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# PUGET SOUND CHEMIST

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 63, Number 2



March 2002

CHEMISTRY LIBRARY

**When:** Tuesday March  
19th

**Where:** Seattle Art  
Museum Arbore-  
tum, 1400 East  
Prospect, Seattle

**Time:** 7:30 pm

**Topic:** The Application  
of Chemistry to  
the Examination  
of Works of Art

**See Inside**



## Driving Directions

Southbound: I-5 to Roanoke/Boylston, #168. Left on E. Roanoke, right on 10th Avenue, then left on E. Prospect

Northbound: I-5 to Roanoke/Harvard St. Right on E. Roanoke, right on 10th Avenue, left on E. Prospect.



# PUGET SOUND CHEMIST

Newsletter for the Puget Sound Section



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Executive committee meetings are open to all members and are held on the second Wednesday of each month at 6:30 p.m. in room 2430C (above the bookstore) at North Seattle Community College, 9600 College Way North in Seattle. The next meetings are **Wednesday, March 13th, and Wednesday, April 17th**



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

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 task 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.

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.





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## **CHEMISTRY INSTRUCTOR**

### **Full-time Tenure Track**

Position #02-04/Open 2-17-02

#### **Position and Duties:**

The position reports to the Dean of Science, Math, and Occupational Education. Prepare and teach a one-year Organic Chemistry sequence and Introductory College Chemistry. Facilitate student learning by using a variety of lecture, discussion, laboratory, demonstration, field, technology-based, distance-learning, and collaborative formats. Identify individual course and Chemistry program learning outcomes. Identify and implement procedures/techniques to assess individual student learning, as well as achievement of course, program, and college learning outcomes. Assist, advise, and mentor students in the Chemistry program. Participate in curriculum development and other tasks related to instruction in accordance with faculty contract and college policy. Position is contingent upon funding.

#### **Minimum Qualifications:**

- Master's degree in Chemistry.
- Demonstrated competence in teaching Chemistry and facilitating student learning of college undergraduates.

#### **Preferred Qualifications:**

- Documented evidence of excellence in teaching Organic Chemistry at a community college, including student and supervisor evaluations.
- Demonstrated experience in academic advising and curriculum development at a community college.
- Demonstrated ability and desire to implement modern educational technology to facilitate student learning.
- Ability to work effectively with students of various ethnic, cultural, and socioeconomic backgrounds.
- Evidence of and commitment to the value of diversity.
- Experience in collaborative learning or interdisciplinary and team teaching.
- A philosophy of education appropriate to a learning-centered community college.
- Demonstrated commitment to and involvement in professional and campus activities.

**Selection Process:** All applications will be screened and finalists will be invited for an on-campus interview at their own expense. Applicants not selected for an interview will be notified by letter.

**Salary/Employment Term:** \$38,569 per academic year, which is 174 days. Position begins September, 2002.

**Application Procedure:** All applicants must send: 1) a letter of interest 2) a completed Everett Community College employment application 3) a supplemental application specific to this position 4) a current resume, and 5) copies of transcripts. (As a condition of employment, official transcripts are required upon hire.) Applicants who do not complete and submit all required materials will not be considered. Send/bring the application materials to:

Office of Human Resources  
Everett Community College  
2000 Tower Street  
Everett, WA 98201-1352  
Phone: 425-388-9229  
Website: [www.evcc.ctc.edu](http://www.evcc.ctc.edu)

**Closing Date:** All application materials must be received in the Office of Human Resources by 4:30 p.m., Monday, March 25, 2002. *Late or incomplete applications will not be considered.*

Faculty at Everett Community College are required to become members of the Everett Community College Federation of Teachers or pay a representation fee to the Federation within thirty (30) days after date of hire.

Everett Community College is committed to the principles of Affirmative Action, Equal Opportunity and the ADA Act of 1990; attaining equal opportunity for employees and all applicants for employment and its commitment to assure that there is no discrimination against any persons on the grounds of race, religion, creed, color, national origin, age, sex, sexual orientation, marital status, the presence of any physical, sensory or mental disability, or status as a disabled or Vietnam era veteran in accordance with state and federal laws. Applicants who require assistance with the recruitment process will be accommodated to extent reasonably possible. The hearing impaired call TDD 425-388-9438.



# Upcoming meetings

March 19th

Suzanne Lomax,  
(site: Seattle Art Museum)

April 24 th

Robert Lowery

May

50 Year Member Awards

September 26 th

R. Bruce King

October 11th

Bruce Jarvis



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# 17th Biennial Conference on Chemical Education Update

by George Kriz

The 17<sup>th</sup> Biennial Conference on Chemical Education will be held at Western Washington University, in Bellingham, Washington from July 28 through August 1, 2002. A Registration Book is now available. If you wish to receive a copy, send your contact information to [bcce@chem.wvu.edu](mailto:bcce@chem.wvu.edu). The deadline for registration for the conference is June 15, 2002. The Registration Book and application forms can also be obtained from the conference web site (<http://chem.wvu.edu/acs/bcce>). Please visit our web site for additional information about the conference, the campus, and the surrounding community (<http://chem.wvu.edu/acs/bcce>):

## Science Fair Judges Wanted!!

Contact Justine at 206-729-9428 to volunteer as a Science Fair Judge for the year 2002.

**THANKS!**

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## Message from the Vancouver CSC 2002 Conference Chair

We are in the final planning stages for the 85<sup>th</sup> Canadian Society for Chemistry (CSC) Conference and Exhibition to be held June 1 - 5, 2002, on the campus of The University of British Columbia, Vancouver, BC, Canada. The meeting promises to be one of the largest ever for the Canadian Society (yet small compared to ACS annual meetings) with some 1400 presentations scheduled in 11 different subject areas and over 40 different symposia.

The meeting begins on the Saturday evening, June 1, with the Opening Ceremonies, Plenary Lecture (Ronald Breslow, Columbia University), Opening of the Exhibition and Welcome Reception (Wine and Cheese). Technical sessions will run from early Sunday morning till Wednesday evening. The meeting ends Wednesday evening with a very special Farewell Salmon BBQ on the grounds of the Museum of Anthropology. It promises to be an evening to remember!

For program details, more information on special events and what to do around Vancouver, booking accommodation for the meeting (don't leave this too late), and instructions for registering (deadline for early registration is April 30) see our website at [www.chem.ubc.ca/csc2002](http://www.chem.ubc.ca/csc2002)

On behalf of the Conference Organizing Committee, it is a pleasure for me to invite readers of The Puget Sound Chemist to come to Vancouver in June and participate in the 85<sup>th</sup> CSCCE.

Bob Thompson



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## Call For Nominations - The 2002 Linus Pauling Medal Award

Nominations are solicited for the 2002 Pauling Medal Award, which is named for Dr. Linus Pauling, a native of the Pacific Northwest, because of the inspiration of his example. Recipients have made outstanding contributions to chemistry of a character that merits national and international recognition. The 2002 Pauling Medal Award will be presented at the annual Pauling Medal Award Symposium, to be held this fall at Pacific Lutheran University in Tacoma, Washington.

Nominations should include the following:

- a) The nominee's name, present position, and address;
- b) A resumé of the nominee's professional career;
- c) A narrative summary of the scientific achievements that form the basis for the nomination, including the work importance
- d) Additional supporting letters.

Scientists of all nationalities are eligible for the award. The award is not given for work for which the nominee already has received the Nobel Prize..Seven collated copies of all nomination materials must be received by April 1, 2002.

A previous nomination may be reactivated by specific request. Please mail all materials to: Dr. Dean A. Waldow, Pauling Medal Award Chair, Department of Chemistry, Pacific Lutheran University, Tacoma, Washington, 98447. For additional information, please see [http://www.chem.plu.edu/pauling\\_award/](http://www.chem.plu.edu/pauling_award/).

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**Dated Meeting Notice**  
**Please Do Not Delay**