



Chemistry Outlook

An Activity of
The Committee on Chemistry in the Two-Year Colleges
Division of Chemical Education
American Chemical Society



Dolores C. Aquino, 2006 Chair

7

Notes From The Chair

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Dolores C. Aquino
San Jacinto College Central
Pasadena, TX

The recent conference at Georgia Perimeter College in Dunwoody Georgia left me inspired to try some new techniques for assessment in my classes. Thanks to Glenn Nomura and his colleagues for hosting an excellent event. Thanks also to Gary McGlaun and the others from nearby Gainesville College for all their work before and during the conference.

The conference was preceded by a one-day officer's "retreat." We looked at the mission of 2YC₃, at ways to improve our conference planning and at methods of assuring that we are meeting the needs of our members.

The officer's retreat included a discussion of how we can better utilize the groups we call the Regional Advisory Boards (RABs). These boards consist of members from the states within the four regions that we have defined as a way of distributing conferences around the country.

My first position in 2YC₃ was as an RAB member. I suspect that my experience was typical - I was never asked to contribute, so I did nothing. We need to do better than that with this valuable resource and involve the RAB members in the activities of the 2YC₃.

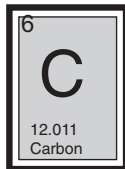
continued on page 2

INSIDE THIS ISSUE

Vol. 2006 - II

1	Notes from the Chair
2	Conference Calendar
3	2006 COCTYC and Support Staff
4 - 7	174 th Conference, 19 th BCCE
8, 9	Articles
10	Call for Applications, Chair Elect
11	Advertisements





2006 - 2007 Academic Year

174th Conference (Eastern) 19th BCCE,

July 30-August 3, 2006, Purdue University Campus, West Lafayette, Indiana, <http://www.chem.purdue.edu/bcce/>

Contact: Jay Bardole, 2YC₃ Chair
Email: jbardole@vinu.edu

175th Conference (Western)

October 13-14, 2006, Pima County Community College Tucson, AZ

Contact: Dave Katz
Email: david.katz@pima.edu

176th Conference (Southern)

November 10-11, 2006, San Antonio College, San Antonio, TX

Contact: Bill Haley
Phone: (210) 733-2712
Email: whaley@accd.edu

177th Conference (Midwestern)

March 23-24, 2007, Joliet Junior College, Joliet, IL

Contact: Dr. Marie Wolff
Phone: (815) 729-9020 ext. 6701
Email: mwolff@jjc.edu

Remember to check the web for information on future meetings! <http://2yc3.org>

The 176th 2YC₃ Conference

The 176th 2YC₃ conference will be held at San Antonio College in San Antonio, Texas on Friday, November 10 and Saturday, November 11, 2006. We would like to invite all of you to come to the conference in San Antonio where "The sunshine spends the Winter" (according to the Chamber of Commerce publications in the "old days").

We have the Alamo, the Riverwalk, the Spanish Missions, Museums and many other things to see before or after the conference. Our temperatures in Early November can range between the 50's at night and the 80's during the day.

While the exact theme for the conference has not been selected at this date, new and innovative methods for chemical education will be presented and we will take a look at the current trend to incorporate undergraduate research at the community college level.

If you have any suggestions for conference please contact one of the members of the conference planning group listed below.

William Haley (whaley@accd.edu)

Dr. Usha Krishnan (ukrishnan@accd.edu)

Dr. Krishnan Madappat (kmadappa@accd.edu)

Dr. James Petrich (jpetrich@accd.edu)

The description of the responsibilities of an RAB member includes:

- Assist in planning and conducting the regional conference, including publicizing the conference and contacting colleagues (high schools, two-year colleges, four-year colleges, and universities) to invite them to the meeting. Assist in arranging car pools and housing.
- Actively participate in the 2YC₃ Business meeting.
- Recruit individual members, College Sponsors, and Industrial Sponsors.
- Solicit Newsletter advertisements.
- Assist Chair Elect and Membership Chair in maintaining an updated directory of two-year college chemistry faculty.
- Participate in conference planning and execution with regional Chair and conference chairs. This can be done by mail, e-mail, meetings and/or telephone conference calls.

Past Chair Sonja Davison is in the process of updating the rosters of the RABs. These RAB members will be included in such tasks as contacting colleagues who are not 2YC₃ members within their region. We would like to be able to communicate with all Two-Year College teachers within each region. This is especially important when there is a conference in the region. I anticipate that conference chairs will more consistently be requesting the RABs to help in the planning and operations of their conference.

If you are interested in participating in these activities, please let Sonja or me know. The value of this organization lies in the interactions between and strengths of our members. We need YOU to become an active part of your Regional Advisory Board.

2006 COCTYC AND SUPPORT STAFF

Division of Chemical Education, Inc American Chemical Society 2006 Roster of Committee Members

Chair

Dolores C. Aquino, San Jacinto College Central
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2YC₃ World Wide Web Page: <http://2yc3.org>, Lance Lund
(Lance.Lund@anokaramsey.edu) WebMaster

2YC₃ Membership Form

Please consider supporting the 2YC₃ by becoming a member or renewing your membership. Annual dues are only \$15.

Special Offer: Annual dues are \$15 for the 2YC₃ and \$20 for the American Chemical Society of Chemical Education (DivCHED). If you are not already a member of DivCHED, you may join both organizations today for a total of \$30, a savings of \$5.

I wish to: _____ Become a member of 2YC₃
_____ Renew my 2YC₃ Membership
_____ Join DivCHED as a member (ACS members only) and 2YC₃
_____ Join DivCHED as an affiliate* (non ACS members) and 2YC₃
*affiliates have all membership privileges except voting and holding elective office.

I am a: _____ Two-Year College Teacher _____ Four-Year College Teacher
_____ High School Teacher _____ Other

Your Name: _____

Institution: _____

Address: _____
Street City, State 9-Digit Zip Code

Phone: _____ **Email:** _____

Send ACS Member Form? _____ Yes _____ No

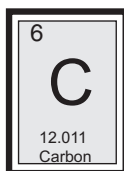
Please send your check, payable to 2YC₃, for \$15 (2YC₃ only) or \$30 (joint membership) to:

Patty Pieper, Anoka-Ramsey Community College, 11200 Mississippi Blvd NW, Coon Rapids, MN 55433-3470.

**171st 2YC₃, Two-Year College Chemistry Consortium, Conference and 19th BCCE,
Biennial Conference of Chemical Education.**

July 30 - August 3, 2006

**Purdue University Campus, West Lafayette, Indiana
<http://www.chem.purdue.edu/bcce/>**



Conference Program

2YC₃ Program Chair: Jay Bardole
Email: jbardole@vinu.edu

The BCCE offers much of interest to the Two-Year College Chemistry Teacher. Below are high lights of the plenary and keynote speakers, symposia, and workshops.

Visit the Web site for biographical details on speakers, abstracts of all presentations, and times and locations of all the events.

<http://www.chem.purdue.edu/bcce/index.html>

Registration and lodging and transportation information are available on the Website.

Plenary and Keynote Speakers.

“Communicating chemistry” Peter Atkins, Fellow, Lincoln College, Oxford University, Oxford, UK and David N. Harpp, Macdonald Professor of Chemistry, McGill University, Montreal, Canada.

“Creative demo tales from two continents” Bob Becker, Chemistry Teacher, Kirkwood High School, Kirkwood, Missouri. and Victor Obendrauf, Lecturer, Department of Chemistry, University of Graz, Austria.

“Does chemical education research have answers to offer the chemistry community?” Diane M. Bunce, Associate Professor of Chemistry, Department of Chemistry, The Catholic University of America, Washington, DC.

“Chemistry enterprise: Looking back at 2015” William F. Carroll, Vice President, Chlorovinyl Issues for OxyChem, Past-President, American Chemical Society.

“The Secret Life of Food” (Shirley Corriher, Author, Chef and Scientist

“How To Get Students Actively Involved In Learning, Even If You Have 200 Of Them In The Class” Richard M. Felder, Hoechst Celanese Professor Emeritus of Chemical Engineering, Department of Chemical & Biomolecular Engineering, North Carolina State University, Raleigh, NC.

“The challenge of interdisciplinary STEM service classes How can physics, chemistry, and math support a redesigned biology curriculum?” Edward (Joe) Redish, Professor of Physics, Department of Physics, University of Maryland, College Park, MD.

“High performance chemistry: Cars and beyond” Joseph Turpin, Associate Senior Analytical Chemist, Lilly Research Labs Division, Eli Lilly and Company, Indianapolis, IN.

“A Look at the ‘drivers’ of science education reform” Gerald F. Wheeler, Executive Director, National Science Teachers Association, Arlington, Virginia.

“Beginning chemistry: Firing their imaginations” Richard N. Zare, Marguerite Blake Wilbur Professor in Natural Science, Department of Chemistry, Stanford University, Stanford, CA.

Symposia

An abstract for the papers in each symposium is available by following links on the web site.

and Changes

- From Student to Practitioner
- General Chemistry: Improving General Chemistry Instruction Through Lab Practical Assessment
- General Chemistry: Integrating the 'Lecture' and Lab Experience
- General Papers
- Graduate TA Training and Beyond
- Hiring, Promotion, and Tenure in Chemical Education
- In Honor of Babu George—a human catalyst
- Information Obstacle Course: Successfully Incorporating Chemical Information Into Your Curriculum
- Innovations in Teaching Nurses
- Inorganic Teaching Experiences
- Inspiring Ideas for Physical Chemistry Lecture and Laboratory
- Long-Running Public Outreach Activities
- New Directions in Problem Solving
- Partnering to prepare the 2015 technician workforce
- Peer-Led Team Learning (PLTL)
- Physics Education Research for Chemistry Instructors: : Facing Joint Challenges and Practical Concerns
- Physics Education Research for Chemistry Instructors: Effective Practices and Research Results
- POGIL: Process-Oriented Guided Inquiry Learning
- Polling Systems in College Chemistry Classes
- Posters
- Remote Access to Advanced Instrumentation
- Research in Chemical Education
- Research in Chemical Education Using Computers
- Research in Chemical Education: Theoretical Frameworks
- Revising the ACS guidelines for two-year and four-year programs: A community dialog of issues and opportunities
- Science Education: Vital Connection of Science to the Public Sphere
- Teaching to the National Science Standards: Science in the Personal and Social Perspectives

- Scientific and Professional Ethics in the Chemistry Curriculum
- Service-Learning in Chemistry
- Survivor Skills for 1st to 5th year Chemistry Teachers
- Teaching Bioanalytical Chemistry and Biochemistry Laboratory
- Teaching evolution: reports from the frontline
- Teaching Students About Copyright and Plagiarism
- The George R. Hague Jr. Memorial AP/IB Chemistry Symposium
- Teaching to the National Science Standards: Use of History and Nature of Science in the Classroom
- Teaching to the National Science Standards: Using Chemistry Content: Connecting Concrete Concepts to Abstract Ideas
- Using JCE Resources Effectively
- Teaching to the National Science Standards: Using Technology to Implement Chemistry Standards
- Web-Based Applications for Chemical Education
- Teaching to the National Science Standards: What is Inquiry and How Can We Implement Inquiry in the Chemistry Classroom and Lab?
- Women in Chemistry Education

Workshops

Details of time and availability for each workshop is available on the web site.

WorkshopTitle-descriptions may be found on the BEEC web-site. 1“Using CHEMISTRY, the ACS General Chemistry Text”. 2. Chemistry is in the News. 3. ”Chemical Misconceptions : Prevention, Diagnosis, and Cure”. 4. Cheminformatics Workshop. 5. ”Light, Color and Nanotech: Chemistry Applications in Display Devices”. 6. Living By Chemistry - Bringing Chemistry to Life for Students. 7. National Science Standards and the ACS High School Exams. 8. Peer-Led Team Learning (PLTL). 9. Teaching Within the Rhythms of the Semester. 10. ”Chemistry is Everywhere””:Integrating Chemistry into the K-8 Curriculum”. 11. Hands-on Models in Chemistry. 12. Molecules of Life: Exploring Chemical Principles in a Biological Context. 13. Teaching Chemistry with Models and Simulations. 14. Vernier: Hands-on Chemistry with Handhelds. 15. Awesome Demos and Labs. 16. ”Custom Publishing Your Original Labs: What Do I Really Want In My Lab Manual and Lab Program?” 17. The Science Writing Heuristic. 18. ”Using Electronic Response Systems and ConcepTests: Formative Assessment”. 19. Using Probeware to Promote Inquiry in Chemistry Labs. 20. Chemistry’s Dirty Little Secret: Soil Analysis for Inquiry-Based Chemical Education. 21. Nuts and Bolts of Chemical Education Research: Developing Student Achievement Measures. 22. Research-based Lab Experiments – the CASPiE Model. 23. Smallscale Gas Reactions. 24. Vernier: Introducing the New Vernier Spectrometer. 25. Cookin’ with Chemistry. 26. Creating and Validating an Energy Level Model of the Atom. 27. More Small Scale Reactions. 28. Nuts and Bolts of Chemical Education Research: Development and Validation of Survey Instruments. 29. The Model-Observe-Reflect-Explain (MORE) Thinking Frame: Prompt Student Reflection in Your Laboratory. 30. Vernier: Hands-on Chemistry with Computers Section 1. 31. Customizing a demo for your classroom. 32. ”Dazzling Density Demos, Activities, and Labs: Workshop honoring the spirit of Babu George”. 33. Introduction to POGIL: Process Oriented Guided Inquiry Learning. 34. Teaching Chemistry with Models and Simulations (again). 35. Vernier: Hands-on Chemistry with Computers Section 2. 36. Advanced Logger Pro. 37. Advanced POGIL Workshop: Designing Activities for a POGIL Learning Environment. 38. Caveman Chemistry: Hands-On Projects in Chemical Technology. 39. Molecular Level Laboratory Simulations and Inquiry Activities. 40. Advanced POGIL Workshop: Improving Classroom Facilitation Skills. 41. Advanced POGIL Workshop: Using and Designing POGIL Laboratory Activities. 42. Exploring Spectroscopy and the Interaction of Light with Atoms. 43. Measure Net: The High School Setting44WebAssign—I wouldn’t teach without it!

Teaching with Demonstrations.

Chemical demonstrations have been used to inform and educate the populace for over 300 years. Many of these demonstrations are entertaining. Teachers often use demonstrations as a means of stimulating the students’ interest in chemistry. In the hands of a skilled educator, chemical demonstrations can be an effective instructional strategy that helps students learn and understand the chemical concepts. The emphasis of this symposium is on the pedagogical use of chemical demonstrations to foster student learning. Presenters to share demonstrations that have proven for them to be an effective instructional tool and describe how these demonstrations are used in their classrooms to promote learning of the concepts. A teacher’s guide will accompany each demonstration.

Two Symposia at the BCCE that may be especially interesting to you:

Partnering to Prepare the 2015 Technician Workforce

When considering the state of the chemical enterprise in 2015, presenters at the Spring 2005 presidential event “Enterprise 2015: Preparing for careers in chemical technology” emphasized that the significant changes in responsibilities and expectations for technicians that have occurred over the past ten years will continue over the next ten years. The challenge is to help students prepare for these changes. This symposium will address the roles that industry, academic institutions, and community organizations can play in creating strong partnerships that are responsive to changing needs. The use of skill standards and assessment in designing and keeping industry-driven curricula current will be discussed, along with other strategies for addressing the critical issues facing technician education.

This symposium will be held from 8:00-11:00 am, on Thursday, August 3 at the 19th Biennial Conference on Chemical Education at Purdue University.

Revising the ACS guidelines for two-year and four-year programs: A community dialog of issues and opportunities

Changes in the world of higher education and chemistry curricula have prompted ACS to revise and update its guidelines for four- and two-year programs. This interactive symposium will focus on curricular guidelines, developing student skills and abilities for student success, as well as faculty, facilities, and resource guidelines. Opportunities to facilitate student transitions between institutions will also be discussed. The symposium will include open forums to obtain community input on issues associated with the guidelines revision process.

This symposium will be held from 1:15-4:35 pm, on Tuesday, August 1 at the 19th Biennial Conference on Chemical Education at Purdue University.

Student transfer is a very important topic for the all of us in the Two-Year College Chemistry programs. Please give you input on this topic

Input on student transfer strategies sought

The ACS Committee on Professional Training (CPT) and the Society Committee on Education have both been discussing the expanding variety of pathways to bachelor’s degrees and the increasing number of students following them. “Paving the Pathways for Tomorrow’s Chemistry Students”, in the Spring 2006 CPT Newsletter (www.chemistry.org/education/cpt), explores changes in student trajectories and demographics and the opportunities they provide to improve access and success of students in chemistry.

Faculty from two- and four-year colleges are invited to share the challenges associated with student transfer and their strategies for overcoming them. How do you ensure that:

- transfer students have the prerequisites needed for chemistry courses?
- the level of the courses that students have taken is appropriate?
- students have sufficient support prior to and after transferring?

Answers to these questions and additional insights should be sent to Jodi Wesemann at j_wesemann@acs.org.



College Chemistry Consultant Service (C₃S) Moves to DivCHED

The College Chemistry Consultants Service (C₃S) consists of chemistry educators and chemists who act as independent contractors committed to providing professional advice to undergraduate institutions nationwide in the area of chemistry education. With its roster of approximately 30 consultants, C₃S has over the years reviewed and offered recommendations to departments that teach chemistry in areas such as: curriculum, safety, assessment, recruitment & retention, faculty development, grant writing, transfer & partnership issues, and obtaining ACS approval for chemical technology programs.

The C₃S service has operated for many years under the joint auspices of the ACS Committee on Education (SOCED) and the Division of Chemical Education (DivCHED). Of the approximately 15 visits coordinated by C₃S annually, approximately one out of five have been to two-year colleges.

Significant ACS budget cuts in 2006 has forced C₃S to continue its operations on a restricted budget supplied completely by DivCHED. What does that mean for the future of C₃S? It means fewer grant-supported visits. Regardless, C₃S is a bargain. A two-day visit costs approximately \$1300 and has proven to be a cost saving investment for most institutions. If you are interested in a visit from a C₃S consultant simply call Susan Greer at the DivCHED Office to make your initial contact, 765-494-9264; sgreer@purdue.edu. You can also go on line to www.divched.org to see the C₃S website or contact Jerry Mullin, C₃S Advisory Board secretary; jmullin@une.edu and obtain the necessary forms to initiate a visit.

In an effort to receive more grant subsidies from DivCHED and perhaps 2YC₃ I'm asking those of you who have used C₃S services in the last 5-6 years to send the Advisory Board the following information.

- When did you use the services of C₃S?
- What was the reason for the C₃S visit?
- How has your institution changed as a result of the C₃S visit?

These data are important to document in order to assess the effectiveness of C₃S. We welcome your response. Please send responses to Uni Susskind; tysusskind@earthlink.net or Dick Gaglione; oggag@aol.com as soon as possible. We appreciate your comments and feedback.

Uni Susskind,
Chair, C₃S Advisory Board

Community College Symposium Scheduled for the Fall National ACS Meeting in San Francisco

With the abstract deadline quickly approaching, the symposium "Community College Programs Designed to Help Students Transition to Four-Year Colleges and Universities." has generated enough interest to be included in the program for the Fall 2006 ACS National Meeting in San Francisco. The symposium organizers, Deborah Mead and Stephen Summers of Seminole Community College, Florida approached the Chemical Education Division with the proposal of the seminar just one week before the abstract deadline.

The Symposium is described as the opportunity for community college faculty to come together and share programs developed to ensure and increase the success of students as they transfer to the 4-year school of their choice. The symposium description is:

The majority of Community College students taking chemistry courses will continue their education at a College or University. It is often the perception that the Community College student is unprepared for the rigors of a science program at the upper-division level. It is common for the Community College to institute

programs designed to make the transition easier for the student. This symposium will share the programs that have been instituted at various Community Colleges and share the successes.

The topics to be covered in the symposium will include a variety of programs designed to better prepare students for upper-division courses and articulation agreements that have been developed between community colleges and universities to ensure students have the proper academic background to transfer as true college juniors.

It is the hope of the organizers that this symposium will spark the organizational fire of other ACS members at the community college level and symposia directed at community college faculty will become a regular offering at ACS National Meetings.

Organizer Contact Information:

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Sanford, FL 32773
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173rd 2YC₃ Conference at Georgia Perimeter College in Dunwoody, Georgia.

from left to right:

Web Coordinator: Dr. Hazelin Patterson

Program Chair: Dr. Glenn Nomura

Local Arrangement Chair: Dr. Candice McCloskey

Relaxing and visiting the industrial sponsors booths during one of the breaks at the conference at Georgia Perimeter College.



It is our pleasure to invite you to Niagara for the 2006
College Chemistry Canada, May 26-27, 2006

http://niagarac.on.ca/features/c3_conference/

Eighteen million people visit Niagara every year.

They come for the history, the scenic gardens, the golf, the local cuisine and wine, and, of course, to see the Falls.

The spectacle of the Niagara River rushing over a 54m limestone cliff is the inspiration for this year's theme, *Falling for Chemistry*.

We are hoping to showcase the contributions of chemistry to local industry, agriculture, and wine production, and we hope you go home refreshed and revitalized, ready to inspire more students to *fall for chemistry*.

Dr. Alan Davis,
Honorary Chairperson

Contact Us:

Niagara College Canada
905-641-2252

Program Co-ordinator

Andrea Sinclair, ext. 4475

Email: conf3@niagarac.on.ca

Conference Co-ordinator

Martin Smith, ext 4075

Email: conf3@niagarac.on.ca

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Call for application for the office of Chair-Elect of COCTYC for the year 2008

Application for Chair-Elect for 2008 must include:

- a. Pertinent personal data such as name, college, job title, address, etc.
- b. Brief statement of pertinent qualification, signed by the nominee.
- c. A statement indicating a willingness to serve signed by the nominee.
- d. A statement of support from an appropriate person in the applicant's school.
- e. 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 a minimum of three years prior to nomination
 3. be a member of DivCHED
 4. 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 within 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, 2006.

-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 12/31/2006.

-Ballots 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.

Houghton Mifflin *Chemistry* 2006

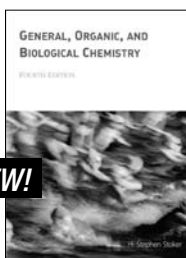


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Contact: William H. Ilsley: wilsley@mtsu.edu (615)898-2078
or Martin V. Stewart: mstewart@mtsu.edu (615)898-2073

or Write: Department of Chemistry, Box 68,
Middle Tennessee State University, Murfreesboro, TN 37132

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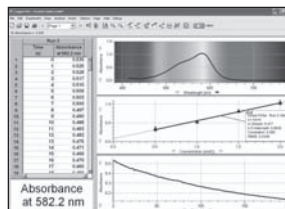
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