

WCCTA Conference Program October 17-19, 2002

Thursday, October 17

Time	Event	Location
3-10 pm	Check-In	
4:30-6:30 pm	Informal Gathering	Grotto Bar
6:30-7:30 pm	Dinner	Kingfisher Dining Hall
7:30-11:30 pm	Informal Gathering	Grotto Bar and The Hot Pool (no glass at the pool!)

Friday, October 18 Morning

Time	Event	Location
7:30-8:30 am	Breakfast	Kingfisher Dining Hall
9-10 am	Keynote Address I <i>Advising Across Institutions</i> Speakers: Deborah Wiegand, Beret Kischner, Joyce Fagel, Donna Sharpe	Chapel
10-10:30 am	Roundtable Discussion <i>Discussion of Advising Challenges</i> Facilitator: Deborah Wiegand	Chapel
10:30-10:45 am	Morning Break	
10:45-11:45 am	Keynote Address II <i>What Happens When They Transfer? Using a new statewide database to examine the performance of chemistry students after transfer.</i> Speaker: Mary Whitfield	Chapel
11:45-1 pm	Lunch	Kingfisher Dining Hall

RECEPTION - @Lunch

Friday, October 18 Afternoon

Time	Event	Location
1-2 pm	General Chem. Discussion	Woodpecker
2-2:45 pm	<i>Vibration-Rotation Spectrum of HBr— Analysis of the Fundamental Band of the HBr Molecule</i> Speaker: Dharshi Bopegedera	Flicker
2-2:45 pm	<i>Lab Skills Assessment – A Chem. Lab Practical</i> Speaker: David Phippen	Woodpecker
2:45-3:30 pm 3:00-3:30 pm	Break with Vendors/Vendor Presentations	Salmon Gallery
2:45-3:30 pm	<i>PH Grade Assist: Homework Assessment System</i> Speaker: Vince Martinez	Chapel
3:30-4:15 pm	* <i>Symbolic Analysis and Visualization in General and Physical Chemistry Using Mathcad</i> Speaker: Eric Bullock	Flicker
3:30-4:15 pm	* Roundtable Discussion <i>Ways to Hone Your Skills for FT Employment</i> Facilitators: Mary OBrien and Cathy Lyle	Woodpecker
4:15-4:45 pm	<i>Meaningful Service Learning in Chemistry</i> Speaker: Carole Berg	Flicker
4:15-4:45 pm	* <i>An Assessment of the Use of Structured Activities in General Chemistry</i> Speaker: David Thorsell SEATTLE U.	Woodpecker

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4:45-5:30 pm	Our Emerging Role in Teacher Training: A Chemist's Perspective Speaker: Martha J. Kurtz	Woodpecker
4:45-5:30 pm	Learning Chemistry by Teaching Speaker: Dharshi Bopegedera	Flicker
5:30-6:30 pm	Break	Have a Beer at the Grotto
6:30-7:30 pm	Dinner	Kingfisher Dining Hall
8-9 pm	History of Science Tour Speaker: Robin Terjeson	Woodpecker
9-10:30 pm	No Host Bar and Reception	Woodpecker

Saturday, October 19

Time	Event	Location
8-9 am	Breakfast and Checkout (Checkout must be complete before 11am)	Kingfisher Dining Hall and Reception
9-9:45 am	Synthesis and Characterization of Nanocrystalline $Y_2O_3:Eu^{3+}$ Phosphor: An Upper-Division Inorganic Chemistry Laboratory Speaker: Anthony L. Diaz	Flicker not hosted
9-9:45 am	Biochemical Examples in General Chemistry Speaker: Vicky Minderhout Thorsell	Woodpecker
9:45-10:30 am	Organic Discussion	Flicker not hosted
9:45-10:30 am	GOB Discussion	Woodpecker
10:30-11:30 am	Current Articles Review 3-ARTICLES - PICKUP? Facilitators: Mary Whitfield and Martha Kurtz	Woodpecker
11:30 am-12:15 pm	Two Year Schools Discussion	Woodpecker
11:30 am-12:15 pm	Four Year Schools Discussion	Flicker not hosted
12:15-1:30pm	Lunch and Business Meeting	Kingfisher

CENTRALIZED ADVISING MODEL - 1 place
 DECENTRALIZED IN DEPARTMENTS -
 COMBINATIONS - (new in central program
 - then out to advisors
 - Transfer advising center
 - Faculty in Tech program set
 - unpopulated central
 - ALL OTHERS OUT IN DEPARTMENTS

Sleeping Lady 2002
 Abstracts *unpopulated degree audit*
 - Wa CAS

FRIDAY OCTOBER 18, MORNING SESSION

Keynote Address I, 9am-10am, Chapel
ADVISING HANDBOOKS
 Advising Across Institutions
 - SCIENCE ADVISORS IN
 SCIENCE DIVISION

Speakers:
 Deborah Wiegand and Beret Kischner, Undergraduate Advising, University of Washington
 Joyce Fagel, Math and Science Advising, Shoreline Community College
 Donna Sharpe, Math and Science Advising, Bellevue Community College

Higher education advising models include roles for both professional advisers and faculty with specific responsibilities for each varying among institutions. In a cross-institution model the University of Washington has partnered with Shoreline and Bellevue Community Colleges to improve advising for science students transferring to UW. UW also supports transfer students across disciplines with a variety of resources.

Roundtable Discussion, 10am-10:30am, Chapel
 Discussion of Advising Challenges
 Facilitator: Deborah Wiegand

*10 PUGET SOUND CC'S
 STUDENTS TOOK WHOLE YEAR
 IN ONE PLACE @ GOR @*

Keynote Address II, 10:45am-11:45am, Chapel
 What Happens When They Transfer? Using a new statewide database to examine the performance of chemistry students after transfer.

Speaker: Mary Whitfield

In Washington State, a newly developed database sharing system (MRTE) allows detailed tracking of students as they transfer between and among the CCs and the University. In one ongoing study, I am comparing the grades of both "native" and transfer students in upper division science classes for which general chemistry is a prerequisite. Preliminary data from the study will be shared. I hope we can also share in a discussion about how we can best prepare our students for success after transfer.

Efficiency index
 ≤ 30 transfer credits $180 \frac{1}{4}$ TOTAL CH.
 ≥ 30 transfer credits $180 - \text{TRANSFER} \frac{3}{4}$ TOTAL CREDITS
 science ~ 10% lower efficiency than non-
 POSSIBLE CAUSES = delay of math & science
 via OTA - as General ed only
 Lack of knowledge about degree requirements.

FRIDAY OCTOBER 18, AFTERNOON SESSION

2pm-2:45pm, Flicker

Vibration-Rotation Spectrum of HBr—Analysis of the Fundamental Band of the HBr Molecule

Speaker: Dharshi Bopegedera

Analysis of the fundamental band of the vibration-rotation spectrum of HCl molecule is a standard experiment in the physical chemistry laboratory. I will discuss the comparative experiment for the HBr molecule with emphasis on the similarities & differences between the two experiments. Instrumentation used will also be presented.

2pm-2:45pm, Woodpecker

Lab Skills Assessment – A Chem. Lab Practical

Speaker: David Phippen

What skills do we expect our students to learn in a general chemistry lab? What tools do we use to evaluate their learning? One assessment tool that has worked well at Shoreline CC is the Chemistry Lab Practical. This is one of two finals in the lab portion of the course designed to measure a student's ability to perform a set of experiments. The recording and analysis of data, as well as the precision and accuracy of results, are evaluated.

2:45pm-3:30pm, Chapel

PH Grade Assist: Homework Assessment System

Speaker: Vince Martinez, Prentice Hall

See Attached Flyer

3:30pm-4:15pm, Flicker

Symbolic Analysis and Visualization in General and Physical Chemistry Using Mathcad

Speaker: Eric Bullock

Mathcad is a relatively inexpensive but powerful symbolic logic and visualization software package that can aid in student learning in science and engineering. The equations and graphs that are generated are 'live' so that parameters and variables can be altered and the effects observed in real time. Text and images can easily be added to make for comprehensive learning documents. Fully annotated live documents for instruction in general and physical chemistry have been developed by a number of teachers and are freely available on the web. During this talk, I will introduce the audience to the capabilities of Mathcad, present some illustrative examples for use in physical chemistry instruction, and take a look at the Mathcad web-based resources currently available.

Problem Solving for Students. Solving Problems for You.

PHGradeAssist

Homework Assessment System

Students need to practice solving problems—the more they practice, the better problem solvers they become.
Professors want relief from the tedium of grading.

That's why we created PH GradeAssist. It's...

- ✓ **Online**—available anytime, anywhere to you and your students.
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- ✓ **Customizable**—completely unique to your course.

How does PH GradeAssist work?

- You create quizzes or homework assignments from the bank of over 2,000 problems specific to your text. Choose the problems you prefer, edit them, or add your own.
- Your students go online and work the assignments you have created.
- Many problems are algorithmically generated, so each student gets a slightly different problem with a different answer.
- PH GradeAssist scores these assignments for you; results can be easily accessed in the Gradebook.

How much does it cost?

PH Grade Assist is available in a package with your new text for just \$7.50 over the cost of that text. Stand-alone access codes can be purchased for \$20.

For a demonstration, contact your local Prentice Hall representative or visit us online at
www.prenhall.com/phga

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3:30pm-4:15pm, Woodpecker
Ways to Hone Your Skills for FT Employment

Roundtable Discussion
Facilitators: Mary OBrien and Cathy Lyle

Come participate in this facilitated discussion focused on discovering what skills to sharpen in order to gain full time employment. A mix of experienced and new faculty, both full and part time, should provide a good opportunity to share experiences, knowledge and frustrations in attaining FT employment.

4:15pm-4:45pm, Flicker
Meaningful Service Learning in Chemistry

Speaker: Carole Berg

My chemistry class 101/140 class did a Service Learning project for the Stream/Water department of Bellevue. They learned to do precise chemical measurements using Vernier equipment and calculators versus lab analysis.

4:15pm-4:45pm, Woodpecker
An Assessment of the Use of Structured Activities in General Chemistry

Speaker: David Thorsell

In Fall 1999, we developed and implemented a model for formally structured activities in which activities are divided into three parts:

1. A pre-class assignment, done as individuals, to set the stage for learning.
2. An in-class, group activity which is difficult and requires cooperation among the team members and often coaching from the instructor.
3. A follow-up assignment that extends concepts and forces students to apply their knowledge in a new context.

The activities are difficult, but do not require knowledge the student does not have. These activities provide students with a model for approaching learning on their own and provide an opportunity for improving their conceptual understanding in chemistry. End-of-the-quarter class evaluations showed that students almost universally approve of these activities. Here we describe our efforts to assess the effect of these activities on student learning and student attitudes toward effective learning.

4:45pm-5:30pm, Woodpecker

Our Emerging Role in Teacher Training: A Chemist's Perspective

Speaker: Martha J. Kurtz

In an era with an increasing demand for science teachers, new alternative routes to teacher certification, and changes in the nature of teacher training, the emphasis on the responsibility for teacher training has broadened to include both 2- and 4-year institutions of higher education. In this session we will discuss how the National Science Education Standards are being implemented in the state of Washington through the Essential Academic Learning Requirements for Science and the Washington Assessment of Student Learning. We will discuss the changing nature of teacher training in the State and the paramount role we play in training future teachers to successfully and positively impact student learning in chemistry. Several new proposals for 2-year and 4-year institution teacher training partnerships will be discussed with a brainstorming session to follow.

4:45pm-5:30pm. Flicker

Learning Chemistry by Teaching

Speaker: Dharshi Bopegedera

As the end of the year project, my general chemistry students hosted a "chemistry day" for local high school students. I will discuss in detail how this project was organized and delivered. I will have a display of posters made by my students as a partial fulfillment of their project. Student feedback, both from the general chemistry class and the high school class will be discussed.

FRIDAY OCTOBER 18, EVENING PRESENTATION

8pm-9pm, Woodpecker

History of Science Tour

Speaker: Robin Terjeson

Visiting sites in France and Switzerland on a Science History Tour this summer gave me better perspective on past scientific achievements. Five days in Paris, five on the road and five in Zurich made this a very enjoyable tour. Seeing areas such as CERN (particle physics facility), the Pharmacy Museum in Basel, and the Curie Institute make history more real. Information and slides about people like Pasteur, the Curie's, Einstein and Werner will be shared. I will bring the photo album also!

SATURDAY OCTOBER 19, MORNING SESSION

9am-9:45am, Flicker

Synthesis and Characterization of Nanocrystalline $Y_2O_3:Eu^{3+}$ Phosphor: An Upper-Division Inorganic Chemistry Laboratory

Speaker: Anthony L. Diaz

An experiment suitable for a junior/senior level inorganic synthesis laboratory course is presented. The experiment involves the preparation of nanocrystalline $Y_2O_3:Eu^{3+}$ phosphor using a combustion synthesis technique, and the additional firing of some of the nanoparticles at 900°C. The particle size of these materials is calculated using powder X-ray diffraction data, and is found to be about 60 nm as prepared, and about 110 nm after the additional heat treatment. Characterization of the luminescence properties of Eu^{3+} in this host is done using a fluorescence spectrometer. A change in the efficiency and a shift in the position of the charge transfer band are observed with an increase in particle size. A sample set of student data and analysis is included. This laboratory has been integrated into the inorganic preparations course in the Chemistry Department at CWU.

9am-9:45am, Woodpecker

Biochemical Examples in General Chemistry

Speaker: Vicky Minderhout Thorsell

This session will explore the fundamental general chemistry topics that are utilized in biochemistry. We will discuss specifically how they are used in biochemistry and why they are important. Since you can't possibly teach biochemistry in general chemistry, the idea of this session is to give you biochemical examples that depend on general chemistry concepts.

Sleeping Lady 2002 Participant List

The list contains this year's participants with snail mail and email address. We guessed on some addresses, please correct us if they are wrong.

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