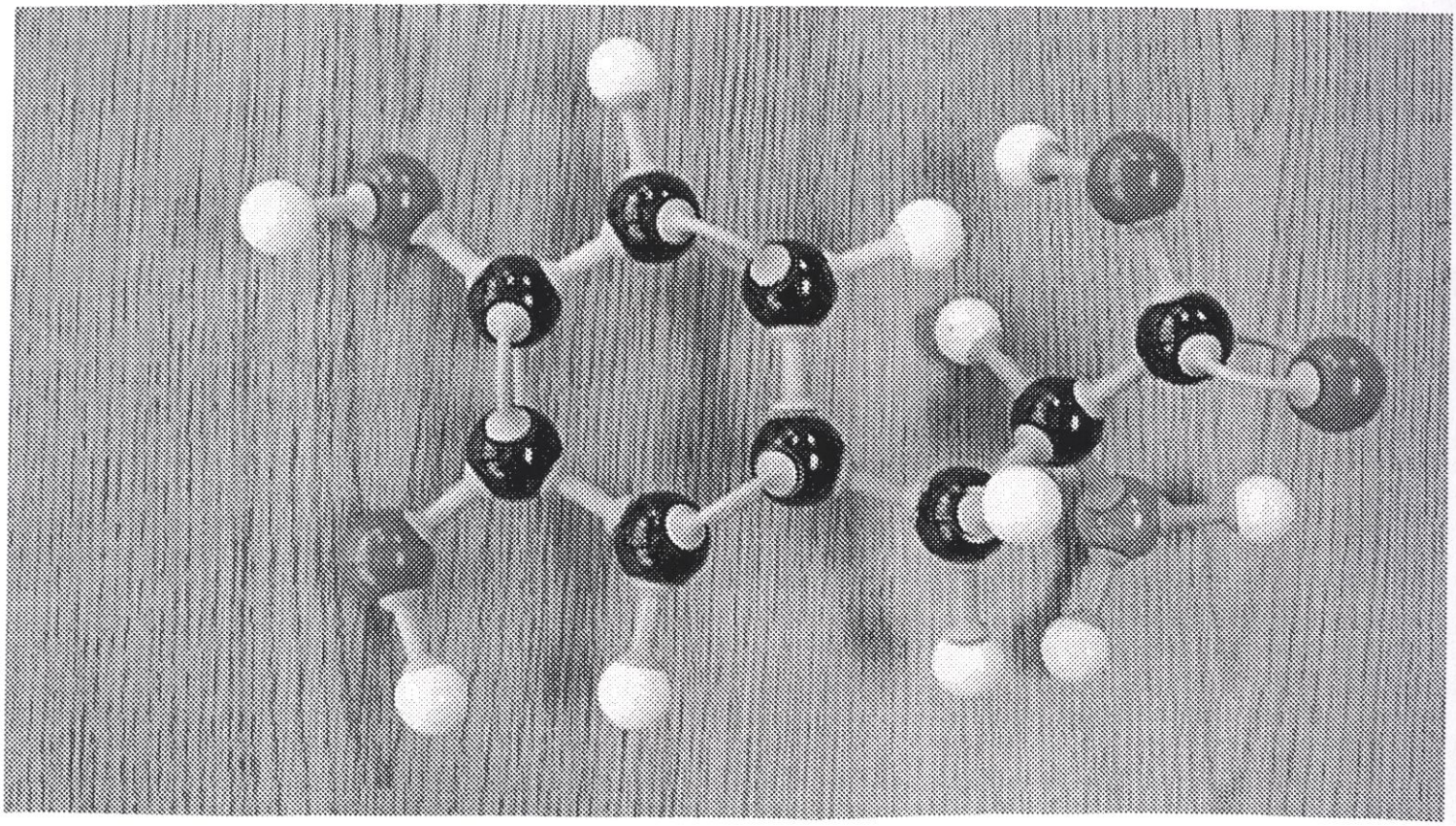
WCCTA 10th Annual Conference

Oct. 11-13, 2001

Sleeping Lady



The 2001 Nobel Prize for Chemistry was awarded Oct. 10th in recognition of research on chiral drug synthesis, particularly L-Dopa (pictured above). The prize was awarded jointly to William S. Knowles (St. Louis, USA) and Ryoji Noyori (Nagoya University, Japan) "for their work on chirally catalysed hydrogenation reactions" and the other half to K. Barry Sharpless (Scripps Research Institute, USA) "for his work on chirally catalysed oxidation reactions."

WCCTA 10th Annual Conference Program

Thursday, October 11, 2001

TIME	EVENT	LOCATION
3:00-10:00 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

Friday, October 12, 2001 -----Morning

TIME	EVENT	LOCATION
7:30-8:30 am	Breakfast	Kingfisher
9:00-10:00 am	Welcome and Keynote Address: **Teaching Chemistry in Sri-Lanka, a different experience** – Dharshi Bopegedera	Chapel
10:00-10:15	**BREAK**	
10:15-11:00 am	**If You Play, I'll Coach: Approaches to Student-led Teaching and Group Learning** – Craig Fryhle	Woodpecker
10:15-11:00 am	**I Can't see the Forest Due to ALL Those Trees!** – Carole Berg	Flicker
11:00- 11:30	***Two well-known Chemistry experiments revisited:*** 1. ***Oxygen content of air.*** 2. ***Atomic spectra.*** Walter Orchard	Woodpecker
11:00-11:30	**Electrochemical Potentials: An In-Class Experimental Introduction** - Dave Reichgott	Flicker
11:30-Noon	**Assessment Potpourri** - Martha J. Kurtz	Woodpecker
11:30-Noon	**A Method for the Determination of Solubility Rules** – Karen Stevens	Flicker
Noon-1:00 pm	Lunch	Kingfisher

Friday, October 12, 2001----Afternoon

TIME	EVENT	LOCATION
1:20-2:00 pm	General Chemistry Discussion	Woodpecker
2:00-3:00 pm	Break with the Vendors	Salmon Gallery
3:00-4:00 pm	**Put Some Cool Into Chemistry Class** – Lance Mayhofer	Woodpecker
3:00-4:00 pm	**Ideas for Facilitated Learning** – Robin Terjerson	Flicker
4:00-4:30 pm	**Come on Down: Learn to Play Games in Your Chemistry Class** - Kim Honsinger	Woodpecker
4:00-4:30 pm	**Open Laboratory for General Chemistry: How Does it Work?** - Robin Terjerson	Flicker
4:30-5:00 pm	**Teaching Organic Chemistry for Biomedical Students- My experience at Bastyr University** – Gowsala Sivam	Woodpecker
4:30-5:00 pm	**CHEMATH: Path to Success in General Chemistry** – Mary O'Brien	Flicker
5:00-6:30	Break (BCCE planning meeting in Flicker)	
6:30-7:30 pm	Dinner	Kingfisher
8:00 – 9:00 pm	**The Case of Mr. Berry Still: A Roaring 20's Murder Mystery** – Pierce College	Woodpecker
9:00 – 10:30 pm	No-Host Bar and Reception	Woodpecker

Saturday, October 13, 2001

TIME	EVENT	LOCATION
8:00-9:00 am	Breakfast	Kingfisher
9:00-10:00 am	**Review and Discussion of Current Articles from the Science Ed/Chem Ed Literature** – Mary Whitefield and Martha Kurtz	Woodpecker
10:00-10:40 am	Organic Chemistry Discussion	Woodpecker
10:00-10:40 am	GOB Discussion	Flicker
10:40-11:00 am	Check-Out **(Must be completed by 11 am)**	
11:15-Noon	Two-year School Discussion	Woodpecker
11:15-Noon	Four-year School Discussion	Flicker
Noon-1:30 pm	Lunch/Business Meeting	Kingfisher

WCCTA TENTH ANNUAL CONFERNCE ABSTRACTS

Keynote Address:

Teaching Chemistry in Sri-Lanka, a different experience

Dharshi Bopegedera **The Evergreen State College**
9:00-10:00 am **Chapel Theater**

I spent one semester teaching physical chemistry (lecture and laboratory) at the University of Sri-Jayewardenepura, Sri-Lanka, during by sabbatical leave (Jan – June 2000). I will compare my experience of teaching there to that in the United States. Special emphasis will be given to discussing the similarities and differences about student preparation, student participation and faculty concerns in the two countries.

Friday Morning, October 12th

If You Play, I'll Coach: Approaches to Student-led Teaching and Group Learning

Craig B. Fryhle, **Pacific Lutheran University,**
10:15-11:00 am **Woodpecker**

This presentation will explore strategies for incorporating student-led teaching into our classes. Methods of course management and specific pedagogical tools will be considered. The approach described encourages our students to become active players while freeing us to be coaches and mentors. Student group members work collaboratively, ultimately presenting the fruits of their efforts on summative problems. Students gain the powerful experience of learning through teaching; while instructors gain key and timely perspectives on the state of our student's chemical understanding.

I Can't See the Forest Due to All Those Trees!

Carole Berg **Bellevue Community College**
10:15-11:00 am **Flicker**

A method to map organic synthesis that can be applied to each instructor's unique organic course. It helps clear up the view of the "forest" with all those "trees" (reactions).

Two well-known Chemistry experiments revisited:

3. ***Oxygen content of air.***
4. ***Atomic spectra.***

Walter Orchard
Tacoma Community College
11:00-11:30
Woodpecker

1. The oxygen contents of both fresh air and exhaled breath can be determined with surprising accuracy using very simple equipment. The experiment can easily be completed in a 2-hour lab session, and can also serve as a useful introduction to graph plotting using a spreadsheet such as Excel.
2. The hydrogen atom spectral lines in the visible region can be accurately measured using readily-available and inexpensive hand-held spectroscopes. The measured wavelengths are compared to those predicted by the Bohr theory in order to assign the transitions involved. The Bohr wavelengths are calculated using Excel, providing students with a striking example of the power and speed of a spreadsheet as compared to hand calculations. The spectroscopes are useful for other investigations as well, including Frauenhofer lines in sunlight and the mercury lines in fluorescent light fixtures.

Both experiments will described and the equipment will be demonstrated

Electrochemical Potentials: An In-Class Experimental Introduction

Dave Reichgott
Edmonds Community College
11:00-11:30
Flicker

This hands-on experimental exercise is designed to provide an introduction to electrochemical potentials. It is suitable for General Chemistry and Preparatory Chemistry courses, and it is designed to fit into a forty-minute time frame. Electrochemical potentials are measured with a voltmeter between dissimilar metals in a Petri dish with chromatography paper as a "salt bridge". Results for several metals are placed on a number line. Students then use the number line to predict and measure potentials between metals that they have not previously measured. Given one numerical value for a metal vs. hydrogen, they then convert all their measurements to values vs. hydrogen and compare them to a table of standard potentials.

Assessment Potpourri

Martha J. Kurtz
11:30-Noon

Central Washington University
Woodpecker

Can a test-wise student pass your multiple-choice test with out knowing any chemistry? How close will your scores be to a colleague's after grading the same student work sample? Will a rubric make grading more consistent? Is it possible to know whether a student understands chemical hazard classifications and stockroom storage? In this session you will experience some assignments I have developed to help teaching assistants and future teachers better their assessment skills. Experienced teachers remember; you *can* teach old dogs new tricks.

A Method for the Determination of Solubility Rules

Karen Stevens
11:30-Noon

Whitworth College
Flicker

A method will be presented which can be used experimentally or descriptively to help students understand the solubility rules. Rather than simply memorizing which ions are soluble or insoluble, this technique allows students to see the development of the rules and how they come to be assigned to particular categories. The method consists of a set of chemical reactions using "disguised chemicals" that can be performed as a demonstration or left to the students to experiment with themselves. At the conclusion of the experimental portion, the instructor leads the students through a logical analysis of the experimental results which lead to the solubility rules.

Friday Afternoon, October 12

Put Some Cool Into Your Chemistry Class

Lance Mayhofer
3:00-4:00 pm

PASCO Scientific
Woodpecker

Chemistry teachers seeking a solution for integrating technology into the lab will experience the ease of use of PASCO's Xplorer Datalogger and the PASport line of USB sensors. Using a diverse range of sensors including pH, temperature, and pressure, you will see how to utilize DataStudio software and "Workbooks" to meet curriculum and standards requirements. See how the Xplorer Datalogger makes remote data dollection easy and engaging. Examples of the new Chemistry "Workbooks" published by Addison Wesley will be a part of the workshop. Attend this workshop for a chance to win a PASport temperature lab.

Ideas for Facilitated Learning

Robin Terjerson — **Clark College**
3:00-4:00 pm — **Flicker**

An open discussion about facilitated learning and how we use it in the classroom. What are some ideas that others have about the use of facilitated learning?

Come on Down: Learn to Play Games in Your Chemistry Class

Kim Honsinger — **Bellevue Community College**
4:00-4:30 pm — **Woodpecker**

Any instructor knows that trying to provide in-class practice problems for general chemistry can easily turn into worksheet drudgery. This talk will focus on strategies for turning those same worksheet problems into games quickly and easily. I will share some of my favorite games with you as well as feedback from my students.

Open Laboratory for General Chemistry: How Does it Work?

Robin Terjerson — **Clark College**
4:00-4:30 — **Flicker**

How Clark has organized and implemented an open laboratory for all general chemistry labs. Some pros and cons as well as procedures and requirements are presented.

Teaching Organic Chemistry for Biomedical Students- My experience at Bastyr University

Gowsala Sivam — **Bastyr University**
4:30—5:00 pm — **Woodpecker**

CHEMATH: Path to Success in General Chemistry

Mary O'Brien **Edmonds Community College**
4:30-5:00 pm **Flicker**

Chemath is a coordinated studies class that links "prep" chem and intermediate algebra. The students who take Chemath have weak backgrounds in chemistry and/or math, and are considering a science or engineering major. The focus of Chemath is to prepare these students for college level science and math classes. From its inception in 1989, Chemath instructors have developed strategies, techniques, and tools to sharpen students' problem solving and critical thinking skills and to explicitly demonstrate how mathematics is used in the study of chemistry. Curricular materials developed for Chemath will be shared with the audience, as well as data that demonstrate the success of Chemath students as they progress in their future studies.

The Case of Mr. Berry Still: A Roaring 20's Murder Mystery

8:00-9:00 pm Woodpecker

(Costumes are optional but encouraged)

Pierce College would like to invite you to an evening of Murder, Mystery, and Chemistry. Mr. Berry Still has been found dead in his chemistry lab. It is up to you to solve the Mystery of his death. You will get a chance to put your powers of reasoning, chemistry and sleuthing to work. Meet all the suspects and investigate the crime scene.

Prizes will be awarded for the best costumes and the team(s) who find the correct solution to the Crime.

Karen Harding and Pierce College Chemistry developed this murder mystery to teach and excite students in a non-scientist Chemistry class.

Saturday Morning, October 13

Review and Discussion of Current Articles from the Science Ed/Chem Ed Literature

Mary Whitefield — **Green River Community College**
Martha Kurtz — **Central Washington University**
9:00-10:00 am — **Woodpecker**

Have you been keeping up with all the latest articles from J. Chem. Ed.? Admit it – you haven't had the time. Even if you have been diligently reading, wouldn't it be more valuable if you could discuss the articles with colleagues? Now you have the chance! This session will be an opportunity to gather and discuss a few recent articles from the literature. The co-chairs will select a few recent articles from the prominent science education journals and will distribute them in advance. At the session we'll discuss the articles and their implications for out teaching. Interested participants are also welcome to bring an article they'd like to share and/or discuss.

Delegates in Attendance

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