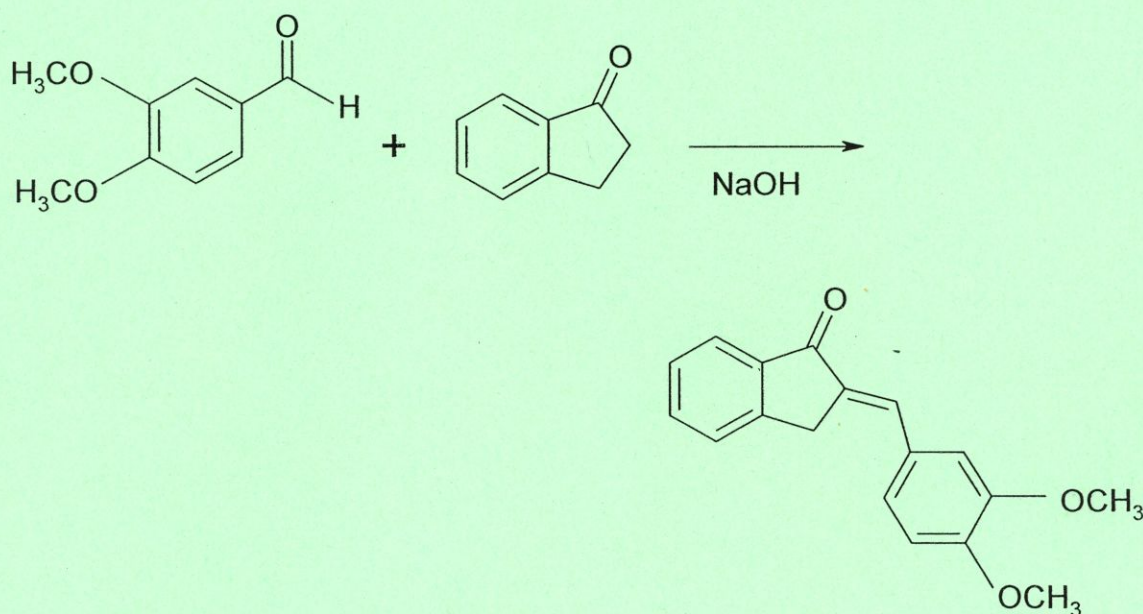


WCCTA 11th Annual Conference

October 23-25, 2003

Sleeping Lady Mountain Retreat
Leavenworth, Washington

SOLVENTLESS ALDOL CONDENSATION REACTION*



*From Green Organic Chemistry, Strategies, Tools, and Laboratory Experiments
by K.M. Doxsee and J.E. Hutchison, Brooks/Cole, Pacific Grove, CA, 2004

WCCTA Conference Program

October 23-25, 2003

Thursday, October 23

Time	Event	Location
3-10 pm	Check-in	Office
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 24 Morning

Time	Event	Location
7:30-8:30 am	Breakfast	Kingfisher Dining Hall
8:45-9 am	Welcome Wally Orchard	Chapel
9-10 am	Keynote Address <u>Ken Doxsee, University of Oregon</u> <i>Green Chemistry</i>	Chapel
10-10:25 am	Green Chemistry-question and answer period	Chapel
10:25-10:30 am	Meet the local ACS Dharshi Bopegedera	Chapel
10:30-11:15 am	Break with vendors	Salmon Gallery
11:15-12 noon	<u>Carole Berg</u> <i>Pros and cons of Lab Reports and Quizzes</i>	Flicker
	<u>Richard Logan</u> <i>Twelve Years of General Chemistry Capstone Group Projects in Water Quality on Squilchuck Creek</i>	Woodpecker
12-1:15 pm	Lunch	Kingfisher Dining Hall

Friday, October 24 Afternoon

Time	Event	Location
1:15-2 pm	<u>Pasco Scientific—Lance Mayhofer</u> <i>Make the Invisible Visible in Your Chemistry Class</i>	Flicker
	<u>Buck Scientific—Jerry DeMenna</u> <i>Real-World Hands-on Experiments with the FUN-SCI Program</i>	Woodpecker
2-2:45 pm	<u>Vicky Minderhout Thorsell</u> <i>Student Perceptions of and Performance of Problem Solving in a Process Oriented Classroom</i>	Flicker
	<u>Dharshi Bopegedera</u> <i>Hosting a "Career Week" for Chemistry Majors</i>	Woodpecker
2:45-3:30 pm	Break with vendors	Salmon Gallery
3:30-4:15 pm	<u>Justine Furutani and Tracy Furutani</u> <i>Solubility Determination Exercise</i>	Flicker
	<u>Dean Waldow</u> <i>Implementing a Research-Rich Laboratory Experience in Physical Chemistry: Thermodynamics and Kinetics</i>	Woodpecker
4:15-4:45 pm	<u>Rebecca Sunderman</u> <i>A Course in Experimental Design</i>	Woodpecker
4:45-5:30 pm	General Chemistry Discussion <i>Open topics</i> <i>Carole Berg, facilitator</i>	Flicker
	<u>Kathy Carrigan, Nancy Barker, and Ralph Morasch</u> <i>Panel on Design and Construction of New Science Buildings</i>	Woodpecker
5:30-6:30 pm	Break	Preprandials at the Grotto
6:30-7:30 pm	Dinner	Kingfisher Dining Hall
8-10 pm	<u>Bruce Watson, Canandaigua Wine Co. NW Operations</u> <i>The Chemistry of Wine, followed by Wine Tasting</i>	Woodpecker

Saturday, October 25 Morning

Time	Event	Location
8-9 am	Breakfast and Checkout (Checkout must be complete before 11 am)	Kingfisher Dining Hall and Reception
9-9:45 am	Robin Terjeson <i>Clark, Lower Columbia College, WSU-Vancouver Institute</i>	Flicker
	David Thorsell <i>Predicting Success in General Chemistry through the Use of a Diagnostic Exam</i>	Woodpecker
9:45-10:30 am	Organic Discussion <i>"The use of ACS exams" and other topics</i> Jay Mueller, facilitator	Flicker
	GOB Discussion <i>"How will changes in UW GOB affect the rest of us" and other topics</i> Wally Orchard, facilitator	Woodpecker
10:30-11am	Check Out—must be completed by 11am	
11-11:45 am	Four year college discussion <i>"Integrating research into the undergraduate curriculum" and other topics</i> Dharshi Bopegedera, facilitator	Flicker
	Two year college discussion <i>Open topics</i> Bob Schmitt, facilitator	Woodpecker
12-1 pm	Lunch	Kingfisher Dining Hall
1-1:30 pm	Business meeting and door prizes	Chapel

WCCTA ABSTRACTS 2003

FRIDAY OCTOBER 24, MORNING SESSION

KEYNOTE ADDRESS, 9am-10am, Chapel

Green Chemistry

Kenneth Doxsee, University of Oregon

Abstract: Green chemistry has been defined as "the design and use of methods that eliminate health and environmental hazards in the manufacture and use of chemicals." Green chemistry represents the future of sustainability in both the chemical industry and the "chemistry industry," with the latter representing companies not typically considered "chemical" that nonetheless depend heavily on chemical products. A new program at the University of Oregon introduces the concepts and practice of green chemistry to students throughout the chemistry curriculum, focusing in particular on the organic chemistry laboratory. In addition to knowing it is doing "the right thing," the University has found numerous practical advantages in its conversion to green chemistry, including high student interest and morale (leading to increasing numbers of chemistry majors and minors), effective recruiting at the undergraduate and graduate levels, minimized costs for waste disposal (even when working on the macroscale), and the ability to carry out experimentation without the need for expensive air handling (fume hood) capability. Graduate research at the University of Oregon explores a range of green concepts and technologies, including the design of selective catalysts, the synthesis of materials with promising energy-conversion properties, the preparation of reagents for the selective extraction of radioisotopes from waste water, and the development of green approaches for solid-state synthesis.

Questions and Answers, 10am-10:25am

11:15am-12 noon, Flicker

Pros and cons of Lab Reports and Quizzes

Carole Berg, Bellevue Community College

Abstract: A discussion of current lab report books and quizzes given in my BCC inorganic and organic/biochemistry lab classes. This will be an open discussion to share problems and insights into lab reporting.

11:15am-12 noon, Woodpecker

Twelve Years of General Chemistry Capstone Group Projects in Water Quality on Squilchuck Creek

Richard M. Logan, Wenatchee Valley College

Abstract: A review of data, student presentations, and laboratory vagaries of group projects for General Chemistry. After twelve years of assigning water quality projects to groups of 6-7 students as a capstone of the year of General Chemistry, I have encouraging but distressing news. It is worth every effort to provide group work that requires collaboration. Especially, if the project requires extensively referenced laboratory projects requiring students to develop laboratory procedures, report results in written and oral forums, and develop leadership skills in cooperating toward a common goal. The downside is that students do not succeed at these goals very well and often do not appreciate the skills gained until three to eight years after completing the course. I will present anecdotal evidence of the outcomes of this type of learning project in General Chemistry at Wenatchee Valley College.

FRIDAY OCTOBER 24, AFTERNOON SESSION

1:15pm-2pm, Flicker

Make the Invisible Visible in Your Chemistry Class

Lance Mayhofer, Pasco Scientific

Abstract: What if your students could perform simple, meaningful chemistry experiments that improve their comprehension of challenging chemistry concepts? In this workshop you'll learn how handheld data loggers, sensors and software can be used to create a more meaningful chemistry learning environment. Find out how Electronic Workbook software can guide students through complicated, standards-based explorations without interfering with scientific discovery.

1:15pm-2pm, Woodpecker

Real-World Hands-on Experiments with the FUN-SCI Program

Jerry DeMenna, Buck Scientific

Abstract: Come see a few "fun" and "interesting" (aka: non-boring!) experiments for advanced high school and for collegiate teaching and basic graduate research of analytical instrumentation (IR, UV-Vis, fluorimetry, colorimetry, atomic absorption, GC and HPLC). All systems will be set up with our unique "FUN-SCI" experiments during the presentation. The "FUN-SCI" program focuses on topics that the students deal with or are concerned with every day (food, beverages, cosmetics, drugs, cars, environment, crime, etc.); and thus inspire them to remember what they did during the experiment.

2pm-2:45pm, Flicker

Student Perceptions of and Performance of Problem Solving in a Process Oriented Classroom

Vicky Minderhout Thorsell, Seattle University

Abstract: In a process oriented classroom the learner uses methodologies for key performance processes and self-assessment to improve future performance. One such key process in chemistry is problem solving. Performance of problem solving requires that conceptual understanding be put into action through some application. We use a problem solving methodology as an educational tool to help novices become more practiced and professional. While the typical single answer word problem can be solved using a fairly simple process, open-ended problems or ones in which numerous concepts are applied require a more robust process that guides the learner to determine what is important, to collect and assess available information, to develop a model and to identify assumptions. Since 1997 we have taught our biochemistry sequence using a problem solving methodology coupled with self-assessment to improve performance. I began collecting data (exams, self-assessments and final growth reports) on these efforts in 1999. These data show a direct correlation between high quality self-assessment and effective problem solving on exams. In addition, student responses in final growth reports indicated that small curricular changes in the presentation of the problem methodology had a large effect on the student's awareness and perception of problem solving activities in the class. I will report both quantitative and qualitative data, and student quotes and discuss student buy-in.

2pm-2:45pm, Woodpecker

Hosting a "Career Week" for Chemistry Majors

Dharshi Bopegedera , The Evergreen State College

Abstract: In my presentation I will discuss my experience of hosting a "Career Week" for the benefit of chemistry majors at The Evergreen State College. The purpose of the "Career Week" is to help students obtain information about graduate schools, medical schools and employment in the chemical industry. I will discuss the academic background students bring to this event, the schedule of a typical "Career Week", and the involvement of the Career Development Office of The Evergreen State College in this process. I will share the input given by former students about "Career Week" and how it helped them in their search for careers in chemistry.

3:30pm-4:15pm, Flicker
Solubility Determination Exercise

Justine Furutani and Tracy Furutani, North Seattle Community College

Abstract: Solubility can be a dry topic in introductory and general chemistry. We have developed a solubility-study simulation in which students “purchase” differing amounts of different salt samples, perform solubility tests (as a dry-lab simulation) and use the results to determine the relative order of salt solubility. Ancillary goals of the exercise are to show students the grant proposal writing procedure and the journal publication procedure in a fast-paced learning adventure.

3:30pm-4:15pm, Woodpecker

**Implementing a Research-Rich Laboratory Experience in Physical Chemistry:
Thermodynamics and Kinetics**

Dean Waldow, Pacific Lutheran University

Abstract: The physical chemistry laboratory curriculum at Pacific Lutheran University is currently shifting towards a research-rich project environment. This shift is augmented by an NSF-CCLI grant that is providing equipment and software. Project adaptations from research literature range from laser-based dynamic and static light scattering and laser-based Raman studies to computational chemistry studies. Expanding projects to include both experiment and computational modeling is also a goal, and should create a more comprehensive link between experimental data and theoretical constructions. It is anticipated that these changes will help make physical chemistry students more aware of the process chemists utilize in exploring the chemical world, create greater interest in the course, and provide a stimulus for them to pursue undergraduate research. This talk will concentrate on the initial implementation in thermodynamics and kinetics with projects focused on hydrogels, nanospheres, and living free radical polymerization.

4:15pm-4:45pm, Woodpecker

A Course in Experimental Design

Rebecca Sunderman, The Evergreen State College

Abstract: How do you pick a research topic? Where does grant money come from? What is the difference between pure research and applied research? How do you know where to start with a research project? Many students graduating from college and planning careers in chemistry are unable to answer these questions. Experimental Design, CHEM 398, was created to prepare students for careers in chemistry. The class was a success and has become an important part of the chemistry curriculum at West Virginia Wesleyan College.

4:45pm-5:30pm, Woodpecker

Panel on Design and Construction of New Science Buildings

Kathy Carrigan, Portland Community College and Nancy Barker and Ralph Morasch, Pierce College

Abstract: An illustrated talk about the new science building at Portland Community College, followed by a general discussion.

FRIDAY OCTOBER 24, EVENING ENTERTAINMENT

8pm, Woodpecker

The Chemistry of Wine

Bruce Watson, Canandaigua Wine Company, NW Operations

Followed by wine tasting.

SATURDAY OCTOBER 25, MORNING SESSION

9-9:45am, Flicker

Clark, Lower Columbia College, WSU-Vancouver Institute

Robin Terjeson, Clark College

Abstract: Clark, LCC and WSUV will be offering 4 yr degree programs in engineering, computer science and biology beginning Fall 2004 at the WSUV site. This project consists of new and/or revised courses at the lower division level so that the students see a seamless 4-yr program. This presentation is to let everyone know about the development of the Institute and the progress to date in collaborating and solving all of the many problems involved. Not the least of which is the quarter/semester dilemma.!!

9am-9:45am, Woodpecker

Predicting Success in General Chemistry through the Use of a Diagnostic Exam

David Thorsell, Seattle University

Abstract: The Seattle University Chemistry Department has been giving the American Chemical Society California Chemistry Diagnostic Test to all students at the beginning of our first quarter general chemistry course since the fall of 1994. The exam consists of 44 questions, 34 of which are based on high school chemistry and the remaining 10 on related skills and knowledge such as measurement, three dimensional visualization, units and math. We have correlated student success in the course, as indicated by their course grade, with total diagnostic exam score and also with the scores on each of the two sections of the exam. I will show data giving the percent of students who have unsuccessful outcomes in the course (grade lower than C- or a withdrawal) and those doing very well in the course (A or B grade) related to performance on the diagnostic exam. Data comparing the performance of students who do poorly on the diagnostic exam but do remedial work before starting general chemistry with those who do poorly but stay in the course anyway will be given. The talk will conclude with a group discussion related to the merits of using such diagnostic exams to prevent entry into general chemistry without first doing remedial work as opposed to using them just for advisory purposes.

WCCTA 2003 Participant List

Kathy Ashworth
Yakima Valley Community College
P. O. Box 22520
Yakima, WA 98907
kashworth@yvcc.cc.wa.us

Anne Brackett
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036

Marci J. Bailey
Central Washington University
400 E University Way
Ellensburg, WA 98926
baileyma@cwu.edu

Eric Bullock
Central Washington University
400 E University Way
Ellensburg, WA 98926
bullocke@cwu.edu

Ted Baldwin
Olympic Community College
1600 Chester Ave.
Bremerton, WA
tbaldwin@oc.ctc.edu

Kathy Carrigan
Portland Community College
704 N Killingsworth Ave.
Portland, OR 97217
kcarriga@pcc.edu

Nancy Barker
Pierce College
9401 Farwest Dr. SW
Lakewood, WA 98498
nbarker@pierce.ctc.edu

Joann Chickering
Bellevue Community College
3000 Landerholm Circle SE
Bellevue, WA 98007
jchicker@bcc.ctc.edu

Carole Berg
Bellevue Community College
3000 Landerholm Circle SE
Bellevue, WA 98007
cberg@bcc.ctc.edu

Sue Critchlow
University of Puget Sound
1500 N Warner
Tacoma, WA 98416
scritchlow@ups.edu

Dharshi Bopegedera
The Evergreen State College
Department of Chemistry
Olympia, WA 98505
bopegedd@evergreen.edu

John DiBari
Yakima Valley Community College
P. O. Box 22520
Yakima, WA 98907
jdibari@yvcc.cc.wa.us

Ken Doxsee
University of Oregon
Department of Chemistry
Eugene, OR 97403
doxsee@oregon.uoregon.edu

Karen Grant
Columbia Basin Community College
2600 N. 20th Ave
Pasco, WA 99301
Karen.Grant@columbiabasin.edu

Randy Engel
Ubiquitous University
7712 18th Ave NE
Seattle, WA 98115
tawnydog@earthlink.net

Tom Griffith
North Seattle Community College
8606 25th Ave. NE
Seattle, WA
tgriffith@sccd.ctc.edu

Nadine Fattaleh
Clark Community College
1800 E McLoughlin Blvd
Vancouver, WA 98663
fattaleh@clark.edu

Katie Gulliford
Highline Community College
2400 S 240th St. M/S 15-1
Des Moines, WA 98198
kgullifo@highline.edu

Craig Fryhle
Pacific Lutheran University
Department of Chemistry
1010 122nd St. E
Tacoma, WA 98447
fryhle@chem.plu.edu

Karen Harding
Pierce College
9401 Farwest Dr. SW
Lakewood, WA 98498
kharding@pierce.ctc.edu

Justine Furutani
North Seattle Community College
9600 College Way North
Seattle, WA 98103
justine@btia.net

Megan Hess
Pierce College
9401 Farwest Dr. SW
Lakewood, WA 98498
mhess@pierce.ctc.edu

Tracy Furutani
North Seattle Community College
9600 College Way North
Seattle, WA 98103
tfurutani@sccd.ctc.edu

Nina Heydari
Bellevue Community College
3000 Landerholm Circle SE
Bellevue, WA 98007

Brett Goldston
Bellevue Community College
3000 Landerholm Circle SE
Bellevue, WA 98007
bgoldsto@bcc.ctc.edu

Jackie Hong
North Seattle Community College
9600 College Way N
Seattle, WA 98103
jhong@sccd.ctc.edu

Tristan Jenkins
Clark Community College
1800 E McLoughlin Blvd
Vancouver, WA 98663
tjenkins@clark.edu

Mark Kontulis
Everett Community College
2000 Tower St.
Everett, WA 98201
mkontuli@evcc.ctc.edu

Tim Johann
Everett Community College
2000 Tower Street
Everett, WA 98201
tjohann@acornhosting.net

George S. Kriz
Western Washington University
Dept. of Chemistry MS 9150
Bellingham, WA 98225
George.Kriz@wwu.edu

Anne Johansen
Central Washington University
400 E University Way
Ellensburg, WA 98926
johansen@cwu.edu

Martha Kurtz
Central Washington University
400 E University Way
Ellensburg, WA 98926
kurtzm@cwu.edu

Chris Johnson
Bellevue Community College
3000 Landerholm Circle SE
Bellevue, WA 98007
johnso@bcc.ctc.edu

Richard Logan
Wenatchee Valley College
1509 Woodhaven Place
Wenatchee, WA 98801
rlogan@wvcmail.ctc.edu

Angie Kantola
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036
KANTOLA@DRIZZLE.com

Cathy Lyle
Bellevue Community College
3000 Landerholm Circle S.E.
Bellevue, WA 98007
clyle@bcc.ctc.edu

Bob Kieburtz
Olympic Community College
1600 Chester Ave
Bremerton, WA 98337
rkieburtz@oc.ctc.edu

Adrienne Martin
Bellevue Community College
3000 Landerholm Circle S.E.
Bellevue, WA 98007
jackagm@aol.com

Roger Knutsen
Green River Community College
12401 SE 320th St.
Auburn, WA 98092
rknutsen@greenriver.edu

Ryan McLaughlin
Seattle University
900 Broadway
Seattle, WA 98122
mclaughlin@seattleu.edu

Michael Melvin
Bellevue Community College
3000 Landerholm Circle S.E
Bellevue, WA 98007
mmelvin@bcc.ctc.edu

John Patterson
North Seattle Community College
9600 College Way N
Seattle, WA 98103
jpatterson@sccd.ctc.edu

Ralph Morasch
Pierce College
9401 Farwest Dr. SW
Lakewood, WA 98498
rmorasch@pierce.ctc.edu

John Peterson
Big Bend Community College
7662 Chanute
Moses Lake, WA 98837
johnp@bigbend.edu

Jay Mueller
Green River Community College
12401 SE 320th St.
Auburn, WA 98092
jmueller@greenriver.edu

John Pfeffer
Highline Community College
2400 S. 240th St. M/S 15-1
Des Moines, WA 98198
jpfeffer@highline.edu

Marie Nguyen
Highline Community College
2400 S. 240th St. M/S 15-1
Des Moines, WA 98198
mnguyen@highline.edu

David Reichgott
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036
dreichgo@edcc.edu

Mary O'Brien
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036
mobrien@edcc.edu

Tris Samberg
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036
Tristine.samberg@edcc.edu

Wally Orchard
Tacoma Community College
6501 S 19th St.
Tacoma, WA 98466
worchard@tcc.ctc.edu

Perminder Sandhu
Bellevue Community College
3000 Landerholm Circle SE
Bellevue, WA 98007
psandhu@bcc.ctc.edu

Kalyn Owens
Central Washington University
400 E University Way
Ellensburg, WA 98926
owenska@cwu.edu

Cathy Sarisky
Everett Community College
2000 Tower St.
Everett, WA 98201
csarisky@evcc.ctc.edu

Bob Schmitt
Tacoma Community College
6501 S 19th St.
Tacoma, WA 98466
rschmitt@tcc.ctc.edu

Robin Terjeson
Clark Community College
1800 E McLoughlin Blvd
Vancouver, WA 98663
rterjeson@clark.edu

Sara Selfe
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036
sselfe@edcc.edu

David Thorsell
Seattle University
900 Broadway
Seattle, WA 98122
dlt@seattleu.edu

Chris Shelley
Bellevue Community College
3000 Landerholm Circle S.E
Bellevue, WA 98007
cshelley@bcc.ctc.edu

Vicky Minderhout Thorsell
Seattle University
900 Broadway
Seattle, WA 98122
vicky@seattleu.edu

Sumita Singh
Everett Community College
801 Wetmore Ave
Everett, WA 98201
ssingh@evcc.ctc.edu

Dean Waldow
Pacific Lutheran University
Department of Chemistry
1010 122nd St. E
Tacoma, WA 98447
waldowda@plu.edu

Asya Starosta
Edmonds Community College
20000 68th Ave. W
Lynnwood, WA 98036
astarost@edcc.edu

Bruce Watson
Canandaigua Wine Co. NW Operations
Woodinville, WA 98072

Rebecca Sunderman
The Evergreen State University
Department of Chemistry
Olympia, WA 98505
sundermr@evergreen.edu

Ted Wood
Pierce College
9401 Farwest Dr. SW
Lakewood, WA 98498
twood@pierce.ctc.edu

Jack Surendranath
Bellevue Community College
3000 Landerholm Circle S.E
Bellevue, WA 98007
jsurendr@bcc.ctc.edu

WCCTA 2003 Vendor List

Libby Blaker
Brooks/Cole-Thomson
425-591-8549
libby.blaker@thomsonlearning.com

Laura Roberts
McGraw-Hill
206-938-3305
laura_roberts@mcgraw-hill.com

Gordon Fromm and Jerry DeMenna
Buck Scientific
503-682-7278
gfromm@teleport.com (Gordon)
ChemChek@aol.com (Jerry)

Mark Santee
W. H. Freeman and Co.
212-576-9400
msantee@whfreeman.com

Robyn Johnson
Vernier Software and Technology
503-277-2299
rjohnson@vernier.com

Roy Shaw
Prentice-Hall
360-456-2823
roy_shaw@prenhall.com

Bill May
Wiley
425-828-8820
bmay@wiley.com

Greg T Spyridis
ACS Puget Sound Section
206-296-5944
spyridis@seattleu.edu

Lance Mayhofer
Pasco Scientific
916-786-3800
mayhofer@pasco.com

Tom Swift
Varian Inc.
206-440-5549
tom.swift@varianinc.com

Keiran Moloney
Houghton Mifflin Co.
360-324-3324
keiran_moloney@hmco.com