

1/ PUGET SOUND CHEMICAL

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 61, Number 2



APRIL 2000

Virtual fun at the movies

Do you nitpick movies? Do lapses in scientific thought in films get you excited? Or do you just enjoy flicks?

Then you'll want to come to the April edition of "Science at the Movies", sponsored by the Puget Sound Section of the American Chemical Society and the University of Washington Chemistry Department. The Monday, April 3 evening event will begin at 7 p.m. in Kane Hall room 120 with a talk by Dr. Hunter Hoffman, UW Psychology Department, on "Physically Eating Virtual Chocolate", followed by a screening of the virtual reality thriller, *The Matrix*, starring Keanu Reeves.

Hoffman's talk will center on his research of the use of virtual reality (VR) for distracting burn patients from excessive pain during wound care. In collaboration with Dave Patterson, burn research nurse Gretchen Carrouger from Harborview Burn Center, and Tom Furness, Director of the Human Interface Technology Laboratory at UW, this

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What: Science at the Movies

Who: Hunter Hoffman, UW

Where: University of Washington, Kane Hall room 120

When: Monday, April 3, 7 p.m.

How much: \$10 for pizza and drinks

Contact:

Debbie Wiegand at wiegand@chem.washington.edu; or Kathy Hohstadt at (206) 823-9210; or Craig Fryhle at (253) 535-8314 by Friday, March 31.

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The Bulletin of the Puget Sound Section of the American Chemical Society

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Published eight times during the academic year (September through the following June) by the Puget Sound Section of the American Chemical Society. Total circulation: 1900. Direct all copy to the Editor and advertising correspondence to the Business Manager. The Secretary handles other business. Letters may be edited due to space considerations. Please word-process or type all correspondence!

Puget Sound Section ACS Executive Committee Future Meetings in 2000

Meetings are open to all members and are held at 6:00 p.m. on the second Wednesday of each month. The next meeting of the Executive Committee will be **Wednesday, April 12, 2000, in room 501 of the Engineering Building at Seattle University.**

Undergrad? Research Symposium!

The American Chemical Society is sponsoring the annual Undergraduate Research Symposium on Saturday, May 6 at 10 a.m. on the campus of Western Washington University in Bellingham. Registration begins at 9 a.m. The symposium is hosted by the WWU Chemistry Department.

The symposium provides a venue for students to present their research, and to meet with peers from the Puget Sound region. Students presentations will include oral talks and a poster session. Student contributions from all research areas of chemistry and biochemistry are welcomed, including chemical engineering, chemical physics and materials chemistry.

The deadline for submission of abstracts is Friday, April 14 at 5:00 p.m. Please submit your abstract by e-mail (either in the body of the e-mail, or as an attachment in Word or WordPerfect) to: Dr. David Patrick (patrick@chem.wwu.edu). Abstracts should meet the standard ACS guidelines for length and content. Indicate your preference for oral or poster presentation. The symposium organizers will attempt to schedule your presentation in the preferred venue (oral presentation or poster), but we cannot guarantee that you will receive your first choice. Individuals submitting abstracts will be notified of their placement no later than April 21. Useful information about preparing and presenting oral and poster presentations is available from the ACS website <http://www.acs.org/meetings/handbook.html>.

The cost of the symposium is \$5 for students and \$9 for faculty and will cover the cost of lunch and refreshments. Please e-mail the conveners by Friday, April 21 so they may have an accurate headcount for lunch.

Awards will be given for Best Oral Presentation, Best Poster Presentation and Best Research. The awards for Best Oral Presentation and Best Research will be awarded to an oral presentation; the Best Poster Presentation award will be shared among all student authors listed on the selected poster.

For more information, please access the symposium website at: <http://atom.chem.wwu.edu/sacahill/acsurs/> or the symposium conveners, Dr.

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Section outreach

Final deadline for education grant

by Randy Engel, Education Committee Chair

The Puget Sound Section of the American Chemical Society intends to give several one-year grants of scholarships to K-12 teachers in the Section's geographic area (see below). Our final deadline for proposals this academic year is May 1, 2000. Any proposals that promote chemistry education will be considered (see the February issue of the *Puget Sound Chemist* for a list of possible proposals or contact Randy Engel at tawnydog@earthlink.net).

You may apply for grants of up to \$500. Please submit one-page proposals for these programs to: Education Committee, Puget Sound Section, 7712-18th Ave. NE, Seattle, WA 98115. Be concise, clearly describing your proposal and detailing how specified monies will be used, along with a corresponding timetable. If matching money will be used to fund the proposal, please indicate this. A one-page summary of accomplishments will be due no later than August 31, 2000.

We have already funded several excellent proposals this year. Tami Skillingstad, who teaches at Tonasket High School, was awarded a grant for her chemistry class to conduct a chemistry fair for the 5th graders in their school district. This is the third year that her chemistry class has been putting on this chemistry fair. A similar proposal from Maren Johnson at Chimacum High School was also funded. Her chemistry students will be presenting chemistry demonstrations to the sixth graders in a local elementary school. The presentations focus on mini-lessons in chemistry, with demonstrations used to increase student interest. A third proposal that we recently funded was submitted by Margory Halstead, who teaches in the Department of Natural Sciences at Pacific Lutheran University. The funds were used to provide award

(continued on page 6)

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50-year member reminisces

Gordon Tener

I joined the ACS while a graduate student at the University of Wisconsin (Madison) and, after a post-doctoral year in Paris, returned to Vancouver to join the group headed by Dr. H.G. Khorana at the B.C. Research Council on the University of British Columbia campus. Although UBC was a respectable four-year college in the 1950s, there were only a few labs doing creditable research. Khorana's lab was one such place with the successful synthesis of a number of nucleotide triphosphates, nucleoside 3'-5' cyclic phosphates, nucleotide co-enzymes (CoA, FAD, etc.), sugar phosphates and oligonucleotides. Many of these served as substrates for enzymatic studies and enzyme purification. This work attracted many visitors including Arthur Kornberg and Paul Berg, who spent a summer with us. And we were very pleased by the support given to our group by Dr. Hans Neurath and other members of the Biochemistry Department at the University of Washington. They attended the small local scientific meetings we held and presented lectures on their work. They kept us up-to-date on recent developments in the field at a time when funds were scarce so we could not readily attend international meetings.

In 1960, Khorana moved to Madison and continued his work on the synthesis of oligonucleotides — work that culminated in the Nobel Prize. Michael Smith was also in the group and he continued nucleic acids research and also received a Nobel Prize for site-specific mutagenesis using a combination of chemical and biochemical methods.

Since 1960 until retirement, I was in the Department of Biochemistry at UBC and continued nucleic acid studies, focusing on tRNAs and, in the decade before retirement, on the molecular biology of aging.

More 50-year member reminisces continue on page 7 and 8)

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Section events

Deadline for grants (cont. from page 4)

money in chemistry and biochemistry for students participating in this years South Sound Regional Science Fair. This science fair was open to 6th through 12th grade students in the school districts of Pierce and Thurston Counties.

The Puget Sound Section includes the following counties: Chelan, Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Mason, Pacific, Pierce, Skagit, Snohomish, Thurston, and Whatcom. We will also consider requests from Douglas, Okanogan, and San Juan counties, which are not currently assigned to any section.

The Puget Sound Section Education Committee's membership includes Randy Engel (Chair, North Seattle Community College), Herb Bryce and David Munch (both of Seattle Central Community College), Mary OBrien (Edmonds Community College), Laura Spencer (Edmonds-Woodway High School), and Steve Ufer (Washington High School).

Virtual fun (cont. from page 1)

interdisciplinary team is putting burn patients (especially children and teenagers) into VR during wound care and physical therapy. Although this line of research is just beginning (with funding from NIH, the Washington Technology Center and the International Firefighters Association), they are already finding huge drops in how much pain the patients experience during their short visit to virtual reality. Hoffman and Patterson recently received a grant from the Washington Firefighters Association to build a water-friendly VR helmet that uses optic fiber image guides, so patients can sit in a tub of water during wound care. This will dramatically increase the number of patients they can treat in VR.

In addition, Hoffman uses "tactile augmentation" to help distract a burn patient named Jackie from her pain during physical therapy. When she touches the virtual spider in VR with her cyberhand, her real hand simultaneously touches the furry toy spider in the real world. She has the illusion of physically touching the virtual spider, a technique named "tactile augmentation". This technique has recently been used by burn patients to physically eat virtual chocolate bars.

There will be a pizza and beverage dinner available at 6 p.m. in room CHB 102. The cost will be \$10 and reservations can be made with Kathy Hohstadt at (425) 823-9210 or Debbie Wiegand at wiegand@chem.washington.edu or Craig Fryhle at (253) 535-8314 or George Kriz at (360) 650-3070.

50-year member reminisces

George Brown, Jr.

George Willard Brown, Jr., was born in 1924 in Alameda, California. He attended public schools in San Francisco, and entered the University of California in 1942. He served during World War II as a technician in the Signal Corps in England, France, Belgium, the Netherlands and Germany with the 9th Air Force. His military unit received the Presidential Citation and five battle stars.

Returning to school at Berkeley, he earned a BS in chemistry, an MS in physiology, and a Ph.D. in computational biochemistry. Research efforts included studies on fatty acid and nitrogen metabolism. He and his wife Susan provided the first demonstration of ureotelism in that primitive fish, the coelacanth, in 1966. He became Professor Emeritus in UW's College of Ocean and Fishery Sciences in 1996.

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Keith D. Gehr

My career path was set with the gift of a chemistry set when I was in about the sixth grade. I graduated in chemical engineering from Carnegie Institute of Technology in 1948. My first employment was eight years with Hercules Power Company doing cellulose and cellulose-derivative research. I moved to Weyerhaeuser in 1956, doing market development for Douglas fir bark chemicals. In 1964, with some misgivings, I transferred to a job as patent liaison, trying to bridge the no-man's-land between the scientists and the patent attorneys. There, I had the good fortune to have a boss who was able to make patent work exciting. I passed the patent bar as an agent and that has been my professional field ever since. I retired from Weyerhaeuser in 1982 and have been in a private patent practice to the present.

Puget Sound Section needs an archivist

The Puget Sound Section seeks a volunteer to uncover, collate and make presentable the various photographs, newsletters and other materials of the Puget Sound Section, now in its 90th year of existence. Please contact Tracy Furutani (Chemist editor) at the PO Box number below or attend the Executive Committee meeting (details on page 2).

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