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Meeting Programs in This Issue

1999 -2000 Academic Year

152nd Conference (Midwestern)

July 30-August 3, 2000 16th Biennial Conference on
Chemical Education
University of Michigan
Ann Arbor, MI 48109-1055

Contact:

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153rd Conference (Eastern)

October 6-7, 2000 Hudson Valley Communit College
80 Vandenburg Ave.
Troy, New York 12180

Program Chairs:

Ernest Siew and Jim Ziubri
Phone: 518-629-8123; 629-7110
e-mail: siewern@hvcc.edu
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Local Arrangements:

Robert Buckley and John Nickles
Phone:518-629-7112; 629-8124
e-mail: bucklrob@hvcc.edu
nickjoh@hvcc.edu

Exhibits Coordinators:

Rose Dorr
Phone 518-629-7408
e-mail: dorrose@hvcc.edu

154th Conference (Midwestern)

November 10-11 2000 Vincennes University
1002 North Frist Street
Vincennes, Indiana 47591
Program Chair: Tom Gruber
Delgado Community College
2600 General Meyer Avenue
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Exhibits Coordinators: Trudie Wagner
e-mail: twagner@vunet.vinu.edu

155th Conference (Western)

March 30-31 2001 San Diego City College
1313 12th Street
San Diego, CA 92101
Contact James Burton
e-mail: JamesB7850@aol.com

156th Conference (Southern)

Late Spring or Summer, 2001
Information Pending

157th Conference (Midwestern)

September 14-15 2001 Anoka-Ramsey Community College
11200 Mississippi Blvd., NW
Coon Rapids, MN 55433
Contact: Kely Befus
Phone: (612) 422-3481
e-mail: befuske@an.cc.mn.us

158th Conference (Western)

November 2-3 2001 Community College of Southern Nevada
West Charleston Campus
6375 West Charleston Blvd.
Las Vegas, NV 89102-1124
Contact Karn Zarrabi
e-mail: zarrabi@nevada.edu

2YC₃/Division of Chemical Education Joint Membership Form

This is a special offer only for 2YC₃ members who are not already members of the Division of Chemical Education. The separate dues for 2YC₃ and the Division of Chemical Education are \$15.00 each. If you are not now a member of the Division of Chemical Education, you can join the Division and renew your membership with 2YC₃ for only \$25.00, a savings of \$5.00.

Renew my 2YC₃ membership I wish to join DivCHED as: a Member (ACS Members only)
 an Affiliate (non ACS Members)*
affiliates have all membership privileges except voting and holding elective office.

Your Name: _____

Home Address: _____
Street City, State Zip Code

Work Address: (if different) _____
Street City, State Zip Code

College Phone (____)-_____ e-mail _____

Send 2YC₃ Newsletter and CHED Newsletter to Home _____ Work _____
Send ACS Member Form Yes _____ No _____

2YC₃ Membership Information: Are you a
 Two-Year College Teacher? Four-Year College Teacher?
 High School Teacher? Other

Please send your check, payable to 2YC₃, for \$15 (2YC₃ only) or \$25 (joint membership) to: Dolores C. Aquino, San Jacinto College Central, 8060 Spencer Highway, Pasadena, TX 77501-2007

NOTES FROM THE CHAIR

Rick Bolesta
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(503) 491-7361

The year is 2000. It's either the beginning of a millennium or its end, depending on one's point of view. It's a year that calls out for us to evaluate our past and plan for our future, not only in our personal lives, but also in the life of the 2YC₃.

2YC₃ started in Chicago, in the early 1960's, when a group of chemistry teachers were invited to serve the ACS Division of Chemical Education on a committee to be responsible for the ACS Junior College Chemistry Roundtable Conferences. They directed a series of regional conferences designed to help provide two-year college chemistry faculty around the country resources to enhance the teaching and learning of chemistry. These conferences continue today as the Two-Year College Chemistry Conferences. The committee grew in numbers over the years, set up an executive committee and developed its own policies and procedures. It grew so large (60-70 members) that, in 1990, in response to a concern that the committee conforms to the size and structure of other committees of the Division, a re-structuring took place. The executive committee became the Committee on Chemistry in the Two-Year Colleges (COCTYC), and the remainder of the members were appointed as the Regional Advisory Board. Today the entire group (including COCTYC, Regional Advisory Board, members, college sponsors, and industrial sponsors) is known as the Two-Year College Chemistry Consortium (2YC₃).

Currently the 2YC₃ have approximately 500 members and are supported financially by 121 colleges and 18 industrial sponsors. We just completed our 151st conference at Diablo Valley College, where about seventy chemistry teachers joined together to discuss the "Nuts, Bolts and Notions for Teaching and Learning Chemistry." You can check out the Proceedings through a link at the 2YC₃ Home Page at <http://jbardole.vinu.edu>. Our conferences get high ratings on evaluations and have been recognized by attendees as interesting, fun and very useful. Even past ACS President Paul H. L. Walter noted our accomplishments and the importance of Two-Year College Chemistry teaching. In his report to the American Chemical Society Council at the 1999 meeting in Anaheim, he reported that he participated in a number of meetings of the 2YC₃ and the conference was an outstanding event. He pointed out that two-year colleges enroll about 46% of all U.S. undergraduates. They provide a significant entry point into higher education for many diverse groups of students, especially minorities, choosing careers in science, math

and engineering. Between 1991 and 1995, ten percent of all of those who earned a Ph.D. in science and engineering began their undergraduate education at a two-year institution. For Hispanics with a Ph.D. that number rises to 14%, and for Native Americans the number is 16%.

We can be proud of our significance and our accomplishments -- the impact we have had on each other and our students, and the enhancement of chemistry education and professional development. But if we want to remain a vital part of improving chemistry education, we must change with the times and continue to strive for excellence.

There are new challenges to face in a world where it seems that the only constant is change. We must improve communication. The Internet has opened fantastic opportunities for sharing information and ideas; we must learn to use it more effectively. As I mentioned in the last newsletter, a large number of older faculty are retiring and are being replaced with a new contingent that is unaware of the activities of the 2YC₃. We must reach out to them and involve them in our activities; each of us will benefit from the encounters. We must discover areas where two-year chemistry faculty need support and do what we can to meet their need.

At the 16th Biennial Conference on Chemical Education, to be held July 29-August 3, in Ann Arbor, MI, we will be holding a general membership meeting of the 2YC₃ to discuss issues facing two-year college chemistry teachers. I am inviting you to attend and participate in guiding our future. Please join us and meet new friends with common interests and goals. The meeting will be held on Tuesday at 12:30.

As I think about the future and the challenges that lie ahead, I think about a poem that motivates me to continue to improve. I'd like to share it with you and hope it impacts you as well.

*Life is a leaf of paper white
Whereon each one of us may write
His word or two,
And then comes night.*

*Greatly begin, though thou have time
But for a line,
Be that sublime,
Not failure, but low aim, is crime.*

- James Russell Lowell

Let's aim high and give it our best in the new millennium.
Hope to meet you in Ann Arbor.

The Millennial Biennial

A Biennial Conference is packed full of papers and workshops on cutting edge chemistry education. There are also many opportunities for informal conversations with other chemistry teachers. It is an opportunity that no chemistry teacher should miss. The 16th BCCE is being put together dynamically on the internet so that the place you should visit to learn more about the conference. You can find out about registration, residential halls, paper topics, symposia, workshops, and social activities. Just a small amount of the information from the web site is included in this edition of Chemistry Outlook. The URL for the 16th Biennial Conference on Chemical Education is www.umich.edu/~bcce and there you will find it all.

A Conference Summary

The 16th Biennial Conference on Chemical Education will take place at the University of Michigan, Ann Arbor, July 30 - August 3, 2000. You are invited to participate as one of the fifteen hundred (or more!) attendees who will gather to present a paper, a workshop or a poster or just to talk about all aspects of chemical education.

We have an interesting technical program in place. We have the usual array of sessions devoted to curriculum development, instructional methods, and chemical education research. In addition, results from the NSF Systemic Initiatives and the Adapt/Adopt spin-offs will be featured. We also have an interesting strand of sessions that will follow the scholarship of teaching and learning and its relationship to everything from curriculum design to service learning to future faculty development. More than 80 workshops await you, and about 600 papers. Please see the Technical Program (page 15) and Workshops (pages 3 and 20) for details of the program. We also have a number of workshops for children as part of the Children's Program (page 46).

We have built a generous gap into the middle of the day so that you can relax, reflect and pursue your interests between sessions. The morning program will end by noon and the afternoon program will not begin again until 2:00 PM. There will be chemical demonstrations on Monday, Tuesday and Wednesday during the mid-day break. You will also have plenty of opportunity to learn some new chemistry at noon at our "Science at the League" sessions (page 42). Invited scientists will examine contemporary topics in chemical biology and materials science as well as new frontiers in analytical chemistry. We also know that you just might want to take the time to make connections with your fellow attendees at any of the many meeting spots you will find in Ann Arbor. A day by day

overview of the special events associated with the Conference follows.

Sunday, July 30, 2000. Opening Night

On Sunday, after an opening ceremony at the Power center for the Performing Arts (the location of our Plenary Lectures) we will feature our first plenary speaker, Michael Marletta, John Searle Professor of Medicinal Chemistry at the University of Michigan, who will talk about his groundbreaking work in NO chemistry. This will be followed by a reception held in and around the Power Center.

Monday, July 31, 2000. The Day of the Ice Cream Social Monday morning our plenary speaker will be Kati Haycock, Director of the National Education Trust. She will speak on the state of K-12 education in the United States.

After the technical program at 5:00PM, Prentice Hall invites you to enjoy refreshments in the Atrium of the Chemistry Building. That evening at 7:00 PM, master demonstrator, Irwin Talesnick will entrance and enlighten us with a show on "The Joys of Color, Light and Sound in the Chemistry Classroom." Everybody is invited including children of all ages. Then 2YC3 and the Journal of Chemical Education will join forces to treat us to an Ice Cream Social at the Power Center.

Tuesday, August 1, 2000. The Banquet at Henry Ford Museum

Bassam Shakhshiri, Professor of Chemistry at the University of Wisconsin, will reflect on his thirty years in chemical education as our plenary speaker on Tuesday morning.

The technical sessions that day will end at 3:30 PM to allow everybody time to enjoy the banquet which will be an evening at Henry Ford Museum in Dearborn. There, we will have the opportunity to browse through the museum of technology and crafts, shop in the museum stores and eat at a number of different food stations throughout the museum serving dinner from 6:00 - 8:00 PM and pastries, coffee, and tea from 7:30 - 9:00 PM. Cash bars will also be available from 5:30 - 10:00 PM.

Henry Ford Museum in Dearborn, Michigan was founded by Henry Ford in 1929 and displays the relationships between technological change and American history. Objects representing the development of transportation, agriculture, and home arts are exhibited. You will see large locomotives, presidential cars, early aircraft, a lunar rover, and much, much more. (<http://www.hfmvgv.org>). The cost of transportation and admission to the Museum, as well as the cost of the meal, are part of the registration fee.

Next to Henry Ford Museum are two other attractions, Greenfield Village and the IMAX Theater. You may sign up at the Registration Desk on campus for transportation (included in your registration fee) that will get you to Greenfield Village and the Theater as early as 2:30 PM on Tuesday, August 1. Henry

Ford Museum will be open to us at 5:30 PM.

Greenfield Village is a collection of more than 80 historic homes, and buildings, including Thomas Edison's Menlo Park laboratory and the bicycle shop where the Wright Brothers created the first airplane.

Admission to Greenfield Village and the IMAX Theater (see below) will be extra for those who choose to go there.

A new IMAX Theater has opened at Henry Ford Museum.

Visit the web site of the museum (<http://www.hfmvgv.org>) to see what is playing and to buy tickets if you wish to go. In making plans to visit the theater, please check the meal times given above for Henry Ford Museum. Buses will start returning to Ann Arbor at 9:30 PM, and the last buses will leave the Museum at 10:00 PM.

Wednesday, August 2, 2000. A Night at the Theater

Wednesday will start with a plenary lecture by Sylvia Hurtado, Associate Professor of Education at the University of Michigan and the lead investigator in a national research program studying systemic curricular reform, who will discuss her findings. As a special event, Dan Sullivan of the University of Nebraska will offer his travelling "Amazing Science" show for science teachers, children and parents at 4:15 PM in Room 1800 in the Chemistry Building.

At the conclusion of the technical program at 5:00 PM this day, Hayden-McNeil Publishing invites you to a wine and cheese party in the Atrium of the Chemistry Building.

Wednesday evening we return to the Power Center for an interdisciplinary program of chemistry and theater starting at 7:00 PM. This evening at the Theater features an "Interactive Theater: Case Study Analysis for the Next Generation". The University of Michigan Women in Science and Engineering Program is partnered with faculty and student actors from the Performance Arts. They have adapted a wonderfully powerful and poignant method (interactive theater) for engaging faculty, graduate and undergraduate students in discussions about ethical practices ranging from gender and ethnic diversity in higher education to research obligations and responsibilities. We invite you to experience one of these sessions. We guarantee you will be both engaged and transformed!

Then after an intermission with refreshments provided by W. H. Freeman & Company, we will have Chemists: Live!

Democritus and Friends. Need we say more?

Thursday, August 3, 2000. The Wrap-Up

Robert Lichter, Executive Director of the Camille and Henry Dreyfus Foundation, will give a plenary lecture titled, "Chemical Educators?". After that, we will experiment with a new format for the rest of the morning. The whole group is invited to a panel discussion at the Power Center titled "Opportunities, Motivations and Responsibilities in and Beyond the Classroom," organized and moderated by Bassam Shakhshiri. The

other panelists are Dr. Goery Delacote, Executive Director, The Exploratorium in San Francisco; Dr. Denice D. Denton, Professor and Dean, College of Engineering, University of Washington; Dr. Randolph J. Guschl, Director, Corporate Technology Transfer & Education, E.I. du Pont de Nemours & Company; and Brian P. Coppola, University of Michigan. We want to end this BCCE with a broad look at education and those who teach and we want your help! To begin this session, we will have an "open over head" (like an "open mike"), where any member of the audience can take the floor for one to two minutes and respond to our leading questions or perhaps to the provocative ideas put out by our plenary speakers. The panelists will then report and reply from their particular perspectives and the session will end with a second "open over head" time for the audience. Transparency sheets and markers will be provided.

We hope that everybody will have been challenged by the activities of the previous four days to raise provocative questions and to grapple with their answers.

Help is Available

Do you ever feel isolated and out of touch with other chemistry teacher and falling further behind in your approach to teaching chemistry? National and regional ACS meetings have good chemistry education papers, but they are expensive because of the location and your school's professional development allocation is only \$75.

The Division of Chemical Education can help. They publish the **Journal of Chemical Education** and now you get JCE Online with every subscription. "Now That I Have It, What Can I Do With It" by Jon Holmes in the November 1999 issue of JCE will help you get started. You can order by phone at 1-800/691-9846.

Journal of Chemical Education: Software offers electronic, videodisc, CD-ROM and computer media that is high quality and for a great price. Information is on their web site at jcesoft@chem.wisc.edu or by phone at 1-800-991-5534.

One of the hardest tasks for most chemistry teachers to do well is assessment. For your help the **ACS DivCHED Exam Institute** offers standardized exams for a wide range of courses as well as test-item banks, small-scale lab assessment activities and a student study guide for general chemistry. You can learn more by talking to the Exam Institute at 864-656-1394.

Symposia at the 16th Biennial Conference on Chemical Education

A Taste of the Division of Chemical Education	Aquino, Dolores C.	Historical and Philosophical Perspectives on Chemistry	Orna, Mary Virginia
Adapt and Adopt: Lessons Learned	Walter, Mark	How Must We Change the Chemistry PhD to Meet the Challenges of the Next Millennium?	Banaszak-Holl, Mark
Alternative Ways of Teaching Chemistry	Purser, Gordon	Implementing Molecular Science Products, Processes, and Tools	Russell, Arlene
Assessing the Leaky Pipeline: Women and Minority Representation in Chemistry	Hopkins, Nancy	Incorporating Biochemistry into Introductory Chemistry Courses	Fisher, Matt
Assessment of Student Outcomes in Classroom and Research Settings	Rackley, Barbara	Innovations and Reform at Community Colleges -What's New on the Horizon?	Chadwick, Janice
Bringing Active Learning into the Organic Lab: The Project Approach	Hammond, Christina Noring	Innovations in Teaching Organic Chemistry	Baker, Dave
Broadening the General Chemistry Laboratory	Keiser, Joseph	Innovations in Technician Education	White, Carol
CHEM FUN: Humor, Music, Songs, Ideas and Gimmicks that Work	Hague, George	Innovations in the Sophomore Organic Chemistry Laboratory Instruction	Sarkar, Somnath
Chemical Demonstrations in a Variety of Classroom Settings	Hapkiewicz, Annis	Innovations in the Teaching of Organic and Polymer Chemistry	Ludwick, Adriane
Chemistry and the Automobile	Donahue, Craig	Inorganic Chemistry: Where Has the Descriptive Gone?	Pesterfield, Les
Chemistry in Context: Variations on a Theme	Middlecamp, Cathy	Integrative Heuristics: Concept Mapping, Decision Maps, Poster Sessions, and Summary Writing	DeMeo, Stephen
Chemistry in the National Science Education Standards	Tinnesand, Michael John	Interdisciplinary Approaches to Teaching Undergraduate Chemistry	Lyle, Cathy
ChemSource: How to Use It!	Schreck, James	Making Chemistry Come Alive with Colors and Sparks	De La Matter, Doug
Computer Modeling of Dynamic Systems in Thermodynamics and Kinetics	DeKock, Roger	Micro-Chemistry: Curricular Challenges Facing Small Departments	Zimmerman, James
Computer Skills for Students	Karpen, Mary	Novel Experiments for Incorporation Into the Undergraduate Laboratory Curriculum	Benvenuto, Mark A.
Connecting Service to Chemistry Curriculum	Wiegand, Deborah	On the Scholarship of Teaching and Learning	Coppola, Brian
Cooperative Learning in the Chemistry Classroom	Jury, C. Frederick	Peer-Led Team Learning	Varma-Nelson, Pratibha
Distance Learning Methods in Chemical Education	Conover, Wheeler	Piaget, Constructivism, and Beyond	Bretz, Stacey Lowery
Environmental Chemistry in the High School Curriculum	Sky, Anthony	Polymers in the Curriculum: Lecture and Laboratory	Rasmussen, Paul
Experiences Teaching in a Process Workshop Classroom	Hanson, David	Preparing Future Faculty: Changing the Culture of Graduate Education	Duersch, Brett
Greening the Chemistry Curriculum	Cann, Michael		

Preparing Graduate Students to Teach College Chemistry as a Career	Pienta, Norbert
Promoting Student Success	Zibuck, Regina
Research in Chemical Education: A Symposium	Robinson, William
Simulations and Modeling in the Learning of Chemistry	Martin, John S.
Spectacular Chemistry Demonstrations for the High School Classroom	Rohrig, Brian
Symposium on Computer Technology in Chemical Instruction	Dominey, Raymond
Symposium to Honor Reg Friesen	Bodner, George
Teaching Crystallography to Undergraduates	Crundwell, Guy
Teaching High School Chemistry in a Project-Based Frame	Krajcik, Joseph P.
Teaching Nontraditional Students	Cartwright, Ann
That's Why THEY Need Chemistry	Gloffke, Wendy
The Graphing Calculator and Calculator-Based Laboratory: Enhancing the Chemist's Toolbox	Sinex, Scott
The Many Faces of JCE: What's in Store for the Future?	Moore, John
The New ACS Guidelines and the Future	Mohrig, Jerry
The Role of Science Faculty in K-12 Education	Sullivan, Ann
The Spectrum of Active Learning Methods Used in Introductory Organic Classrooms	Libby, R. Daniel
The Undergraduate Biochemistry Laboratory	Bering, C. Larry
Thinking Outside the Box-Part II	Kotz, John
Tips and Traps in Designing a Science Building/Room	Myers, Stephanie
Topics in Pre-College Chemistry Instruction	Rutherford, Frank
Topics in Science Teacher Education	Phelps, Amy
Undergraduate Biochemistry	Smith, Sharron

Undergraduate Research Projects: What We Did and How We Did It	Zielinski, Theresa Julia
Using Cases: Collaborative Active Learning in the Classroom	Walczak, Mary
Using Chime/Rasmol in the Instructional Program	Flash, Patrick
Using Humor in the Chemistry Classroom	Flash, Patrick
Using Real-World Questions to Promote Active Learning	Lewis, Eileen
Using the Web in Teaching	Charlesworth, Paul
Validating Distance Education Instruction With Research	Williamson, Vickie
VSI. A Structured Learning Model that Produces High Achievement with High School and College Chemistry Students	Patterson, Kay L.

Conference Workshops

W1 Teaching Chemistry with Pyrotechnic Flair
W2 Computer and Calculator Data Collection with Vernier
W3 Chemical Education Research An Introduction to Nuts and Bolts of the Discipline
W4 Joys of Science and Sciencing Demonstrations and Student Experiments
W5 Using Chemscape Chime in Web Page Development
W7 Writing Across the Chemistry Curriculum
W8 A Guided Inquiry Approach to Chemistry Instruction - General Chemistry and Beyond
W9 Computer and Calculator Data Collection with Vernier
W10 Use of ChemSkill Builder Electronic Homework for Teaching Freshman Chemistry
W11 Inquiry-based Multimedia Activities in Polymers for the Upper-level Undergraduates
W12 Analysis of Analgesics
W13 Applications of RASMOL and MAGE Across the Chemistry Curriculum
W14 Burning Books
W15 ChemLinks/ModularCHEM Workshop
W16 Computer and Calculator Data Collection with Vernier
W17 Everyday Science Teaching Wonder in the Ordinary
W18 Experiential General Chemistry Using a Discovery/Guided Inquiry Approach

- W19 Green Chemistry Laboratory Modules**
- W20 Hands-On Showcase of Technology-Based Teaching Tools for Chemistry**
- W21 Microscale Gas Chemistry I. An Introductory Workshop**
- W22 Periodic Table of the Elements in Triangular Six Dimensional Geometry**
- W23 Safety in Academic Laboratories**
- W24 Sensors and Electronics for Environmental Measurement**
- W25 Tough Concepts Require Concrete Approaches**
- W26 Use of Stella to Teach Thermodynamics and Kinetics**
- W27 Workshop Chemistry Peer-Led Team Learning**
- W28 Guided-Inquiry Experiment Development**
- W29 Using Candy to Teach Chemistry**
- W30 Making Super Science Connections**
- W31 Activities for Introductory Chemistry Computer-Assisted Learning with LUCID**
- W32 Chemistry and Colorants Teaching Science by Making Paints, Inks, Crayons and Pastels**
- W33 Diversity in the Classroom A Faculty Workshop**
- W34 Guided Inquiry Learning in General and Organic Chemistry Designing Activities**
- W35 Introduction to LabWorks Learning System**
- W36 ChemLinks/ModularCHEM Workshop on Effective Instructional Use of Multimedia**
- W37 Computer and Calculator Data Collection with Vernier**
- W38 Fantastic Experiments with the Fizz-Keeper**
- W39 Molecular Modeling in the Undergraduate Curriculum**
- W40 New Ideas in Laboratory Teaching and Learning**
- W41 NSF Grants Preparation Workshop**
- W42 Microscale Gas Chemistry II. An Intermediate Workshop**
- W43 Science in a Technical World The New ACS Curriculum for Tech Prep**
- W44 Vial Organic A Revolutionary New Way to Perform Organic Chemistry Labs**
- W45 Fun with Chemistry**
- W46 An Historical Reenactment Workshop The Early Development (and Visualization) of Structural Organic Chemistry.**
- W47 Build Your Own Fuel Cell - A Practical Project in Chemical Technology**
- W48 Chemistry Modules of Richmond (C-MoR) Tools for Teaching Chemistry**
- W49 Computer and Calculator Data Collection with Vernier**
- W50 Hands-On Activities to Teach the Concept of Chirality**
- W51 Incorporating Materials Science into High School Chemistry**
- W52 Make Your Own Rainbow Tie-Dye Lab Coat**
- W53 Molecular Science I Integrating the Network-based, Molecular Science Learning Units Into Your Curriculum.**
- W54 4 M's Misconceptions, Measurements, Matter, Models**
- W55 The ABC's of Data Analysis - Part 1**
- W56 The Chemical Peacock Chromatographic Techniques**
- W57 Using Adapted Lab Equipment to Make Chemistry Accessible to Students with Disabilities**
- W58 Guided-Inquiry Experiment Development**
- W59 Amazing Experiments with the Neodymium Mega-Magnet**
- W60 Density Workshop**
- W61 The "Levels of Inquiry Matrix" in Chemistry Education**
- W62 Thiokol Rubber A Vial lab!**
- W63 A New Interface for Environmental and Laboratory Scientific Data Collection**
- W64 Advanced Microscale**
- W65 Chemistry Experiments that Incorporate Computer Technology**
- W66 Chemistry in Context**
- W67 Computer and Calculator Data Collection with Vernier**
- W68 Experiments for High School Chemistry That You Can Use.**
- W69 Graphing Calculator/CBL Use in the Chemistry Laboratory**
- W70 Ideas for Presenting Polymers in Middle and Elementary Schools**
- W71 Process Workshops - A Classroom Structure for Engaging Students in Learning**
- W72 Squishies and Other Neat Science Stuff**
- W73 The ABC's of Data Analysis - Part 2**
- W74 Teaching Chemical Information Introduction and Practice**
- W75 The Occasional Deaf Student in the Hearing Classroom Ideas and Views for Promoting Equal Access to Information in Your Class.**
- W76 ACS GenChem Project An Introductory Workshop**
- W77 Captivating Chemistry Experiments Using Household Substances**
- W78 "Chemtrek" Workshop Small Scale Experiments for General Chemistry**
- W79 Computer and Calculator Data Collection with Vernier**
- W80 Inquiry-based Multimedia Activities in Polymers for the Upper-level Undergraduates**
- W81 It's A Gas and More!**
- W82 Molecular Science II Calibrated Peer Review(TM)**
- W83 Teach Chemistry with TOYS**

153rd 2YC₃ Conference
Hosted by Hudson Valley Community College
Troy, New York

Preliminary Program

Friday, October 6, 2000

10:00-5:00 p.m. Registration, Exhibits

10:30-11:30 a.m. Advisory Board Meeting--All are invited to attend

1:00-3:00 p.m. Concurrent Panel Discussion

Distance Learning Susan Gallagher

Multimedia Learning & Teaching John Halpin

Website Learning & Teaching

3:00-5:00 p.m. Concurrent Panel Discussion

6:00 p.m. Banquet: Bassam Shakhshiri "The Privilege to Teach"

Saturday, October 7, 2000

8:00-3:00 p.m. Exhibits

9:00-11:30 p.m. Demonstration by Bassam Shakhshiri "Science is Fun"

1:00-2:00 p.m. Concurrent Presentation

Distance Learning Susan Gallagher

Multimedia Learning & Teaching John Halpin

Website Learning & Teaching

3:00-4:30 p.m. Concurrent Presentation

Local Attractions: Fall foliage in the Catskills, the Adirondacks and the Green Mountains of Vermont; Museums, Historical Hudson Valley and Troy, the Home of Uncle Sam.

Call for Papers: If you are interested in presenting a paper at this conference, please contact Ernest Siew (siewern@hvcc.edu) or James Zubrick (zubrijim@hvcc.edu)

154th 2YC₃ Conference
Hosted by Vincennes University
Vincennes, Indiana

The theme at Vincennes University will be "Pedagogy and Practice in Chemistry Education". All college accrediting associations are concerned with assessment, so we will plan a mini symposium focusing on 4 aspects of assessment as it impacts all teachers. Are you like my colleague who said if I give 3 multiples choice tests each semester, I must be doing assessment. We have news for you. We will look at classroom assessment techniques-what do you do to find out if your students are learning. The second aspect of assessment is program assessment. Is your department doing what it thinks it is and how can we use assessment for productive change? How can students assess themselves? Finally we will look at assessment of general education. This impacts each of us because we teach general education and our majors take general education.

Other topics that will help us involve our students in learning will be cooperative education and research in chemistry education. We will also have a workshop on CALM an electronic homework program.

It has become a tradition that the President of ACS attend at least one 2YC₃ meeting a year and we are fortunate to have Dr. Daryle Busch joining us and giving the Banquet dinner presentation.

Plan now to come to Vincennes in November. Snow does not come that early and while it may not be a garden spot in November, there will be a fountain of ideas to enhance your teaching.

SUGGESTED SOLUTIONS to:
WANTED - Proposals From the Two-year College Chemistry Faculty
Vera Zdravkovich, Prince George's Community College, Largo Maryland 20774

In the fall issue of the *CHEMISTRY OUTLOOK* Vol. 2000-I Vicki Bragin wrote an article titled "WANTED: Proposals from the two-year college chemistry faculty!" in which she praised the community college success in the Course, Curriculum, and Laboratory Improvement (CCLI) program of the National Science Foundation (NSF). However, she points out that while our success rate was 11% higher than the overall success rate for proposals from all types of institutions, only eight of the chemistry proposals submitted in the last year were from the community colleges.

Why were there only eight proposals from 1150 community colleges? Is it that we lack the creativity and ideas? Community college faculty are known for their commitment to, and excellence in teaching. Or, is it because community college faculty have no time, very little support, and lack expertise necessary to write successful grant proposals? Based on my observation and experience (not on solid data and research), I would suggest that this latter is causing our lack of involvement in the grantsmanship arena. Many community colleges do not have a strong development office to assist the faculty in this quest. How do we insure that the proposal has not only a strong statement of need but a well crafted and comprehensive plan of action with clearly stated outcomes and expectations, dissemination plan, thorough evaluation, and a realistic budget?

At my institution, Prince George's Community College, the grant development process from the initial idea to the final report is in the hands of faculty. We have a unique entity, the Science and Technology Resource Center established in the late eighties and lead by faculty on a release time basis. Every facet of the proposal development, development of the idea, securing faculty and administration buy-in, crafting a realistic outcome based action plan, proposal writing, and budget development, is in the hands of faculty. This model provides for strong peer interaction. Faculty new to the grants development process develop a kinship with the center director (another faculty) and appreciate her/his understanding of faculty and classroom issues. This model works exceedingly well for us. However, each institution needs to develop its own successful model utilizing shared ideas and examples.

Why are grants important? Grant support provides faculty with release time and resources to acquire laboratory instrumentation, develop new teaching methodologies, courses and programs, infuse technology into curricula, and develop and implement workshops/programs for K-12 teachers, and faculty development programs. Grant awards enable faculty to realize their creative ideas, strengthen their institutions, empower themselves and grow professionally.

So, what can we do to improve the proposal submission record of community colleges? I am taking the liberty of recommending several ideas and initiating a dialogue that 2YC₃ might want to continue:

1. Offer two-three hour hands-on grant development workshops as part of the 2YC₃ meetings. In addition to sharing information about NSF and other agencies' initiatives and available funds, this workshop should be designed to equip the participants with the necessary information to succeed. In order to maximize the effectiveness of the workshop, participants could be given "homework" in advance and required to bring a skeleton of a possible proposal. The workshop leaders/s would provide assistance and direct input into each proposal. Some assistance could also be provided as a follow-up to the workshop to provide continuous assistance to the faculty in this process.
2. American Chemical Society, ACS, has a program, College Chemistry Consultants Service, C₃S, designed to assist colleges and universities with specific issues. The cost incurred by the institution is a moderate fee for honorarium and report completion in addition to the travel and accommodations of the consultant. More information regarding this program can be obtained from the ACS web site and/or by calling Sam Stevenson on 1-800-227 5558 ext 6108.
3. 2YC₃ could work with American Association of Community Colleges, AACC, to establish a cadre of faculty as resource to community colleges to assist with grantsmanship and other issues. This program could be patterned after the ACS project and information disseminated to all community colleges.

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Call for application for the office of Chair-Elect of COCTYC for the year 2002

Applications for the Chair-Elect must include:

- (a) Pertinent personal data such as name, college, job title, address, etc.
- (b) Brief statement of pertinent qualifications, signed by the nominee.
A statement indicating a willingness to serve signed by the nominee.
- (c) A statement of support from an appropriate person in the applicant's school.
- (d) To be eligible to be nominated an individual must:
 1. be a two-year college chemistry teacher
 2. have been dues paying member of 2YC₃ a minimum of three years prior to nomination
 3. be a member of DivCHED
 4. be a member of ACS
 5. have demonstrated leadership and organizational ability by serving as Chair or Co-Chair for a conference and in one or more of the following capacities:
 - a. served three years on the Executive Committee
 - b. served as Local Arrangements Chair for a Conference
 - c. chaired a sub-committee
 - d. contributed with the past three years two or more ways such as:
 - acted as local industrial sponsor coordinator
 - chaired a conference section
 - presented a paper at a conference
 - moderated a panel at a conference
 - other ways an individual has contributed.

-Applications must be received by the Chair no later than September 1, 2000.

-The COCTYC will serve as a nominating/screening committee to generate a slate of two candidates.

-Each 2YC₃ member shall vote for one nominee and the candidate who receives the greater number of votes shall be declared elected.

-Ballots must be received by the Chair postmarked no later than 12/31/2000.

-Ballot will be counted by the Chair in the presence of a Notary.

-The results of the election will be reported in the first possible newsletter.

SUGGESTED SOLUTIONS continued

4. Institutions that have been exceptionally successful in grantsmanship could be identified and listed by AACC and 2YC₃ jointly as a potential resource to community colleges who would like to get in touch with faculty/administrators in those institutions.

These are suggestions that I am offering as a follow-up to Vicki Bragin's article. It may serve as a springboard for future discussions and discourse.

Call for application for the office of Newsletter Editor of COCTYC for a three year term beginning 2001

Applications for the Newsletter editor must include:

- (a) Pertinent personal data such as name, college, job title, address, etc.
- (b) Brief statement of pertinent qualifications, signed by the nominee.
A statement indicating a willingness to serve signed by the nominee.
- (c) A statement of support from an appropriate person in the applicant's school.
- (d) To be eligible to be nominated an individual must:
 1. be a two-year college chemistry teacher
 2. have been a dues-paying member of 2YC₃ for a minimum of three years prior to nomination
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-Ballot will be counted by the Chair in the presence of a Notary.

-The results of the election will be reported in the first possible newsletter.

Vincennes University
Committee on Chemistry in the Two Year College
1002 North First Street
Vincennes, Indiana 47591-5201

Rick Bolesta, CHAIR
Jay Bardole, EDITOR
COMMITTEE ON CHEMISTRY
IN THE TWO-YEAR COLLEGE

Division of Chemical Education
American Chemical Society

Nonprofit Org. Auto U.S. Postage Paid Permit # 85 Vincennes, IN 47591

Passer Grants

Goal: The vision of the Passers is to provide support for teachers in small programs and teachers who are somewhat isolated from others in their discipline.

Guidelines:

1. Awards will be to individuals not groups or institutions. An individual is eligible to receive only one award in any two year period.
2. The individual must teach chemistry or chemical technology as a full time faculty member at an undergraduate 2 or 4 year United States college that does not have a graduate program in chemistry.
3. The continuing education activities must be directly related to the applicant's teaching and must take the applicant away from his/her campus.
4. Awards are to be used for activities which could include, but are not limited to, ACS short courses, advanced courses at a nearby college or university, workshops at colleges or universities. The awards cannot be used for general attendance at national or local ACS meetings, the presentation of research results, the purchase of equipment, sabbatical leaves, organizing workshops, or travel unrelated to an educational pursuit.
5. There is no application form but a successful application must include:

- a. A description of proposed activity and how it relates to his/her teaching--dates, locations, titles, and contacts.
 - b. A brief description of the applicant's institution and department.
 - c. A short curriculum vita.
 - d. Itemized estimated expenses, amount of aid requested, and source of supplemental funds.
6. Applications are reviewed 3 times a year by an appointed committee. Deadlines for the review cycles are April 1, July 1 and November 1. Applicants are encouraged to submit early.
 7. E-mail applications are preferred. Faxes and hard copies are also acceptable forms of submission.

Applications should be submitted to:

Anna Wilson
Purdue University
1153 Biochem Bldg.
W. Lafayette, IN 47907-1153
Wilson@purdue.edu
Telephone: 765-494-1644
Fax: 765-494-7897