Website: http://2yc3.org

Chemistry Outlook

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

Candice McCloskey, Chair

INSIDE THIS ISSUE
Vol. 2009 – II

Notes From The Chair

Candice McCloskey
Georgia Perimeter College - Dunwoody
Dunwoody, GA

Greetings to you all. I hope you enjoyed a relaxing spring break, and have returned to the classroom full of fresh ideas, ready to finish out the semester. The 184th conference in Salt Lake City has just concluded. This was my first conference as chair, and I am happy to report that it was a success. The presentations that I attended were informative and thought-provoking. Thanks to Neil Bastion, Lu Giddings, and Ron Vascarese for hosting a fine conference. There were student research posters, a workshop on NMR, a workshop for professors new to the job, and presentations on service learning, pyramid testing and testing research. I was particularly interested in the presentations that dealt with assessment, as I am currently going through program assessment at my school.

My coworkers and I have learned that program assessment at a multi-campus institution such as ours carries its own set of problems. Just choosing appropriate assessment instruments for lecture and lab took us well over a year of work. The logistics of delivering lab practicals when each campus has a different lab set up have been particularly troublesome. We've had some interesting logistical problems to deal with. Then there is the analysis of the results.

Currently my school has two semesters of assessment results. What to do with it all has proved to be time-consuming and argument-inducing. First we identify those areas that appear to be troublesome

continued on page 2

Conference Calendar

2009-2010

185th CONFERENCE (Midwestern)
September 25-26, 2009

Rochester Community & Technical College
Rochester, MN

Conctact: Jason Jadin
Email: jason.jadin@roch.edu

186th CONFERENCE (Southern)
November 13-14, 2009

Hinds Community College
Raymond, MS

Conctact: Pam Clevenger
Email: pwclevenger@hindscc.edu

187th CONFERENCE (Western)
March 19-20, 2010

City College of San Francisco
San Francisco, CA

Conctact: Bob Price
Email: rprice@ccsf.edu

"Notes from the Chair" ...continued from page 1

for students. Then, the individual instructors must decide if "troublesome" is due to their own delivery of that material, or whether it is by its nature difficult for most students in any case. In the end we must be able to demonstrate that we are making changes that have been shown to be necessary by the assessment results.

But is the topic material dependent or independent of instructor delivery? Without a great deal of testing research, can this question even be answered? Without the research, we end up making the assumption that students do poorly because of poor instruction, although all of us know empirically that this isn't valid. Testing research at the two-year and four-year level is an absolute growing need, now that program assessment is so widespread. If you have thoughts (or data) on this matter, I encourage you to write an article for the Outlook, or give a presentation at an upcoming meeting. Treatment of assessment data is an area we all are concerned with.

Thanks for reading, and I hope to see you in Rochester.

187th CONFERENCE (Western)

City College of San Francisco
San Francisco, CA

March 19-20, 2010

Conference Theme:

Strategies for a New Decade:
Increasing Student Success and Diversity

Call for Papers:

We are currently looking for colleagues who would like to contribute to our program by giving a presentation or leading a workshop or round-table discussion. We strongly encourage topics related to our theme, as well as other areas to give us a diverse program.

Contact:

Program Chair
Bob Price rprice@ccsf.edu

Special Thank You from $2YC_3$

The $2YC_3$ would like to extend a special thank-you to the following members for their service to our organization and the COCTYC:

John Kenkel - John has retired his position as Industrial Sponsors Chair after increasing our industrial sponsors membership to nearly 30, and has served as a valued voice on the COCTYC.

Dolores Aquino - Dolores has served as the $2YC_3$ liason to the ACS Division of Chemical Education (DivCHED), and was instrumental in the development of the latest issue of the Guidelines for Chemistry in Two-Year Colleges booklet. She is also a valued voice on the COCTYC.

The $2YC_3$ is grateful for your service to and leadership in our organization.

2009 COCTYC AND SUPPORT STAFF
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American Chemical Society
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$2YC_3$ Membership Form

Please consider supporting the $2YC_3$ by becoming a member or renewing your membership. Annual dues are only **$25**.

NOTICE - Annual Dues Rate Increase. Annual Dues are now **$25**, and we are no longer offering a special rate on joint membership with DivCHED. If you are interested in joining DivCHED, please go to *http://www.divched.org/index* and take the *Membership* link on the left.

I wish to: _____ Become a member of $2YC_3$
_____ Renew my $2YC_3$ Membership

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:** _____

Current Member of: _____ ACS _____ DivCHED

Names of current members are posted on the $2YC_3$ website. The list includes names, institutional affiliation, and membership expiration date only. Email addresses and phone numbers are NOT listed. If you do NOT want your name listed, check here _____.

- **NEW! Membership dues can now be paid by credit card or PayPal on the $2YC_3$ website by visiting http://www.2yc3.org/membership/**
- **If paying by check, please send your check**, payable to $2YC_3$, for $25 to:
  Frank Ramdayal, Bergen Community College, 400 Paramus Road, Paramus, New Jersey, 07652.

185th 2YC$_3$ Conference (Midwestern)
"Resuscitating Our Chemistry Courses"

Rochester Community and Technical College
851 30th Ave SE
Rochester, MN

September 25-26, 2009

27 Co 58.933 Cobalt nference Information

For **registration**, **lodging information**, **travel directions**, and the **latest information on the conference program**, visit the conference website: http://www.roch.edu/people/jjadin/2yc3.htm

Program Chair:	Jason Jadin	*jason.jadin@roch.edu*	507-285-7299
Local Arrangements:	Heather Sklenicka	*heather.sklenicka@roch.edu*	507-285-7502
Exhibits Coordinator:	Teresa Brown	*teresa.brown@roch.edu*	507-285-7572

Friday, September 25

8:00 – 5:00 **Exhibits**

8:00 – 9:00 **Registration, Refreshments, and Exhibits**

9:00 – 9:15 **Welcome and Opening Remarks**
Don Supalla, President, Rochester Community and Technical College

9:15 – 10:15 **Keynote Address**
Chemistry or Magic? There's a Big Difference!
Marv Lang and Don Showalter, University of Wisconsin-Stevens Point, Stevens Point, WI

10:15 – 10:45 **Refreshment Break and Exhibits**

10:45 – 11:15 **2YC$_3$ General Membership Meeting**

11:20 – 12:00 **Presentation Session 1**

A. Underprepared is Underserved: A Freshman Math and Science Cohort Class
John Deming and Nathan Moore, Winona State University, Winona, MN

B. Undetermined (Proposals Invited)

12:00 – 1:00 **Lunch Break and Exhibits**

1:00 – 1:40 **Presentation Session 2**

A. **Title TBD**
Lance Lund, Anoka-Ramsey Community College, Coon Rapids, MN

B. **Exploring the Integrated Approach to Teaching GOB**
Colleen Kelley, PIMA Community College, Tucson, AZ

1:50 – 2:30 **Presentation Session 3**

A. Chemistry On-line?!
Leah Schaith, Southeast Minnesota Technical College, Red Wing, MN

B. Assessment That Works!
Teresa Brown and Heather Sklenicka, Rochester Community and Technical College, Rochester, MN

2:30 – 3:00 **Refreshment Break and Exhibits**

2:30 – 4:30 **Tour of the Mayo Clinic-Rochester Campus**

3:00 – 3:40 **Presentation Session 4**

A. Computational Science
Amy Jo Sanders, Stark State College, Canton, OH

B. Introducing Undergraduate Research Work in Bioscience/Chemistry at a 2-year College
Rehka Ganaganur, Minneapolis Community and Technical College, Minneapolis, MN

3:50 – 4:30 **Presentation Session 5**

A. ChemEd Digital Library
John Moore, University of Wisconsin-Madison, Madison, WI

B. Using MicroLab for Inquiry and Real-Time Learning in General and Organic Chemistry - FASTspec and Equilibrium, Vapor Pressure and Temperature, Titration Curves and K_a, Measuring Avogadro's Number, and Gas Chromatography
Mike Collins, Viterbo University, LaCrosse, WI

5:00 – 6:00 **Social Mixer at the Radisson Plaza Hotel**

6:00 – 8:30 **Dinner Banquet and Address**
Speaker TBD

Saturday, September 26

8:30 – 4:30 **Exhibits**

8:30 – 9:00 **Registration and Refreshments**

9:00 – 10:00 **Opening Speaker**
Biodegradable Plastics from Corn
Richard Bopp, NatureWorks LLC, Minnetonka, MN

10:00 – 10:30 **Refreshment Break and Exhibits**

10:30 – 11:10 **Presentation Session 6**

A. Enhancing Learning during a Chemistry Exam, Is That Really Possible Using Immediate Feedback Assessment Technique Forms
Jamie Schneider, University of Wisconsin-River Falls, River Falls, WI

B. POGIL in the Community College Classroom
Tom Higgins, Harold Washington College, Chicago, IL

Continued next page...

11:20 – 12:00 **Presentation Session 7**

A. Team Based Learning in Allied Health Chemistry
Mary Hadley, Minnesota State University-Mankato, Mankato, MN

B. Student Reflections on Undergraduate Research at RCTC
Caleb Scott, Christopher Kennedy, Patrick Berg, Rochester, MN

12:00 – 1:00 **Lunch Break and Exhibits**

12:30 – 2:30 **Workshop**
Power of One Assessment
Teresa Brown, Rochester Community and Technical College, Rochester, MN

1:00 – 1:40 **Presentation Session 8**

A. Using Technology with Guided Inquiry to Improve Student Learning and Increase Efficiency
Jeff Pribyl and Mary Hadley, Minnesota State University-Mankato, Mankato, MN

B. Undergraduate Research at ARCC
Vicki MacMurdo and her students, Anoka Ramsey Community College, Coon Rapids, MN

1:50 – 2:30 **Presentation Session 9**

A. Student-Centered Learning in Organic Chemistry Courses
Sara Hein, Winona State University, Winona, MN

B. Undetermined (Proposals Invited)

2:30 – 3:00 **Refreshment Break and Exhibits**

3:00 – 4:30 **Grand Finale**
Chemical Demonstration Show
Marv Lang and Don Showalter, University of Wisconsin-Stevens Point, Stevens Point, WI

REGISTRATION

Registration for the conference is by mail-in form. The form is available at the conference website: http://www.roch.edu/people/jjadin/2yc3.htm. Download and send in the form with your payment. Please note that your registration is not complete until your payment is received.

LODGING

Reservations at the conference hotels must be made by August 23 to secure the conference block of rooms. Ask for the 2009 $2YC_3$−RCTC Midwest Meeting conference rate when making your reservation. There are many hotel chains in the area and attendees may contact Heather Sklenicka, Local Arrangements Chair, at 507-285-7502 or *heather.sklenicka@roch.edu* for additional choices.

Radisson Plaza Hotel
150 S. Broadway
Rochester, MN 55904
1-888-201-1718
http://www.radisson.com/hotels/rocheste
Room Rates: $129 per night (includes parking)

Hilton Garden Inn
225 S. Broadway
Rochester, MN 55904
1-507-285-1234
http://hiltongardeninn.hilton.com/en/gi/hotels/index.jhtml?ctyhocn=RSTRHGI
Room Rates: $109 per night (includes parking)

About Rochester Community and Technical College and Rochester, MN

Rochester Community and Technical College was founded in 1915 on a motion by Dr. Charles Mayo to the Rochester School Board. Rochester is Minnesota's oldest - and one of the nation's oldest - original community colleges. The 2005-2006 academic year marked RCTC's 90th anniversary. The college offers more than 70 credit-based programs with 100-plus credential options in the areas of liberal arts, allied health, business, services and technical career pathways. The college serves approximately 7,500 students in credit-based enrollments and 3,000 in noncredit courses.

Rochester consistently lands near or on the top of several of the nation's "Most Livable Cities" lists. Rochester is Minnesota's third-largest city and home to the world-renowned Mayo Clinic and IBM. Rochester had the highest concentration of high-tech businesses in the United States and had the highest number of patents in the nation filed per 100,000 residents during the last 10 years.

186th 2YC$_3$ Conference (Southern)
"Sharing Ideas to Promote Chemistry Education"
Hinds Community College, Raymond, MS 39154
November 13-14, 2008

PRELIMINARY INFORMATION

You are invited to experience true southern hospitality at Eagle Ridge Conference Center, located at Hinds Community College just a few miles south of Jackson, MS. Come into town early to visit many of Raymond's historic homes and buildings full of stories from the past. Reserve a hotel room at the Eagle Ridge Conference Center or stay in one of Raymond's Historic Bed and Breakfasts located close by. Jackson is about 10 minutes away and is home to the Mississippi Museum of Natural Science and the Mississippi Art Museum. The Mighty Mississippi River is a quick 45 minute drive to the west in Vicksburg.

CALL FOR PRESENTERS

We are accepting abstracts for conference presentations and workshops. Our goal is to facilitate communication between the different levels of chemistry education. The focus of the conference will be to share thoughts and ideas to ultimately benefit our students.

A conference website will be available in the future to post the conference program and registration forms.

Contact Information

Program Chair:	Pam Clevenger, *pwclevenger@hindscc.edu*, 601-857-3869
Exhibits Co-Chairs:	Dr. Lester Harrison, *lwharrison@hindscc.edu* Lou Anne Williams, *loawilliams@hindscc.edu*
Local Arrangements Chair	Jason Webb, *jawebb@hindscc.edu*

Travel Grant Opportunity for 2-Year College Faculty!!
Applications Are Being Accepted for
The Dorothy and Moses Passer Education Fund

This Fund was established by a generous donation of Dorothy and Moses Passer. Moses (Mike) Passer was for many years the head of the ACS Education Division.

The Fund supports grants to provide support for teachers in programs at two- and four-year colleges or universities that do not have any advanced degree programs in the chemical sciences. The awards are to support continuing education activities that must be directly related to the applicant's teaching and must take them away from their campus. The applicant must be a full time faculty member at his or her institution. The applications are reviewed by a committee. There is no application form but the application must include a description of the proposed activity and how it relates to his/her teaching with dates, locations, titles and contacts; a brief description of the applicants institution and department; a short curriculum vita; an itemized estimate of expenses, amount of aid requested and sources of all supplemental funds. No support will be given for general attendance at national, regional or local ACS meetings nor for any sabbatical support.

Closing dates are three times each year: **January 1**, **April 1**, and **September 1**. All applications must be received electronically. For further information or inquiries contact **Richard Jones, richard.jones@sinclair.edu**; mailing address: **Sinclair Community College, Dayton, OH 45402**

What's Happening in My Area?
News From the Regional Advisory Boards (RABs)

Western RAB
Dick Gaglione, Chair

A National Science Foundation Grant was awarded in 2007 to Canada College (Redwood City, CA) and Gene:Connection-Chem:Connection, A High School Science outreach program from the San Mateo County Office of Education. This multi-focused project, entitled "Chemistry: A Pipeline to 21st Century Careers," seeks to increase the recruitment, retention and success of students in the chemistry career pipeline, particularly those from underrepresented groups, to produce the technological workforce needed to fill the demands of their local industry. The project team which has been working to create long lasting alliances among high schools, community colleges, four-year colleges, workforce development agencies, local industry and the community is composed of the following professionals:

- Jeanette Medina, Project Director
- Jeri Eznekier, Asst Project Director
- Kim Marie Hansen, Gene:Connection Program Head
- Melody Yang, High School Chemistry Outreach Coordinator

Eastern RAB
Brahmadeo Dewprashad, Chair

The current economic conditions are having are serious impact on our work as many of our colleges are in states and cities which financial health are interlinked with the financial, banking and insurance industries. There is greater enrollment in chemistry courses as many seek re-training in areas such as health-care and education. As such, faculty members are challenged to do more with less. At such trying times, strengthening our professional network and support from the larger chemistry faculty community is especially important. There are two upcoming meeting in the regions that members can gain valuable professional development whilst strengthening their networks. The 238th ACS National Meeting & Exposition will be held on August 16-20, 2009 in Washington, DC. The overarching multidisciplinary theme for this meeting is "Chemistry and Global Security: Challenges and Opportunities." In addition, the members of the Connecticut Valley Section of the ACS will be hosting the 36th Northeast Regional Meeting (NERM2009) in Hartford, CT October 7 -10, 2009. Meeting details and be obtained from ACS website at http://portal.acs.org/portal/acs/corg/content.

There is good news from several colleges in our region. Montgomery County Community College is in the second year of a NSF grant funded project "Fostering a Successful Learning Community for STEM Scholars". The latter was designed to increase enrollment and student success in the STEM disciplines by providing full scholarships, faculty and industry professional mentoring, collaborative events and career awareness activities for students. Their project is progressing well and they have been busy recruiting students majoring in STEM disciplines. We congratulate them and wish them well.

There is also heartening news from Delaware County Community College. They are completing the building of a new $59 million STEM (Science, Technology, Engineering, and Math) complex and will occupy in spring 2010. In addition, in the past couple of years, they have received the national lab safety award from the DCHAS of the ACS. In addition, they have developed and offered CHE 105, Technical Chemistry, a course designed for students in the various technology programs for the purpose of developing an understanding of basic chemical principles and scientific literacy. Very recently, a new Chemistry course, CHE 100 – Chemical Sciences, was developed. The course is for non-science majors and includes a survey of selected principles of chemistry and their application to practical topics such as air and water pollution, global warming, and resource and energy options. Also, they have adjusted pre-requisites for General Chemistry I (CHE 110 for science/engineering majors) to increase the likelihood of student success in the General Chemistry (CHE 110/111) course sequence.

There is some additional good news that was not previously shared with our community. The Committee on Minority Affairs of the American Chemical Society has selected the Chemistry Department of Queensborough Community College as the Middle Atlantic Regional recipient of the Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences. The award was presented on May 20, 2008 during the MARM 2008 meting. We congratulate our colleagues on their great work.

What's Happening in My Area?
News From the Regional Advisory Boards (RABs)

Southern RAB
Mark Matthews, Chair

The next meeting in our region will be the 186th conference at Hinds Community College in Raymond, Mississippi, November 13 & 14, 2009. Anyone interested in speaking can contact Pam Clevenger at *pwclevenger@hindscc.edu*.

Remember, $2YC_3$ presentations aren't limited to data-intensive, grant-supported chemical education research. You can share any interesting ideas you've had in the classroom, talk about recent community outreach programs you've been involved with, or you can simply lead a roundtable discussion of a topic that interests you.

Finally, we have an opening in the Southern RAB. Mine. I've recently been elected to serve as chair-elect of the COCTYC 2010. I'm truly honored to serve on the executive committee and look forward to having an opportunity to meet with colleagues across the country, as was the case in our most recent meeting in Salt Lake City. At the same time, it won't be long before I'm the one who has to write the "Notes from the Chair" for the front page, which I'm a bit nervous about. It's hard enough sometimes doing the shorter, regional blurbs (though not waiting until the last minute might help).

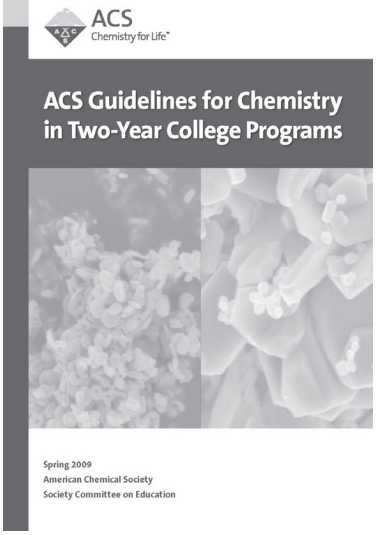
Hopefully, by the time this goes to print we'll have a new regional chair in place, but I'd still like to encourage all $2YC_3$ members to consider serving on a regional board. The Southern RAB currently has a need for members from Arkansas, Oklahoma, North Carolina and South Carolina. Just send an email to our RAB Coordinator, Michaeleen Lee (*rabcoordinator@2yc3.org*). It really is a great way to assist the organization.

Midwestern RAB
Amy Jo Sanders, Chair

Spring is always full of feelings of renewal and excitement. In the Midwest we are excited about our accomplishments and collaborations that have helped to keep chemistry curricula current in the changing times. For example, Steve Gordon at the Ohio Supercomputer Center (OSC) in Columbus, Ohio is currently organizing the development of an Associates of Science degree in Computational Science at Owens Community College (Toledo), Sinclair Community College (Dayton), and Stark State College of Technology (N. Canton) under NSF award 0703087. Students may choose to major in a particular area of computation – biology, chemistry, or physics. Each institution has taken the responsibility for developing certain courses and will teach them remotely, using video and other distance learning technologies to the other institutions. Owens is preparing the computational chemistry class, Sinclair the computational methods and computational physics, and Stark State the computational biology. This arrangement will allow all the institutions to offer concentrations in each of the areas without having to staff every class. Mounting an inter-disciplinary program such as computational chemistry is always challenging, however we have found it to be very rewarding. Students now have access to emerging programs that none of the colleges could have launched alone due to the limitations of resources as well as the distribution of expertise among the faculty. By sharing the curriculum, there are significant savings to the institutions as well as to the faculty in terms of workload. We have also been able to share in the ancillary costs associated with the curriculum including software licensing, discounts on textbooks because of the larger number of students, and the development of shared computational resources and learning environments. Our colleges have also benefited by the development of a community of practice where we can continue to share and improve any of our instructional materials, providing the opportunity for a more robust, more sophisticated, and more complete curriculum. All educational institutions in the state of Ohio have been invited to join in the coalition. We have been holding regional conferences to review the curriculum and give the participants hands-on experience with the software and learning materials, hopefully resulting in other institutions offering the curriculum. The next regional conference for educators (especially at the two-year level) will be held April 20-21st, 2009 at Washington State CC in Marietta, Ohio. If you have an interest in pursuing computational chemistry or other computational program at your institution, we encourage you to register for the upcoming national conference at *http://www.computationalscience.org/*

The Midwestern RAB is also excited to announce the membership of John Kenkel from Southeast Community College in Lincoln, NE and Brian Glaser from Black Hawk College in Moline, IL. We are still searching for new members from ND, SD, IA, MO, WI, and IN, so if you are interested in representing your state, please contact me.

The Essential Role of Two-Year Colleges in Higher Education



Two-year colleges make a vital contribution to the economy due to their dual missions of providing post-secondary education and workforce development. These institutions are essential partners in the mosaic of higher education, and they offer programs and services for students who seek accessible, affordable, and flexible educational opportunities. Because two-year colleges impact students who could not or would not otherwise enroll in a college or university, they are often access points for educational growth and true catalysts of economic development.

Serving almost half of all undergraduate students, two-year colleges are distinct for their low tuition and open enrollment policies. As a result, they have a higher proportion of students who are older (average age, 29), female (60%), minority (35%), and from lower income families (23%).

Two-year colleges also play a crucial role in the education and training of the scientific workforce. A 2004 NSF Infobrief reveals that over 40% of science and engineering graduates have attended a two-year college at some point along their education. Many graduate's families do not have a background with higher education, for example about 57% of the graduates that who reported that their fathers had less than a high school diploma had attended community college. Since two-year colleges educate a substantial number of underrepresented students, they play a key role in the effort to diversify the scientific enterprise.

The chemistry programs at two-year colleges do more work with less everyday. According to a study done in 2001, approximately 180,000 students were enrolled in chemistry in the fall of 2001. The average number of chemistry lecture sections taught in a department was 7.8 with an average of 3.7 faculty members per campus. Chemistry programs at two- year colleges are essential to creating a scientifically-educated community.

The *ACS Guidelines for Chemistry in Two-Year College Programs* have been developed to support faculty, staff, and administrators in strengthen chemistry programs across the country.

[1]American Association of Community Colleges CC Stats

Two-Year College Snapshot[1]

Number and Type	
Total:	1195
Public:	987
Independent:	177
Tribal:	31
Enrollment	
Total:	11.5 million
Credit:	6.5 million
Noncredit:	5.0 million
Full-time:	41%
Part-time:	59%
Demographics	
Average age:	29
First-generation:	39%
Single parents:	17%
Degrees awarded annually	
AA degree:	555,000
All undergraduates:	46%
Black:	46%
Hispanic:	55%
Native American:	55%
Asian/Pacific Islander:	46%
First-time freshmen:	41%

What is a two-year college?

The term *two-year college* refers to any institution where the highest degree awarded is an associate degree. Although public comprehensive *community colleges* represent the majority of two-year institutions, *junior colleges* and *technical colleges* are also included in the generic *two-year college* mix. Often times, the terms *two-year college* and *community college* are used synonymously but erroneously.

-- First Time Ever --

A Teacher-Scholar Award

For Community College Teachers

The American Chemical Society (ACS) gives awards at local, regional and national levels, for excellent teaching at high school, college and university levels. The ACS Santa Clara Valley (SCV) local award is the first in the nation to recognize the contributions of community college chemistry teachers to science education.

The award was established by this local section earlier this year. Each year it will honor an outstanding faculty member from one of the 13 community colleges in the ACS-SCV local area which includes five counties around San Jose, CA. The award will be presented in November, 2009. The winner receives a plaque and $500 with the same amount being donated to the winner's chemistry department.

We hope that our initiative will generate publicity and catalyze the creation of similar awards in other ACS local sections, at regional levels, and ultimately at the national level. A second ACS local has already expressed interest. The publicity surrounding these awards is expected to increase the visibility and respect accorded to community college science education, both by other chemists and the general public.

We want to reach as many ACS locals as quickly as possible. If you are active in an ACS local, or know some one who is, please present this idea to them. For supporting information about the award and how it works, please contact **Harry Ungar** of the Cabrillo College Chemistry Dept. at *haungar@cruzio.com*. We will provide all the materials needed to make it easy to set up an award.

Relevant Achievements

- Excellent teaching in the lab and classroom
- Extensive mentoring and encouragement of students toward academic success
- Collaborations with local high schools and four year colleges and universities, leading to more student transfers and better articulation
- Educational innovation, evaluation and dissemination
- Published articles and books related to chemistry education
- Supervision of undergraduate research
- Participation in grant funded projects promoting innovative teaching methods and undergraduate research
- Exceptional contributions to the college's chemistry department
- Public outreach
- Contributions to the local community, for example through the K-12 system

Eligibility - A chemistry faculty member, active or **emeritus**, from any community college in the SCV section area is eligible. Membership in the ACS is not required.

Nomination process - The nominator completes a form describing the person's accomplishments, plus brief letter(s) of support from colleagues, former students and/or administrators. The application form is posted on the SCV-ACS web site (www.scvacs.org). The application deadline is July 1, 2009 and the award will be made at the local section dinner meeting in November.

The initiative for the award and the first $500 in seed money came from the NSF-funded *ChemEd Bridges* Project. The SCV-ACS local section has allocated $500 and other funds are expected to be raised from the membership. *ChemEd Bridges* provides professional development opportunities to expand the horizons and enrich the careers of community college chemistry faculty, encouraging more of them to become teacher-scholars.

Faculty Opinion on Pedagogy
How We Teach Probably Matters More Than What We Teach

Brahmadeo Dewprashad

Teaching is not considered to be the noblest nor even the oldest profession. Such distinctions go to two other very recognizable professions. Though often unrecognized, the work that teachers do has been silently ongoing from time immemorial, and has always required selfless dedication and energies. Like the freshness of a breeze, its presence heightens our awareness but its effects are not clearly quantifiable. It is no wonder that teaching's true value is not often recognized or even acknowledged. The reality though, is that teachers play a key role in shaping our world. We transmit the knowledge and wisdom of the ages on to a new generation whilst as the same time shaping young minds so that they can seek and find new knowledge and fashion a better world. With goals so lofty, and tasks so general, how do we know how best to undertake such efforts? To find some answers, it might be worthwhile to consider the teaching that is done informally and how it is done. It is what has evolved naturally and what has withstood the test of time. It is what shaped who we are and where we are today.

Children are taught to walk, neither by lecturing to them about walking, nor by showing them how to walk when the time is right. The work starts much earlier. Before children are even ready to walk, we work on preparing them to walk. We ensure that they are properly fed so that their muscles develop and their bones continue their hardening. Then when they start to crawl, we clear spaces that they can crawl safely and we cheer them on. When they attempt to stand, we extend a hand out so that they do not fall. Sometimes, they try standing when our hand is not out, or there is nothing to hold on to and they fall. We then comfort them and encourage them to try again. In time, there is a natural progression to our holding their arms as they tentatively put one then another foot forward. It becomes a daily routine with slow progress and often mishaps, and sometimes even tears and pain. However, this task culminates in pure joy the day the child takes the fist steps unassisted. In reality, we do not teach a child to walk. A child follows its natural instincts. We provide support, guidance and encouragement as a child does what comes naturally.

Our students are not children and we do have to contend with not one but about 28-32 at a time. However, students do come to us with a natural curiosity and a desire to learn but often with inadequate preparation to take the first steps on a journey of higher education. Our first task is connect with each student in each of our classes and to gain some knowledge as to what their individual knowledge base is, what misconceptions they bring into the classroom and what their aspirations are. Only with such knowledge can we start to build on what they know, correct their misconceptions and broaden their horizons. Such a daunting task is not easily accomplished by delivering lectures but by instructional techniques that require each student to share his/her knowledge, ideas and projections in an environment that is not only non-threatening but nurturing. Instructors are largely responsible for creating such a classroom environment. Instructors do take special efforts to ensure that their interaction with individual students promotes a sense of trust and openness. However, special efforts are needed to manage a classroom so that that is mutual respect amongst students. Creating the right classroom environment is but a first step. It is akin to providing an uncluttered and safe space for children to crawl in.

The learning comes from connecting new ideas and concepts to knowledge that a student already has such that a student's natural curiosity propels him/her to explore these ideas further and apply them to solve problems that interest them. Once again, a standard lecture based on a textbook is not likely to deliver such learning. Various strategies can be used instead of a traditional lecture. These include "Inquiry Based labs or Exercises", Case studies, Problem-based learning and Writing –intensive activities. Regardless of the strategy used, the idea is to tap into the natural curiosity of students such they are compelled to find our more about a concept and put the concept to use. It is a tall order. However, many have studied and written about specific aspects of such teaching techniques. As such continuous self education on pedagogies is must for all educators. Whist our profession does not mandate it, our hearts know that it is the right thing to do, and should be listened to.

The measure of the effectiveness of one's teaching is not necessarily captured by teaching observations or student evaluations. It can sometimes be seen in the faces, but more often only felt in the hearts of an instructor and his/her students. Follow your instincts and be true to yourself. Good teaching is what comes naturally. Poor teaching might be what we learned from instructors who bombarded us with incessant lectures during our extended years of schooling. Such experiences might have eroded and even mis-shaped our natural teaching instincts. As such, we should examine how we teach and do formal studies as to how students learn and how best we can tap into their natural curiosity. Without such introspection and realization, we might not be able to do what parents have been doing from time immemorial. They are able to teach a child to walk such that in time the child, on his/her own accord, runs, leaps and jumps in joy. As instructors we teach students so that then can continue to learn on their own. If we can do this then we can all rejoice. We are doing what we were meant to do.

Call for applications for the office of Chair-Elect of $2YC_3$ for the year 2011

Application for Chair-Elect for 2011 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.

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 $2YC_3$ 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 COCTYC.
    b. served as Program Chair, Local Arrangements Chair, or Exhibits Chair for a $2YC_3$ Conference.
    c. chaired a sub-committee of the COCTYC.
    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 OCTOBER 1, 2009.
-The COCTYC will serve as a nominating/screening committee to generate a slate of candidates.
-Each $2YC_3$ member shall vote for one nominee per office 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 12/31/2009.

Call for applications for the office of Treasurer/College Sponsor Chair of $2YC_3$ for a three year term beginning 2010

Application for Treasurer/College Sponsor Chair for a three year term beginning in 2010 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.

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 $2YC_3$ a minimum of three years prior to nomination
3. be a member of DivCHED

-Applications must be received by the Chair no later than OCTOBER 1, 2009.
-The COCTYC will serve as a nominating/screening committee to generate a slate of candidates.
-Each $2YC_3$ member shall vote for one nominee per office 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 12/31/2009.

Programs Win Collaborative Mini-Grants

Mini-grant winners

The winners of the first round of 2009 Equipping the 2015 Chemical Technology Workforce mini-grants have been announced. The following will receive $500 for their activities to support technician education and professional development.

- **Arizona Laboratory for Emerging Contaminants at the University of Arizona (Tucson, AZ)** for an all-day workshop on the latest techniques in analyzing local water for pharmaceuticals and other persistent organic contaminants. Students, technicians, and other academic and industry representatives will have the opportunity to interact and learn about these emerging hazards. Contacts made during the workshop will be used to form a Water Chemistry Alliance.

- **Bidwell Training Center (Pittsburgh, PA)** for an all-day student retreat to focus on employability skills. The retreat will feature a panel discussion with industry representatives, resume reviews, and mock interviews. Students will have the opportunity to interact with local employers and learn about industry needs.

The mini-grant winners have proposed strong programs that bring together several different sectors of the chemical enterprise for the benefit of current and future chemical technicians. Equipping the 2015 Chemical Technology Workforce is proud to help support these activities.

More mini-grants to be awarded

The deadline for the next round of mini-grants is Monday, 20 July 2009. Winners of the second round of 2009 mini-grants will be announced at the 238th ACS National Meeting in Washington, DC. Information on proposal submission and past winners can be found at www.acs.org (follow the path: Funding & Awards > Grants > Chemical Technology Partnership).

Background on Equipping the 2015 Chemical Technology Workforce

Equipping the 2015 Chemical Technology Workforce is a collaborative initiative that kicked off at the 232nd ACS National Meeting. The goals of Equipping the 2015 Chemical Technology Workforce are:

1. To raise awareness of the changing needs of professional technicians
2. To highlight opportunities for industry, academia, professional societies, and the community to collaborate on meeting those needs
3. To increase involvement of current and future technicians in the American Chemical Society

In 2007, Equipping the 2015 Chemical Technology Workforce began offering $500 mini-grants to encourage activities that support technician education and career development. To date, 19 mini-grants have been awarded.

For more information on Equipping the 2015 Chemical Technology Workforce, visit **www.acs.org** (follow the path, Funding & Awards > Grants > Chemical Technology Partnership), call 202-872-6108, or email ChemTechLinks@acs.org.

Bubbling Over with Excitement?
An Invitation for Submissions to the 2YC$_3$ Chemistry Outlook

From the Editor: I would like to invite any and all members of 2YC$_3$ to consider submitting interesting and relevant articles, commentary, announcements, job postings or photographs for inclusion into the Chemistry Outlook. As our organization grows, the Outlook is hoping to grow as well, and it can serve as a convenient means of sharing information with your colleagues around the country. Do you have an interesting classroom activity you'd like to share? How about a demonstration or a teaching technique that you think works especially well? In the past we have published conference commentary, "It Works for Me", photographs of students excelling at presentations and workshop announcements. Submissions may be published on an editorial appropriateness and space-available basis, and should by typed in Times New Roman font, single-spaced, 12-pt.

Deadlines for submissions:

Vol I (due out mid-Feb): Dec. 15
Vol II (due out mid-May): March 15
Vol III (due out mid-Sept): June 15
Vol IV (due out mid-Oct): July 15

Integrating Computers into Laboratory Instruction: New Educational Strategies to Improve Learning

Balancing Content, Inquiry Skills, and Increasing Enrollment

A 2-1/2 day Summer Conference for College Chemistry Faculty
Grantree Inn and Conference Center, Bozeman, MT
July 27-29, 2009

The location of the Monday evening picnic!

Work with national leaders in chemical education through a series of lectures, discussions, and "hands-on" two-hour laboratory sessions. Explore, practice, and evaluate new instructional strategies and the use of computer technologies to improve learning, to use limited lab time and space more effectively, and to reduce chemical costs and increase safety. Consider implications for distance learning.

- **Dr. John Amend, Professor of Chemistry Emeritus, Montana State University, President, MicroLab Inc.**
  Computers and Color Graphics as Tools for Inquiry: Using Computers to Engage Students in Science and to Draw Concepts from Experimental Data
- **Dr. Tom Greenbowe, Professor of Chemistry, Iowa State University.**
  Using the Science Writing Heuristic to Improve Understanding in the General Chemistry Laboratory
- **Dr. Norb Pienta, Professor of Chemistry, The University of Iowa.**
  Using Live Graphics and Visualization to Improve Understanding in the General Chemistry Laboratory
- **Dr. Mike Seymour, Professor of Chemistry, Hope College**
  Integrating Research Strategies into the General Chemistry Laboratory

Contact Diana Paterson, *dianap@montana.edu*, at the MSSE Program at Montana State University (406) 994-5679 for conference information, registration, and optional university credit.

This conference is sponsored by Montana State University's Master of Science in Science Education Program, and by MicroLab, Inc.

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