

# Chemistry Outlook

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



*Michael Lee, 2007 Chair*

## INSIDE THIS ISSUE

Vol. 2007 - I

1	Notes from the Chair
2	Conference Calendar; 178th Conference- Call for Papers
3	2007 COCTYC and support staff
4-8	177th Conference Program
9	It Works for Me!
10	Chemical Technology Program Announcements
11	Call for Applications
10-12	Advertisements



7

**N**

## Notes From The Chair

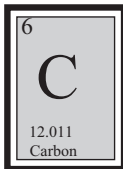
14.0067  
Nitrogen

Michael Lee  
Bucks Community College  
Newton, PA

While pondering what to write in this "Notes from the Chair" it has occurred to me that one of the reasons for my difficulty in beginning is that I am writing in December for a publication that will be received in January and that needs to address events in March. December is the end of the calendar year and also the end of the first semester in our academic year but when this issue reaches our mailboxes we will have started the new calendar year as well as the next semester. My mind is thinking "end" but my keyboard must reflect "beginning". Then I realized that this is really the significance of 2YC<sub>3</sub>. 2YC<sub>3</sub> helps us take the best from the past, use it (modified if necessary) now, and think ahead to new concepts and applications in the future. What a fantastic organization!

As I begin my year as Chair I want to start by thanking everyone who has guided and participated in 2YC<sub>3</sub> from the past to the present. I remember my first conference in 1983. That was the 81<sup>st</sup> conference! Before I end my term as Chair, 2YC<sub>3</sub> will have had almost 100 additional conferences! That 81<sup>st</sup> conference was at Northern Virginia Community College and its theme was "New Textbooks for General Chemistry". I still teach General Chemistry and that conference still stands out as the gateway to a new way of looking at textbooks, to a new way of teaching, and to my participation in 2YC<sub>3</sub>. I am still amazed at every conference I attend and I still get excited about the wealth of information that can be had at the 2YC<sub>3</sub> conferences. The professional growth that comes from the conferences will remain a part of me to be carried forward to future semesters. Most importantly are the people. At each conference there are many familiar faces and always new faces. It is this contact with others like myself, each struggling with unique yet similar issues, that makes 2YC<sub>3</sub> an exceptional organization. And so, to all the executive committee members and to all the conference hosts and to all the people that have made the conferences what they are, I say thank you. You have inspired me and many other members of 2YC<sub>3</sub>.

continued on page 2



## Conference Calendar

### 2006 - 2007 Academic Year

#### 177<sup>th</sup> 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

#### 178<sup>th</sup> CONFERENCE (Eastern)

September 28-29, 2007, Bergen Community College  
Paramus, NJ

Contact: Frank Ramdayal  
Phone: 201-493-3671  
Email: framdayal@bergen.edu

#### 179<sup>th</sup> CONFERENCE (Southern)

November 2-3, 2007, Durham Technical Community College  
Durham, NC

Contact: Mark Matthews  
Phone: 919-686-3773  
Email: matthewsm@durhamtech.edu

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

“Notes from the Chair” ...continued from page 1

I also want to thank my own executive committee. Look at what they have accomplished already. We have a great new website. If you haven't taken a look at it recently, make sure to do so. Not only has the past been archived but the possibilities for future expansion are limitless. We have an almost full slate of Regional Advisory Board Members. If YOU would like to take a more active role in moving 2YC<sub>3</sub> into the future, this is a good place to start. Just let a member of the executive committee know of your interest and if there is a position open it could be yours. We have a full schedule of conferences for 2007 and many conference slots in future years already have host colleges. If YOUR college would like to host a conference please let us know. We are always looking for college sites for the conferences. The Conference Planning Guide is posted on the website so that you can see what is involved before deciding. We have our newsletter, “Chemistry Outlook”. If YOU would like to contribute an article just contact the editor for the details about submitting an article. We are always seeking new contributors. If you do something that you think is neat in your classes let the rest of us in on your secret. And so, I extend a thank you to all of you who have worked to insure that this year will be a successful one for 2YC<sub>3</sub>.

Finally, I want to thank all of you who have entrusted this organization to my care for the year. I hope to meet many of you

at one or more of the conferences. We begin the year at Joliet Junior College in Joliet, IL. That conference is March 23-24. In the fall we have two conferences. The first fall conference is in Paramus, NJ at Bergen Community College, September 28-29. The next one is November 2-3 in Durham, NC. More information is on the website and will be updated throughout the year. See you then.

Michaeleen Lee  
Bucks County Community College  
Newtown, PA

### 178<sup>th</sup> Conference (Northeast) Bergen Community College Paramus, NJ 07652

September 28-29<sup>th</sup>, 2007

**Theme of conference:** “Chemistry: Looking to the future”.

#### Preliminary Information

The conference will include several workshops on Saturday, Sept. 29<sup>th</sup>. These workshops will be concerned with the changing role of modern technology in the teaching of Chemistry.

The sessions on Friday, September 28 will be devoted to presentations.

#### Call for papers:

We extend a call for presentations on the following topics:

- Green chemistry as part of the Chemistry curriculum.
- The teaching of organic chemistry at the two year college level.
- The teaching of analytical chemistry at the two year college level.
- Using atmospheric sciences as motivation and as a teaching tool.
- Including Biotechnology in the curriculum.
- Nanotechnology.
- Project based learning in organic chemistry.

We will consider presentations/papers on any other topic that contributes to the improvement of teaching and learning of chemistry at the community college.

A detailed schedule will be found on the 2YC<sub>3</sub> website ([www.2yc3.org](http://www.2yc3.org)) as the conference develops.

Contact: Dr. Frank Ramdayal, phone: 201-493-3671,  
Email: framdayal@bergen.edu.

**2007 COCTYC AND SUPPORT STAFF**  
**Division of Chemical Education, Inc**  
**American Chemical Society**  
**2007 Roster of Committee Members**

**Chair**

Michaeleen Lee, Bucks County Community College  
 275 Swamp Road, Newton, PA 18940  
 Office: (215) 968-8364 Fax: (215) 504-8520  
 Email: [leem@storm.bucks.edu](mailto:leem@storm.bucks.edu)

**Chair-Elect**

Jeff Cramer, Stark State College  
 6200 Frank Ave NW, North Canton, OH 44720  
 Office: (330) 966-5457 Ext 4377 Fax: (330) 494-0571  
 Email: [jcramer@starkstate.edu](mailto:jcramer@starkstate.edu)

**Treasurer/College Sponsors**

Kelly Befus, Anoka Ramsey Community College  
 11200 Mississippi Blvd., NW Coon Rapids, MN 55433  
 Office: (763) 433-1863 Email: [Kelly.Befus@anokaramsey.edu](mailto:Kelly.Befus@anokaramsey.edu)

**Membership Co-Chairs**

Lance S. Lund and Patty Pieper,  
 Anoka-Ramsey Community College,  
 11200 Mississippi Blvd., NW Coon Rapids, MN 55433  
 Office: (763) 433-1273 Email: [Lance.Lund@anokaramsey.edu](mailto:Lance.Lund@anokaramsey.edu)  
 Office: (763) 433-1354 Email: [Patty.Pieper@anokaramsey.edu](mailto:Patty.Pieper@anokaramsey.edu)

**Industrial Sponsor Chair**

John Kenkel, Southeast Community College  
 8800 O Street, Lincoln, NE 68522  
 Office: (402) 437-2485 Email: [jkenkel@southeast.edu](mailto:jkenkel@southeast.edu)

**Newsletter Editor**

Jim Schneider, Portland Community College  
 P.O. Box 19000, Portland, OR 97280-0990  
 Office: (503) 977-4618 Fax: (503) 977-8020  
 Email: [jschneid@pcc.edu](mailto:jschneid@pcc.edu)

**Immediate Past Chair**

Dolores C. Aquino, San Jacinto College Central  
 P.O. Box 2007, Pasadena, TX 77501-2007  
 Office: (281) 476-1501 ext. 1663 Fax: (281) 478-2757  
 Home: (713) 668-8215 Email: [dcaquino2000@cs.com](mailto:dcaquino2000@cs.com)

**Past Chairs (Members of COCTYC)**

Ed Kremer, Kansas City Kansas Community College  
 7250 State Ave, Kansas City, KS 66112  
 Office: (913) 288-7111 Fax: (913) 288-7419  
 Home: (816) 413-0913 Email: [ekremer@toto.net](mailto:ekremer@toto.net)

Sonja Davison, Tarrant County College, Northeast  
 828 Harwood Rd., Hurst, TX 76054  
 Office: (817) 515-6346 Fax: (817) 515-6601  
 Home: (817) 485-7833 Email: [sonja.davison@tccd.edu](mailto:sonja.davison@tccd.edu)

**2YC<sub>3</sub> World Wide Web Page:** <http://2yc3.org>, Lance Lund  
 (Lance.Lund@anokaramsey.edu) WebMaster

## 2YC<sub>3</sub> Membership Form

Please consider supporting the 2YC<sub>3</sub> by becoming a member or renewing your membership. Annual dues are only \$15.

**Special Offer:** Annual dues are \$15 for the 2YC<sub>3</sub> and \$20 for the American Chemical Society Division 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 2YC<sub>3</sub>  
 \_\_\_\_\_ Renew my 2YC<sub>3</sub> Membership  
 \_\_\_\_\_ Join DivCHED as a member (ACS members only) and 2YC<sub>3</sub>  
 \_\_\_\_\_ Join DivCHED as an affiliate\* (non ACS members) and 2YC<sub>3</sub>  
 \*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

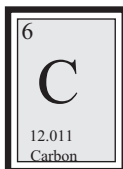
**Phone:** \_\_\_\_\_ **Email:** \_\_\_\_\_

Send ACS Member Form? \_\_\_\_\_ Yes \_\_\_\_\_ No

**Please send your check,** payable to 2YC<sub>3</sub>, for \$15 (2YC<sub>3</sub> only) or \$30 (joint membership) to:  
 Patty Pieper, Anoka-Ramsey Community College, 11200 Mississippi Blvd NW, Coon Rapids, MN 55433-3470.

**177<sup>th</sup> 2YC<sub>3</sub> Conference**  
**“100 Years of Community College Chemistry”**

**Joliet Junior College**  
**1215 Houbolt Road**  
**Joliet, IL 60431**



## Conference Program

For the latest information on the conference program, please go to the 2YC3 website, <http://2yc3.org>

**Program Chair:** Marie Wolff, email: [mwolff@jjc.edu](mailto:mwolff@jjc.edu)

**Local Arrangements:** Patrick Mills, email: [pmills@jjc.edu](mailto:pmills@jjc.edu)

**Exhibits:** Marie Wolff, email: [mwolff@jjc.edu](mailto:mwolff@jjc.edu)

### Friday March 23

8:00 – 4:00 PM

**Exhibits**

8:00 – 9:00 AM

**Registration and Continental Breakfast** (Breakfast provided by Prentice Hall)

9:00 – 9:15 AM

**Welcome and Opening Remarks**

9:15 – 10:00 AM

**Keynote Address: Science Literacy: Why Understanding Chemistry Can Make You Happy;** Nivaldo Tro, Professor of Chemistry, Westmont College, Santa Barbara, CA

10:00 – 10:40 AM

**Refreshment Break and Exhibits**

#### Session I – Workshop

10:35 AM – 12:00 noon

**Prentice Hall MasteringGeneralChemistry Workshop**

For instructor-assigned homework, MasteringGeneralChemistry™ provides the first adaptive-learning online tutorial and assessment system. Based on extensive research of the precise concepts with which students struggle, the system is able to coach students with feedback specific to their needs, and with simpler subproblems and help when students get stuck. The result is targeted tutorial help to students optimize study time and maximize learning. For instructors, MasteringGeneralChemistry provides deeper, more readily available insight into the progress of your students than ever before. Mastering General Chemistry is the only system to capture the step-by-step work of each student—including wrong answers submitted, hints requested, and time taken on every step. This data populates a gradebook unprecedented in available detail. For professors short on time, the Gradebook Homepage provides class grades at a glance. You can even compare performance with the national average or previous classes. For more detail, the Diagnostics Dashboard provides a one-click customizable suite of your favorite weekly diagnostics. Other links let you assess class performance step-by-step through any activity, or review the detailed work of any student. This workshop will explore the use of MasteringGeneralChemistry.

## Session II – Presentations

- 10:45 – 11:25 AM      **The Chemistry of Fishing;** Patrick Mills, Professor of Chemistry, Joliet Junior College, Joliet, IL
- 11:20 – 12:00 AM      **Art as Experience: Arts Integration in the Science Curriculum;** Jo Ella Eaglin Siuda, The Illinois Institute of Art at Chicago, Chicago, IL
- 12:05 – 1:15 PM      **Lunch and 2YC<sub>3</sub> General Membership Meeting**

## Session III – Workshops

- 1:20 – 3:20 PM      **Polymer FUNdamentals Will S-T-R-E-T-C-H Your Student’s Interest and Understanding**
- Join us for a whirlwind tour of a “super-center” store focusing on familiar products you can use to stimulate student interest in General Chemistry, Material Science, or Plastic Technology. Participants will learn about polymeric materials AND try fun and simple demonstrations to share that knowledge with students.  
Lynn Higgins, Polymer Ambassador for Illinois, Riverside, IL
- 2:30 – 4:30 PM      **Foundations for Excellence; Using the ACS Chem Tech Standards Database for Curriculum Development**
- Skill standards are compilations of the knowledge and skills industry expects of high-performing employees. Since 1993, the American Chemical Society has maintained sets of skill standards for chemical technicians. Working with local industry partners, academic chemical technology programs use the skill standards to align their curricula with local industry needs.
- In 2006, the on-line database supporting the ChemTechStandards underwent a series of critical upgrades, including the addition of a new set of skill standards specifically for laboratory analysts in pharmaceutical manufacturing. In this hands-on workshop, participants will learn about these upgrades and how to use the ChemTechStandards database to develop or revise their own curricula.  
Blake Aronson, Senior Education Associate, Technician Education, American Chemical Society, Washington, DC

## Session IV – Poster Session

- 1:30 – 3:00 PM      **Posters** by Student Researchers from Harold Washington College, Chicago, IL and Harper College, Palatine, IL

## Session V – Presentations

- 1:30 – 2:15 PM      **Building Local Foundations for Technology Curriculum Design,** Onofrio Gaglione, Adj. Prof., Community College of Southern Nevada, Las Vegas, NV and Kenneth Chapman Principal Partner Cardinal Workforce Developers, LLC, Ruther Glen, VA
- 2:15 – 2:30 PM      **Refreshment Break**
- 3:00 – 4:00 PM      **Chemical Principles Visualized,** David A. Katz, Chemist, Educator, Expert Demonstrator, Science Communicator, and Consultant, Pima Community College, Tucson, AZ
- 4:00 – 5:00 PM      TBA
- 6:30 – 9:00 PM      **Banquet at Joliet Junior College** by the JJC Culinary Arts Department  
**Banquet Speaker:** Paul Kelter, Professor of Chemistry, University Distinguished Teacher/Scholar, University of Illinois at Urbana-Champaign

## Saturday March 24

8:00 AM – 1:00 PM      **Registration and Exhibits**

8:00 – 9:00 AM      **Continental Breakfast**

### Session VI – Workshops

9:00 AM – Noon      **ACS GenChem Textbook Workshop**

The textbook, *Chemistry*, a project of the American Chemical Society, is designed to support and reinforce an activity-based, student-centered approach to teaching your general chemistry course. This half-day workshop includes a brief presentation of the background and motivation for the project and the rationale for the structure of the textbook. Most of the workshop is devoted to hands-on participation in group activities and pointers from users of the text about how this approach is accomplished in actual classrooms and how the text can be used with guided inquiry and other innovative learning methods to incorporate activities to reinforce that learning. Jerry A. Bell, Senior Scientist and Chief Editor, ACS GenChem Project, Education Division, American Chemical Society

9:00 AM – 4:00 PM      **Introduction to POGIL: Process-Oriented Guided Inquiry Learning**

*Note: Participants must register through POGIL website for this workshop at [www.pogil.org](http://www.pogil.org). Click on “see list of upcoming events” link.*

POGIL is a student-centered instructional paradigm that combines a group learning approach with specially designed guided inquiry activities. The goal is to not only enhance student mastery of course content, but also to develop important learning process skills such as communication, problem solving and critical thinking. This workshop will introduce the POGIL approach and actively engage the participants in a POGIL exercise. Karen Anderson, Science Instructor, Madison Area Technical College, Madison, WI and Frank Creegan, W. Alton Jones Professor of Chemistry and Chair, Department of Chemistry, Washington College, Chestertown, MD

1:00 – 3:00 PM

#### **Vernier Software**

This workshop offers hands-on experience collecting and analyzing chemistry data using the Vernier LabPro interface. See how this versatile system can be used to conveniently collect data using (computers, TI graphing calculators, or Palm OS handhelds. The (award-winning Logger Pro data acquisition software will be used to ( display, graph, and analyze data. Data will be collected using sensors(†such as the Vernier Drop Counter, Temperature, Pressure, pH,(Conductivity, and Colorimeters. You will also have an opportunity to use(†the Ocean-Optics powered Vernier Spectrometer. All experiments in the(workshop are excerpts from our popular Chemistry with Computers or (Advanced Chemistry with Vernier lab books. Walter Rohr, Vernier Software

### Session VII – Presentations

9:00 – 11:30 AM

#### **Science Education, Civic Engagement, and the SENCER Project**

Talks to include the general introduction on SENCER and the need for such an initiative, individual SENCER-related chemistry work of each speaker, a brief summary of other SENCER Chemistry models, and a final interactive session where we will ask participants to work in groups and create a skeleton SENCER-based chemistry curriculum at their school.

Steve Bachofer: Professor of Chemistry, Saint Mary’s College of California, Moraga, CA

Ralph Bain: Professor of Chemistry, Montgomery College, Rockville, MD

Theo Koupelis: Professor of Physics and Astronomy, Univ. of Wisconsin-Marathon, Wausau, WI

Dennis Lehman: Professor and Chair of Chemistry, Harold Washington College, Chicago, IL

12:00 – 12:55 PM

Lunch and Exhibit Break

### Session VIII - Presentations

1:00 – 1:35 PM

**CASPiE at the College of DuPage**; Susan Shih, Professor of Chemistry, College of Dupage, Glen Ellyn, IL

1:35 – 2:10 PM	<b>Creating a Research Environment at a Two-Year College</b> , <u>Tom Dowd, Associate Professor, Harper College, Palatine, IL</u>
2:10 – 2:45 PM	<b>Demystifying Organic Chemistry</b> ; <u>Salim Diab, Professor of Chemistry, University of Saint Francis, Joliet, IL</u>
2:45 – 3:20 PM	<b>Classroom Performance Systems: Do they improve student performance, perceptions or performance, or just student satisfaction?</b> <u>Michele Turner, Associate Professor of Chemistry, The University of Akron Wayne College, Orrville, OH</u>
3:20 – 3:55 PM	<b>Collaboration in Community College Chemistry Research</b> ; <u>Bal Barot, Lake Michigan College, Benton Harbor, MI</u>
4:00 – 4:30 PM	<b>Conference Closing</b>

## LODGING

Hampton Inn (Approximately 0.5 miles from the conference)

1521 Riverboat Center Dr

Joliet, IL 60431

For Reservations: 815-725-2424 - Group Code JJC

10 King Rooms at \$75.00 per night (plus 13% hotel tax)

15 Double Rooms at \$75.00 per night (plus 13% hotel tax)

Block of rooms will be active until 12:00 pm on 2/22/2007. Additional rooms reserved beyond the cut off date will be subject to availability and will be charged rack rate of the day.

For more information go to: [www.hamptoninnjoliet80.com](http://www.hamptoninnjoliet80.com)

Ramada (Approximately 0.5 miles from the conference)

1520 Commerce Lane

Joliet, IL 60431

For Reservation: 815-730-1111 – Mention conference at Joliet Junior College

40 Rooms at \$49.99 per night (plus 13% hotel tax)

Block of rooms will be active until 12:00 pm on 2/22/2007. Additional rooms reserved beyond the cut off date will be subject to availability and will be charged rack rate of the day.

For more information go to: [www.ramada.com](http://www.ramada.com)

## Banquet Menu

- Mixed Spring Greens with Kalamata Olives, Plum Tomatoes, Cucumbers and Crumbled Feta Cheese with a Greek Style Vinaigrette
- Choice of one of the following three Entrée options
  - Grilled Filet Minion with a Wild Mushroom Demi Glaze, Garlic Mashed Potatoes and French Beans with Herb Shallot Butter.
  - Crab and Shrimp Stuffed Breast of Chicken with White Wine, Basil Butter Sauce
  - Garlic Mashed Potatoes and French Beans with Roasted Tomato Concasse
  - (Vegetarian Option to be determined)
- Dessert – Flourless Chocolate Cake with Fresh Berry Coulis and Ginger Crème Anglaise

**Joliet Junior College** is a comprehensive community college. The college offers pre-baccalaureate programs for students planning to transfer to a four-year university, occupational education leading directly to employment, adult education and literacy programs, work force and workplace development services, and support services to help students succeed.

JJC, America's oldest public community college, began in 1901 as an experimental postgraduate high school program. It was the "brain child" of J. Stanley Brown, Superintendent of Joliet Township High School, and William Rainey Harper, President of the University of Chicago. The college's initial enrollment was six students. Today, JJC serves more than 10,000 students in credit classes and 21,000 students in noncredit courses.

**For directions go to:** [www.jjc.edu/Maps/MainCampus.html](http://www.jjc.edu/Maps/MainCampus.html)

Park in East Lot 2

**The 177<sup>th</sup> Conference of the Two Year College Chemistry Consortium Conference**  
**Joliet Junior College, Joliet, IL 60431**  
**March 23 -24, 2007**

Name \_\_\_\_\_ Institution \_\_\_\_\_

Institution Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Phone Number \_\_\_\_\_

Email Address(es) \_\_\_\_\_

I teach at a High School \_\_\_\_\_ 2-Year College \_\_\_\_\_ 4-Year College or University \_\_\_\_\_

Conference Fees:

Registration (current 2YC<sub>3</sub> members) @ \$25.00\* \$ \_\_\_\_\_

Registration (includes 2YC<sub>3</sub> membership) @ \$40.00 \$ \_\_\_\_\_

Friday Evening Banquet @ \$30.00 \$ \_\_\_\_\_

Friday Lunch @ \$10.00 \$ \_\_\_\_\_

Saturday Box Lunch @ \$10.00 \$ \_\_\_\_\_

Total \$ \_\_\_\_\_

\* There is no conference fee for high school teachers and students

Meals

A continental breakfast will be provided for both Friday and Saturday mornings.

Friday's lunch will be a "buffet" including vegetarian options

Saturday Box Lunch (Choose 1) vegetarian \_\_\_\_\_ non-vegetarian \_\_\_\_\_

Friday Banquet (Choose 1) vegetarian \_\_\_\_\_ beef \_\_\_\_\_ chicken \_\_\_\_\_

Workshops

Participants who would like to attend the POGIL workshop **MUST** pre-register through the POGIL website at [www.pogil.org](http://www.pogil.org), click on "see list of upcoming events" link. If you are registering for the POGIL workshop do not order a box lunch for Saturday. The POGIL workshop organizers will provide lunch for the participants. (Limit 40 participants)

All other workshops

To insure that sufficient materials and supplies are available please check the workshops that you are likely to attend during the conference.

\_\_\_\_\_ Prentice Hall MasteringGeneralChemistry

\_\_\_\_\_ Polymer FUNDamentals

\_\_\_\_\_ Foundations for Excellence; Using the ACS Chem Tech Standards database for curriculum development

\_\_\_\_\_ ACS GenChem Textbook Workshop

\_\_\_\_\_ Vernier Software

Please send your registration form and check to:

Marie Wolff

Natural Science Department, Joliet Junior College

1215 Houblot, Joliet, IL 60431

**Make Checks Payable To:** Joliet Junior College (2YC<sub>3</sub> on memo line)



## - It Works For Me! -

### Extraction of Iodine From Water

By John Kenkel, Southeast Community College, Lincoln, Nebraska

Watching David Katz give his demonstrations at the recent 2YC<sub>3</sub> conference at Pima Community College in Tucson, I was reminded of the usefulness of an extraction experiment in which iodine is extracted from water with cyclohexane or similar nonpolar organic liquid. It is useful for two reasons: 1) Students readily observe via color changes that an extraction occurs, and 2) Because iodine imparts a color to the cyclohexane layer, students can perform a quantitative spectrophotometric experiment on this layer, to ultimately calculate the distribution coefficient and the percent extracted. Following is my procedure for this. Use appropriate safety precautions with iodine and cyclohexane and dispose of the waste using approved procedures.

- 1) Prepare 100.0 mL of a 0.0075 M stock solution of iodine in cyclohexane. Use a top-loading balance, since iodine fumes are corrosive and can damage an analytical balance.
- 2) Prepare a series of standard solutions of iodine in cyclohexane, 25.00 mL each, by diluting the stock solution from Step 1. The concentrations should be 0.00015 M, 0.00030 M, 0.00045 M, 0.00060 M, and 0.00075 M
- 3) Prepare 500.0 mL of a 0.00025 M stock solution of iodine in water. An ultrasonic cleaner bath can be used to hasten the dissolution. Pipet 25.00 mL of this solution into a clean, dry, 125-mL separatory funnel. Extract this solution with 10.00 mL of cyclohexane. After extraction, let stand, stopper in place, for at least 5 minutes. Save the remainder of the stock solution for other students.
- 4) If a scanning visible spectrophotometer is available, scan the visible region, 400 nm to 700 nm, for each of the standards and record the maximum absorbance of each. Alternatively, determine the wavelength of maximum absorbance manually using a Spectronic-20 or similar instrument using one of the standards and measure the absorbance at this wavelength for all the standards. Do the same for the extract by drawing a portion of it (enough to fill the cuvette) from the separatory funnel using a dropper.
- 5) Create the standard curve, Absorbance vs Concentration, using a spreadsheet or other program, and obtain the concentration of iodine in the extract.
- 6) From the data, calculate the distribution coefficient and the percent extracted.

#### Typical results:

Wavelength of Maximum Absorbance: 523 nm

Correlation Coefficient: 0.9998

Concentration of Iodine in the Extract: 0.00043 M

Distribution Coefficient: 5.6

% Extracted: 69 %

John Kenkel is on the faculty at Southeast Community College in Lincoln, Nebraska where he has been involved for many years in the Laboratory Science Technology program, training students to be chemical laboratory technicians. He may be reached at [jkenkel@southeast.edu](mailto:jkenkel@southeast.edu) or 402-437-2485 to answer questions.

## Applications 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](mailto:richard.jones@sinclair.edu); mailing address: Sinclair Community College, Dayton, OH 45402

Congratulations to Dr. Candice McCloskey, Georgia Perimeter College, our 2008 Chair-Elect; Kelly Befus, Anoka Ramsey Community College, formally elected Treasurer/College Sponsor; and Jim Schneider, Portland Community College, our new newsletter editor. Special thanks to Carol Handy and Bill Haley for their many years of service to 2YC<sub>3</sub>.

## New skill standards for chemical technology programs

A new set of skill standards for laboratory analysts in the pharmaceutical manufacturing industry has been added to the ACS ChemTechStandards database ([www.ChemTechLinks.org/SkillStandards](http://www.ChemTechLinks.org/SkillStandards)). The new specialty set of skill standards joins the general sets of skill standards for laboratory and process technicians, formerly known as the Voluntary Industry Standards (VIS).

More than 70 people from 20 institutions participated in the development and validation of the pharmaceutical manufacturing laboratory analyst skill standards over two years. Laboratory analysts, their supervisors, educators, and industry trainers participated in a series of job analysis and editing sessions to develop the standards. A full summary document on the development and validation of the standards is available (see contact information below).

Like all of the ChemTechStandards, the pharmaceutical manufacturing laboratory analyst skill standards are free to all users on the ChemTechStandards database. The ChemTechStandards sets can be used to align academic curricula with industry needs, develop training programs, and create career development plans.

The addition of the new skill standards is part of a series of continuous improvements to the database. To learn more about the development of the skill standards, or to see the other improvements to the ChemTechStandards database, visit [www.ChemTechLinks.org](http://www.ChemTechLinks.org), email [ChemTechLinks@acs.org](mailto:ChemTechLinks@acs.org), or call 202-872-6108.

## ACS-Approval renewed for 4 chemical technology programs

The ACS Chemical Technology Program Approval Service (CTPAS) is pleased to announce that ACS approval has been renewed for the chemical technology programs at Community College of Rhode Island, Delta College, Delaware Technical and Community College, and University of Cincinnati.

CTPAS, a subcommittee of the Society Committee on Education (SOCED), is responsible for nurturing and granting ACS approval to two-year chemical technology programs. To receive ACS approval, programs must demonstrate an outstanding chemistry-based program designed primarily for students entering the workforce. Such programs emphasize laboratory and higher order skills, in addition to practical chemistry knowledge.

Because graduates of chemical technology programs usually go into the workforce upon graduation, chemical technology programs must also have a strong partnership with local industry, in order to keep the program aligned with industry needs. To offer more options to students, chemical technology programs are encouraged to partner with other academic institutions, as well as community and workforce organizations.

Programs demonstrating strong partnerships and rigorous curricula may apply to CTPAS for ACS approval. ACS-approval is granted for 5 years, at the end of which programs reapply for approval via a modified process. This year, Community College of Rhode Island, Delta College, Delaware Technical and Community College, and University of Cincinnati demonstrated the maintenance and growth of their high-quality chemical technology programs.

There are currently 12 approved programs and 2 more programs with initial approval. To learn more about the approved programs or CTPAS, please visit the CTPAS website at [www.chemistry.org/education/CTPAS.html](http://www.chemistry.org/education/CTPAS.html).

## Chemical Technology Students Receive Award

The Committee on Technician Affairs (CTA) is pleased to announce the winners of the ACS Chemical Technology Student Recognition Award for the 2005–2006 academic year. The award honors the hard work and accomplishments of undergraduate students preparing for an industrial career. Winners have completed at least 75% of their course work and demonstrated:

- Strong academic performance across all courses
- A high level of integrity and reliability
- Outstanding oral and written communication skills
- Excellence in laboratory work, including experimental design, equipment use, safety, teamwork, problem-solving, and data analysis

Since it was established in 2004, the award program has recognized 121 graduates from 20 different institutions. During the 2005-2006 academic year, 48 students from 11 programs were selected by committees at each institution to receive the award. Winners of the award are posted on the CTA website.

ACS is accepting nominations for the 2006-2007 academic year. To learn more about the award, view the previous winners, or submit nominees for the 2006-2007 academic year, visit the CTA website at [www.chemistry.org/committees/cta](http://www.chemistry.org/committees/cta), and click on the Chemical Technology Student Recognition Award link.

**ANASAZI INSTRUMENTS** 60/90MHz FT-NMR

The Eft makes FT-NMR  
affordable  
accessible  
manageable  
possible  
reliable  
usable

CRYOGENICS

tollfree:866.494.9369  
office:317.783.4126  
fax:317.783.7083  
sales@aainmr.com  
www.aainmr.com

**Call for application for the office of  
Chair-Elect of COCTYC for the year 2009**

Application for Chair-Elect for 2009 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 2YC<sub>3</sub> 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, 2007.
- The COCTYC will serve as a nominating/screening committee to generate a slate of two candidates.
- Each 2YC<sub>3</sub> 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 12/31/2007.

*Economical  
& Efficient*

**ACE  
Micro/  
Mini-Lab<sup>®</sup>  
Kits**



**ACE GLASS  
INCORPORATED**

P.O. Box 688  
Vineland, NJ 08362-0688  
**800-223-4524**  
Fax 800-543-6752

[www.aceglass.com](http://www.aceglass.com)



**Basic Kit II**

This economical microscale kit utilizes \$14/10 joints and features the Hickman-Hinkle Still with side port and multi-purpose thermometer adapter for added versatility. Basic Kit II will perform 95% of the experiments in *Microscale Organic Laboratory*, Mayo, Pike and Butcher, as well as the majority of experiments in *Organic Laboratory Techniques*, Davis, Lampman, Kriz and Engel.

**ACE offers a complete line  
of microscale kits.**

**Call for FREE literature.**



# Join the Teachers that have Switched to Scholar Chemistry!

**Only Scholar Offers You:**

- OSHA Compliant Storage System
- Trilingual Chemical Labels
- Toll-Free Technical Service Hotline
- Worry-Free Waste and Chemical Disposal
- Scholar Teacher Chemistry Demonstrations
- Scholar Chemistry Resource Manual

**Scholar<sup>™</sup> Chemistry**  
*Scholar Chemistry is distributed exclusively by:*

**Sargent-Welch**  
800-727-4368  
[sargentwelch.com](http://sargentwelch.com)

**SK** Science Kit  
& Boreal Laboratories  
800-828-7777  
[sciencekit.com](http://sciencekit.com)

**WARD'S**  
Natural Science  
800-962-2660  
[wardsci.com](http://wardsci.com)

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

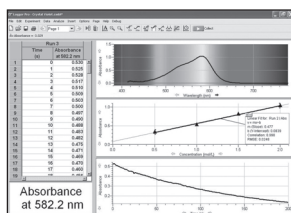
Nonprofit Org.  
Auto  
U.S. Postage  
**PAID**  
Permit #85  
Vincennes, IN 47591

Michaeleen Lee, CHAIR  
Jim Schneider, EDITOR  
COMMITTEE ON CHEMISTRY  
IN THE TWO-YEAR COLLEGE  
Division of Chemical Education  
American Chemical Society

## VERNIER SPECTROMETER

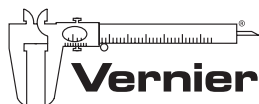
POWERED BY OCEAN OPTICS™

- A complete visible light spectrum, 380-950 nm, is collected in a fraction of a second.
- Other Vernier Sensors can be used simultaneously with the Vernier Spectrometer, expanding your students' opportunities to pursue a variety of research projects.
- Can be used with our award-winning Logger Pro software. **Only \$159 for a department site license.**
- Logger Pro supports other Ocean Optics spectrometers including UV-VIS, Red Tide, and more. Visit our website for pricing information on these and other models.



*A wavelength spectrum, Beer's law curve, and kinetics analysis of the crystal violet-sodium hydroxide reaction, shown here in Logger Pro.*

V-SPEC | \$1199



Measure. Analyze. Learn.™

www.vernier.com | Toll Free: 888-837-6437

www.vernier.com/spectromete



## Three NEW MicroLab 500-Series Instruments

**Cost effective  
tools to engage  
your students  
in science!**

MicroLab's 500-Series data acquisition instruments integrate the most used chemical sensors, enabling students to make almost every instrumental measurement required in general and environmental chemistry and biology.

MicroLab's unique **FASTspec™** scanning spectrophotometer provides simultaneous measurement of Fluorescence, Absorbance, Scatter and Transmission at 16 different wavelengths 360-935nm.

With research precision and powerful software, MicroLab's 500-series instruments put the student firmly in control of the experiment and enhance **their learning and your teaching.**



MicroLab FS-522



MicroLab ML-507



MicroLab FS-515

# microlab

For complete product information  
**www.microlabinfo.com**

e-mail: info@microlabinfo.com 888-586-3274