begun to appreciate the contributions that scientists can make in the preservation and restoration of the art objects. At present, about a dozen museums in the United States have conservation science departments. Art conservation frequently requires specific information about the component materials of a painting or object prior to treatment. Due to the complex stratification of paintings, most questions that arise concern the nature of their components. Microscopic cross sections of a painting are frequently taken and viewed with the polarizing microscope to understand the different layers that make up the object. Pigment identification is frequently employed to determine if the pigments are in keeping with the time period of the object, as well as to understand the artist's materials and methods. Such tasks are performed using polarized light microscopy and X-ray diffraction of powdered samples or X-ray fluorescence, which is well-suited to this talk due to its noninvasive nature. To study the identity of binding media, the conservation scientist uses gas chromatography (GC), high-performance liquid chromatography (HPLC), and infrared spectroscopy. GC is used to identify oil-containing binders, as well as for the identification of waxes and various low molecular weight resins, HPLC can be used to identify proteinaceous binders and organic dyes. Ultraviolet radiation can be used to examine the varnish layer of a painting as well as to identify areas retouched in previous conservation treatments. Infrared reflectography is frequently used to examine underdrawing on a painting. In addition, X-rays are often used to determine where lead white has been used on a painting, as well as to reveal damaged areas beneath the painting's surface. This talk will focus on the application of these various techniques to the examination of paintings and sculpture. Examples will be presented from the National Gallery of Art collection.

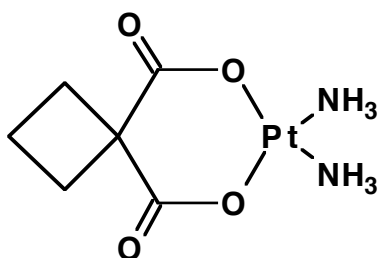
**Biographical Sketch** Suzanne Quillen Lomax received her Ph.D in organic chemistry in 1984 from the University of Maryland, working with Patrick Mariano exploring the photochemistry of iminium salts. She then went to Northwestern University, where she performed postdoctoral research with Frederick Lewis, examining intermolecular photoaddition reactions. Dr. Lomax has been in the Scientific Research Department of the National Gallery of Art since 1986, investigating the identification and aging behavior of artists' materials. She has been a tour speaker for the American Chemical Society Speaker Service since 1991. Her areas of interest include the identification of synthetic organic pigments and modern paint binders. In addition, she has performed extensive analyses on traditional 15th and 16th century artists' paint binders.

\*\*\*\*\*  
Gather at 5:30 for liquid refreshments. Eat at 6:00. The meeting 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 18.**

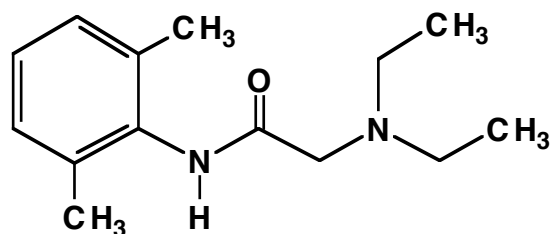
ACS - Central Wisconsin Section 2006 Meeting Schedule				
DATE	LOCATION	SPEAKER	TOPIC	HOST
April 19	Eau Claire	Suzanne Quillen Lomax	Application of Chemistry to the Examination of Works of Art	Dave Lewis
Sept. 20	Stevens Point	Robert S. H. Liu	The Chemistry of Vision	
October 18	Marshfield	Ramon Barnes	Analytical Plasma Source MS Analysis for Nutrition and Toxicology	

---

### Molecules of the Month



**Carboplatin**, an alkylating agent used to treat ovarian and lung cancers, interferes with the growth of cancer cells by inhibiting DNA synthesis. Carboplatin is less toxic than its predecessor cisplatin, but it can interfere with the growth of healthy cells, including blood cells. Carboplatin's mechanism of action is not well understood.



**Lidocaine** is both a local anesthetic and an antiarrhythmic drug. In emergency medical situations, patients with irregular heart beats frequently receive lidocaine injections or drips. Lidocaine is found in some first-aid sprays (to ease the "ouch!").

---

ACS-CWS Web Page

[www.uwsp.edu/chemistry/acscws/](http://www.uwsp.edu/chemistry/acscws/)

Up-to-date information about section activities including the Alembic and meeting notices.

Also visit [www.chemistry.org](http://www.chemistry.org) for latest chem news.

---



---

### 231<sup>st</sup> National Meeting AMERICAN CHEMICAL SOCIETY Atlanta, Georgia March 25-29, 2006

*C. Marvin Lang, Councilor  
Central Wisconsin Section*

The following summary reports what I consider to be key actions of the ACS Council and Board of Directors at the 2006 Spring National Meeting from which I just returned.

#### **Election Results**

- The Council selected, from a list of four **Bruce E. Bursten** and **Bassam Z. Shakhshiri** as **candidates for 2007 ACS President-Elect**. These two candidates will stand for election in the Fall National Election. It is possible that "petition candidates" will emerge for this election. Deadline for such candidates is July 15, 2006
- The *Committee on Nominations and Elections* announced the results of the election to select candidates from the list of nominees to represent District I and District V on the Board of Directors for the term 2007-2009. By mail ballot the Council selected Thomas R. Gilbert and incumbent Anne T. O'Brien as District I candidates; and as **District V candidates, John E. Adams** and incumbent **Judith L. Benham**. Ballots will be mailed on or before October 10<sup>th</sup> to all members in District I and District V for election of a Director for each District. The Central Wisconsin Section is part of District V.

#### **Committee Reviews**

- As part of a regular review, the Council VOTED to continue the *Committee on Admissions* and the *Committee on Professional Training*. The *Committee on Admissions* has the power to interpret and apply the requirements for

membership, including determining status of applicants educated in foreign countries. The *Committee on Professional Training* promotes and assists in the development of high standards of excellence in all aspects of post-secondary chemical education, and undertakes studies important to their maintenance.

### The Society's Finances

- The Society ended 2005 with a net contribution from operations of \$11.6 million, which was \$9.1 million favorable to the approved budget. The favorable variance was primarily attributable to higher-than-budgeted print and electronic information services revenue and investment income, as well as expense savings from staff vacancies and reductions in information technology spending. The Society also realized \$21.0 million in investment gains. In total, unrestricted net assets increased just over \$26 million in 2005 to \$211 million, and the Society ended 2005 in full compliance with the Board-established financial guidelines.

### Registration Report

- As of March 28, 2006, the ACS Atlanta National Meeting had attracted 12,546 registrants as follows: Regular attendees 6,323; Students 4,158; Exhibitors 1,288; Exposition only 413; and Guests 364.

### Society Initiatives

1. The Society's new vision statement: *"Improving people's lives through the transforming power of chemistry,"* which resulted from the input of several thousand ACS members, was unveiled and discussed at this meeting.
2. The Board-Council Policy Committee Governance Review Task Force was charged with reviewing the Society's governance, and Constitution and Bylaws, to ensure that the Society has a governing framework to enable it to best fulfill its mission, meet member needs, and remain a world-class organization. The task force developed a frame-work that emphasized five key elements of the Society's governance, which are: i) *membership*, ii) *geographical organization*, iii) *disciplinary organization*, iv) *governance structure*, and v) *governance operations*.

3. A Program Review Advisory Group (PRAG) has been established to assist the Committee on Budget and Finance in reviewing all programs of the Society (with some exemptions) on a periodic and regular basis. PRAG consists of councilors, members of the Board of Directors, members of the Committee on Budget and Finance, and representatives from the committees with oversight over the programs under review in a given year.

### Member Statistics

- ACS closed 2005 with 158,422 members, reversing a 4-year downward trend in Society membership. Of the 15,532 applications processed in 2005, nearly 900 came from the Member-Get-A-Member campaign, in which many Councilors participated. The membership retention number remained stable at 92.4%.

### Special Discussion

- A special discussion item was put on the Council agenda for this meeting. The discussion focused on membership – specifically, the requirements for ACS membership, and whether they should be made more or less restrictive, or kept the same. Significant data was presented; one piece was of special interest to me; *viz.*, a response to "Which of the following best reflects your views?" Regarding ACS Membership Requirements, they should be More Restrictive (0%), Current is Best(17%0, A Science degree with Work Experience (67%), Anyone with Interest in ACS (16%). I interpret these results to reject the idea of "inclusiveness" – allowing membership to anyone who expresses a simple interest in science!

### 2006 Member Dues

- The Council VOTED to set the member dues for 2007 at the fully escalated rate of \$132. The year 2007 will be the last year of the special assessment to assist Local Sections and technical Divisions. Originally set to be \$8, the Committee on Budget and Finance and the Board of Directors recommended and the Council approved \$4 bringing dues to **\$136**.

### Future National Meetings

- The Council VOTED to recommend to the Board of Directors that the Spring Meeting for 2015 be held in Denver, Colorado, March 22-26; and that the Fall Meeting be held in Boston, Massachusetts, August 16-20. The Council also voted to

recommend locations and dates for the 2016 meeting as follows: the Spring Meeting to be held on March 13-17, in San Diego, California; and the Fall Meeting to be held in Philadelphia, Pennsylvania, on August 21-25.

### **The Board of Directors' Activity in the Community**

- The Board considered an opportunity to participate in a community building activity in the San Francisco Bay Area while attending the Fall 2006 ACS National Meeting in San Francisco. The activity, to be planned by local section organizers, focuses on the National Chemistry Week theme: "***Your Home: It's all Built on Chemistry.***" The Board plans to readjust its schedule to allow for participation by its members.

### **Concluding Remarks**

In March 1973, I attended my first Council meeting as Councilor from the Central Wisconsin Section. Since that time, the Council has met 66 times and I have attended, either as your Councilor or as a member of the Board of Directors, 62 of these sessions. It truly is a pleasure to represent you and the American Chemical Society and I thank you for electing me to another term (2006-2008) as Councilor. In recent years, I have served the Council's *Committee on Community Activities, Meetings & Expositions*, and the joint Board/Council *Committee on Public Relations & Communications* and I continue with these assignments in 2006. At the Atlanta meeting it was a pleasure to "bump" into former CWS member Al Denio who sends greetings to his many Section friends. He continues to be in good health and is active in his local Delaware Section. I also saw and talked with two other Section members ... Steve Lieterman and David Lewis. I hope you can see them at our next Section meeting that will be held at UW-Eau Claire (Apr 19<sup>th</sup>). I'll be there and will be happy to talk with you even more about the activities, actions and programs of the Atlanta meeting.

*Maru Lang*

---

### **Invitation for Feedback on the ACS Approval Guidelines**

The ACS Committee on Professional Training (CPT) is undertaking a major revision of the ACS Guidelines for approval of bachelor's degree programs in chemistry. The goals of revising the ACS guidelines include:

- \* Simplifying the ACS guidelines for approval of chemistry programs
- \* Allowing greater flexibility for departments to develop certified degree tracks
- \* Encouraging department-initiated innovation and curriculum improvement
- \* Providing faculty and infrastructure requirements that support excellent chemistry programs.

The overview of the proposed revisions to the ACS guidelines (link) that CPT is considering can be accessed from the CPT website at [www.chemistry.org/education/cpt](http://www.chemistry.org/education/cpt). CPT invites you and your department to respond to these proposed changes by June 1, 2006, and thereby contribute to the ACS guidelines revision process. Please send comments to CPT by email to [cpt@acs.org](mailto:cpt@acs.org) with a subject of "ACS Guidelines Revision."

---

### **37th Central Regional Meeting to Take Place in May**

The Central Regional Meeting (CRM) will take place May 17 – 20, 2006, in Frankenmuth, Michigan, during their World Festival of Beer. CRM will open with Jean Michel Cousteau speaking on Ecology and Economics of the Sea and end with a two-day silicon symposium with many exciting programs in between. Visit their website at [www.crm2006.org](http://www.crm2006.org).

---

### **37th Great Lakes Regional Meeting Scheduled for Milwaukee**

The Great Lakes Regional Meeting (GLRM) takes place in Milwaukee, WI, May 31 – June 2, 2006. Advance registration is still open online or you can download a form at : <http://alchemy.chem.uwm.edu/GLRM06>.

Polyoxometalate Chemistry, Supramolecular Chemistry, and Perspectives and Recent Advances in Organophosphorus Chemistry: A Symposium in Honor of Professor Sheldon Cremer is among the symposia they have planned. Planners have also scheduled tours of the Aldrich Chemical Company's new headquarters and of the S. C. Johnson Company's building designed by Frank Lloyd Wright.

---