

The Chemistry and Alchemy of Brewing
Dr. Robert P. Bates
Food Science & Human Nutrition Dept.
University of Florida
Gainesville, FL 32611

Date: Wednesday, November 8, 2000

Time: 7:30p.m.

Place: Room L102
Columbia Basin College
Pasco, Washington

Abstract: Beer making, one of the oldest examples of biotechnology, is a fascinating study of chemistry, biochemistry, and engineering. It combines well recognized and controllable reactions and operations with complex, poorly understood phenomena, including the psychosensory response. Surprisingly, some of the most sophisticated science and technology are employed in the efficient production of mass advertised, mediocre beers. In contrast, traditional "alchemy-driven" methods can produce exceptional yet under-recognized beers. Fortunately, there is an achievable balance between these extremes. This presentation will cover the brewing process from raw material selection and preparation through fermentation to consumption. Emphasis will be on major pathways employed by brewers to produce a wide range of beers. Future industry developments of relevance to consumers will be mentioned.

About the Speaker: Robert P. Bates received his B.S. degree in food technology from MIT in 1959.

After several years in the food industry, he obtained a M.S. degree in food science from the University of Hawaii and a Ph.D. in food science from MIT. After a year at the Institute of Nutrition of Central America and Panama in Guatemala, he joined the University of Florida in 1967. He is presently a professor of food technology in the food science and human nutrition department. Bates' areas of interest are food processing and utilization, small-scale process and equipment development, fermentation technology and byproduct recovery, food product development, and international technical assistance. He has completed short and long-term international assignments in many countries in the Caribbean, Central and South America, and Asia. He has been an ACS tour speaker on various food science and technology topics for over 18 years.

If you wish to have dinner before the meeting, please contact Brian Rapko at Brian.Rapko@pnl.gov or at (509) 376-1571. Dinner will be at 6:00 PM at the Vineyards Steakhouse at the Pasco Double Tree Hotel. In addition to the Speaker, we will also be acknowledging the work and dedication of the two teachers, who were nominated by our Section for the Outstanding Regional High School Teacher Award.

The Theme for Chemistry Week: Food Chemistry

In keeping with the National Chemistry Week theme of "Food Chemistry", the ACS is asking local sections to have a food drive. **We are requesting that people coming to the talk on November 8th**

bring a nonperishable food item, which will be donated to the local food bank.

As part of the celebration, the freshmen Chemistry classes at CBC and Eastern Oregon U will be preparing posters with the Food Chemistry theme. The CBC posters will be judged prior to the monthly meeting on November 8th with the winners announced at the monthly meeting. The posters will be on display in the Math-Science Building.

Social for 50 Year Members; Friday November 3, 2000.

Join us on Friday, November 3, 2000, to celebrate our 50 year members! Three members, **Donald E. Baker, Fred P. Brauer, and Emmett B. Moore, Jr.**, will be honored for fifty years of service in the American Chemical Society at a social to be held at Jackson's Sports Bar in Richland (corner of GW Way and Lee Blvd. Food, wine-tasting, and celebration of our 50 year members is on the agenda from 5:00 - 7:00PM! Please help us honor our 50-year members.

National Chemistry Week 2000

National Chemistry Week is a yearly public outreach program sponsored by the American Chemical Society. One way that our section has traditionally participated in this outreach mission is by coordinating visits by members to high school chemistry classes. In the past there has been great interest in having chemists talk about chemistry, their careers, etc. We would like to do this again this year.

If you think you might be interested in participating in this program, please send an email to James Campbell, (james.campbell@PNL.GOV) or give him a call at (509) 376-0899. You don't need to live in the Tri-Cities to participate. Also, you don't need to be a bench chemist. I'm sure the students would like to know how it is in the "Real World", and the turns a chemist's career sometimes takes.

2001 Richland Section ACS Officers Elections

Members! It is that time of the year again to vote. You are encouraged and requested to exercise your right to vote for the Richland Section officers that will serve for 2001. We had a good turn out last year and would like an even better turn out this year. So please support your local chapter by voting.

Many thanks to all members who agreed to be candidates in this year's election for Richland Section ACS officers. The ballot is now set --- here is the list of candidate recommendations of the Nominations Committee Chair (Anna Cavinato) for 2001 officers:

Chair-Elect: **Milt Campbell**

Secretary: **Albert Kruger**

Treasurer: **Greg Anderson and Dennis Wester**

Alternate Councilor: **Tim Hubler**

A Ballot and Biographies of the candidates are included in this mailing. Please read over the biographies of the candidates and fill in the enclosed ballot. It is self addressed so that all you have to do after marking the ballot, is fold the ballot, tape it shut and place it in the plant mail. If you don't have access to the plant mail you will need to add a postage stamp.

Handle this paper once! Look over the candidates; mark the ballot and mail. If you need more time (or are a manager) the closing date to receive ballots is November 20, 2000.

Biographies:

Chair-Elect - **Milt Campbell**

Retired from Westinghouse Hanford in 1991 with 36 years of Hanford experience. He has been a member of the ACS since 1958 and is a past Section Chairman (1971). He has held numerous positions in the ACS and is still active in local section activities.

Secretary - **Albert Kruger**

Joined the American Chemical Society as a Student Affiliate in 1972. He received a Ph.D. degree in Chemistry from Syracuse University. Albert accepted a position with Battelle -PNL in 1988 and then went onto Westinghouse Hanford Company. Currently he is a Lead Engineer with WASTREN, Inc.

Treasurer: Greg Anderson and Dennis Wester **Gregory M. Anderson**

Currently Gregory is employed as a Sr. Chemistry Technician, at Battelle Toxicology NW. He received his BS degree from Washington State University in 1999. He has been an Associate Member of ACS since 1995 and was President Columbia Basin Chapter ACS Student Affiliates from 1996-98 and the 1998 NORM Student Program Chair

Dennis Wester

Dennis is a Senior Research Scientist at Pacific Northwest National Laboratory. He received his Ph.D. in Inorganic Chemistry from the University of Florida. He is currently serving as the Treasurer of the Richland Section. Dennis returned to Richland after three years in Russia as the Manager of the Moscow Adjunct Office of the International Nuclear Safety Program.

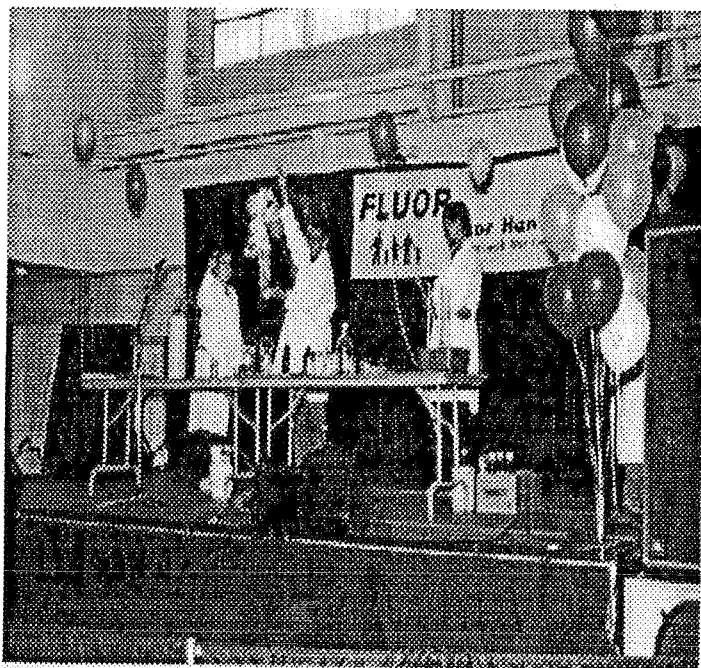
New Members!

We would like to welcome **Kwan Young Lee**, who has recently joined the ACS! We would also like to welcome the following members who have recently joined the Richland Section: **Nicholas H. Angell, Richard C. Bell, Cary M. Seidel and Rebecca A. Washenfelder**. We look forward to seeing each of you at future Richland Section Functions!

We would like to wish the best to **Michael Carpenter** who has transferred out of the Richland Section.

Family Affair 2000

Our section's annual public outreach event at the Pasco TRAC's "Family Affair" was a huge success, as usual! Held during the weekend on October 21-22, it is part of our section's celebration of National Chemistry Week. Many remembered it from last year and made a point to come over and make some "Slime" or "Putty." Thanks to all who volunteered and served during the event...**Rich Lucke, Tim Hubler, Bryan Rapko, Steve Krogsrud, Joseph Samuels, Beverly Crawford, Karen Grant, Jeni Towne, Sam Bryan, Wendy Shaw, Denise Main, Amakshi Sundaram, Heather Anastos, Deanne Carlson, Megan Lerchen, George Klinger, Priscilla Garza, Kelly Stump, Deanne Auberry, Ken Auberry, Greg Trent, Anna Cavinato, Luis Gomez, Brandon Hayden, Matthew Thornton, and the Eastern Oregon U. student affiliates.** Thanks also to PNNL for financial support and CBC for the use of equipment.



"Young chemists from Eastern Oregon University perform a chemical "Magic" show at the Family Affair exposition."