## theCHEMICAL bulletin

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**JANUARY • 2004** 

#### CHICAGO SECTION AMERICAN CHEMICAL SOCIETY

#### **Regular Monthly Meeting**

#### FRIDAY, JANUARY 23, 2004

Ann Sather's Restaurant 929 W. Belmont Chicago, IL 773-348-2378

#### DIRECTIONS TO THE MEETING

From the North or Northwest Side: Head Eastbound on either I-90 or I-94. Exit on Irving Park Road. Head east on Irving Park Road to Clark Street. Turn right (south) onto Clark Street and go one mile to Belmont. Turn right on Belmont and the restaurant is on the left at 929 Belmont.

From the Southside or the Loop: Take Lakeshore Drive north to Belmont. Exit and head left (west) about one mile to the restaurant at 929 Belmont.

Ann Sather's Restaurant is located on Belmont just west of Clark and just east of Sheffield. It is within a half block of the Belmont elevated station.

**PARKING:** Entrance to the restaurant's lot is at 913 1/2 Belmont. The lot is behind the restaurant. Additional, pay parking lots are located on Clark Street just north of Belmont.

The meeting is on the second floor of the restaurant. Handicapped persons should get special instructions from the Section Office.

JOB CLUB 5:00 - 6:00 PM Main Dining Room

TOPICAL GROUP 5:30 - 6:30 PM Sun Room

**Title:** "Nanoscale and Mesoscale Science", presented by Dr. Teri W. Odom, Assistant Professor, Department of Chemistry, Northwestern University (see page 2).

SOCIAL HOUR 6:00- 7:00 P.M. Complementary Wine Reception

DINNER

7:00 P.M.

**GENERAL MEETING** 

8:00 P.M.

Dinner reservations are required and should be received in the Section Office via **phone** (847-647-8405), **fax** (847-647-8364), **email** (chicago@ameritech.net), or **website** (http://ChicagoACS.org) by noon on Tuesday, January 20. PLEASE HONOR YOUR RESERVATIONS. The Section must pay for all dinner orders. No-shows will be billed.

Menu: Chef's Dinner Salad with Celery Seed Dressing; Choice of Garlic Boneless Breast of Chicken, Baked Orange Roughy stuffed with Spinach, mushrooms and onions, or Vegetarian Lasagna; Boiled Red Potatoes with Fresh Dill; Fresh Asparagus; Fruit Cobbler; Assorted sweet and fresh breads, including Ann Sather's Famous Cinnamon Rolls; Beverage choice of coffee, tea, or soda.

The cost is \$30.00 to Section members who have paid their local section dues, members' families, and visiting ACS members. The cost to non-Section members is \$32.00. The cost to students and unemployed members is \$15.00. Seating will be available for those who wish to attend the meeting without dinner.

The mission of the Chicago Section of the ACS is to encourage the advancement of chemical sciences and their practitioners.

## NOTICE TO ILLINOIS TEACHERS

The Chicago Section-ACS is an ISBE provider for professional development units for Illinois teachers. Teachers who register for the January meeting will have the opportunity to earn up to 4 CPDU's.



**Sharon Bertsch McGrayne**, Author of *Prometheans in the Lab: Chemistry and the Making of the Modern World.* 

Title: "Claire C. Patterson: A Chemist Leads the Fight Against Leaded Gasoline"

Abstract: Starting in the 19th century, the chemical industry provided the middle classes of the Western World with luxuries that only the rich had previously enjoyed. After sketching some early milestones made by industrial chemists, author Sharon Bertsch McGrayne will focus on four 20th century men who dramatize two present-day aspects of chemistry: the enormous benefits it can bestow, and the environmental problems it can cause. Wallace Carothers introduced fundamental scientific research to the American chemical industry and invented nylon. Paul Muller discovered DDT insecticide for a traditional Swiss dye company. Thomas Midgley Jr. used the periodic table to invent Freon and put tetraethyl lead in our gas tanks. Clair Patterson's hard-

(continued on page 2)

(continued from page 1)

headed clean collection techniques and microanalysis got the lead out.

**Biography:** Sharon Bertsch McGrayne is the author of several books about science, including *Prometheans in the Lab: Chemistry and the Making of the Modern World and Nobel Prize Women in Science: Their Lives, Struggles, and Momentous Discoveries.* 

Her work has been featured on the Charley Rose Show and reviewed in Nature, Physics Today, JAMA, Chemistry and Engineering News (C&EN), Chemical Educator, Chemist at Work, Discover, New Scientist, American Scientist, The Washington Post, and others.

McGrayne has appeared on NPR's Talk of the Nation: Science Friday and been an invited speaker at more than twenty universities and at national laboratories. In Illinois, she has spoken at Argonne National Laboratory (three times), the University of Illinois (three times), and at Eastern Illinois University. For example, she gave the keynote address at ceremonies giving Noyes Hall ACS landmark status and spoke about Wallace Hume Carothers at the university's ACS chapter in 2002.

She has written for Science, Isis, American Physical Society News, Times Higher Education Supplement, Chemical Heritage Foundation, the ACS' Bulletin for the History of Chemistry, Notable American Women, and other publications. Excerpts of her books have appeared in The Chemical Educator, Chemical Heritage Foundation Magazine, ChemWeeks, and The Physics Teacher. Nobel Prize Women in Science is used extensively in college courses in the United States and Europe. The National Academy of Sciences presented the Empress of Japan with a copy of the book and now publishes it.

She is a former editor and co-author of extensive articles about science for the *Encyclopaedia Britannica* and a former prize-winning journalist for *Scripps-Howard, Crain's, Gannett,* and other newspapers. A graduate of Swarthmore College, she lives in Seattle, Washington. Her web page address is http://www.McGrayne.com

#### REGISTER TO ATTEND MONTHLY SECTION MEETINGS ON LINE

at www.ChicagoACS.org

#### **TOPICAL GROUP SPEAKER**



Dr. Teri W. Odom "Nanoscale and Mesoscale Science"

Abstract: This talk will describe our efforts in uncovering new electronic and optical phenomena at the nanoscale (1-10 nm) and mesoscale (100-1000 nm). I will describe our research progress in three areas: (i) the synthesis and characterization of inorganic and organic nanoscale materials, (ii) the development of nanofabrication techniques to manipulate nanostructures and mesostructures into functional assemblies, and (iii) the assembly of nanoscale building blocks into mesostructures that can exhibit novel optical behavior.

Biography: Teri W. Odom received her undergraduate degree in chemistry with honors at Stanford University (B.S. 1996). Her undergraduate honors included election to Phi Beta Kappa and receipt of the S.S. & I.M.F. Marsden Memorial Prize for Chemistry Research in 1996. As an NSF predoctoral fellow, she obtained her doctorate in Chemical Physics under the direction of Charles M. Lieber at Harvard University. Her graduate work focused on the electronic properties of single-walled carbon nanotubes, which were characterized primarily by scanning tunneling microscopy. Teri's thesis was recognized with the IUPAC Prize for Young Chemists (2001), an award given for outstanding Ph.D. theses in the chemical sciences internationally. She has also written many invited Review Articles as well as book chapters on singlewalled carbon nanotubes.

Teri received her postdoctoral training with George M. Whitesides at Harvard University under an NIH NRSA Postdoctoral Fellowship. She developed new, unconventional methods to fabricate nanostructures using soft lithography and microlens array lithography. In the Fall of 2002, Teri joined the faculty at Northwestern University as an Assistant Professor in the Department of Chemistry. She is the inaugural recipient of the Dow Teacher-Scholar Award, received a Research Innovation Award (Research Corporation) in 2002, the Victor K. LaMer Award (ACS Surface Science and Colloids) in 2003, and a David and Lucille Packard Fellowship in 2003.

#### **ACS SCHOLARS PROGRAM**

The American Chemical Society Scholars Program is still accepting applications for the 2004-2005 academic year. This program, targeted at minority groups considered to be underrepresented in the sciences, is for students majoring in and planning careers in the chemical sciences. Graduating high school seniors, college freshmen, sophomores and juniors are eligible to apply as well as students in two-year chemical technology programs. For more information, contact the American Chemical Society Scholars Program at 1155 16th Street, NW, Washington, DC 20036. Call toll-free 1-800-227-5558, extension 6250, by e-mail at scholars@acs.org, or on our web site http://chemistry.org/scholars. The deadline is February 15, 2004.

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## CHEM SHORTS" For Kids

The Elementary Education Committee of the Chicago Section ACS presents this column. They hope that it will reach young children and help increase science literacy. Please cut it out and pass it on to your children, grandchildren, or elementary school teachers. It is hoped that teachers will try to incorporate some of the projects in this column into their lesson plans.

#### Honey, it's Chemistry!

Kids, what is both a sweetener and an antiseptic, is the most-mentioned food in the Bible, and is the only food manufactured for us by animals? Believe it or not, the answer is honey. Honey comes in many forms. Extracted honey is a liquid that has been removed from the honeycombs using a centrifuge. These machines are called extractors in the beekeeper's world. Comb honey is still in the original beeswax combs made by the bees. This type is less adaptable to cooking, but real honey-lovers prefer its natural flavors.

An average worker bee will visit 50-100 flowers on each collection trip. Yet in her lifetime, the busy bee will gather enough nectar to make only 1/12 of a teaspoon of honey! Field honeybees gather the nectar, a sweet secretion in plant blossoms that contains fructose, glucose and sucrose as well as trace proteins, salts and acids. This goes in their honey stomach, where it is mixed with enzymes and the chemistry of the nectar is slightly altered. The taste, odor, and quality of honey varies with the type of flower from which the nectar is gathered. Soil chemistry and honeycomb quality also influence how honey tastes and looks. Honey may vary from clear (alfalfa from alkaline soils) to very dark (buckwheat from acidic soils). Colors between these can be golden, red, and even green.

The chemical composition of honey is about 82% carbohydrates. These are fructose and glucose (70%); 9% sucrose, maltose, isomaltose, maltulose, turanose and kojibiose, and 4% erlose, theanderose and panose. Sound like a chemical cupboard? There are many more: proteins and amino acids (enzymes such as invertase, amylase, glucose oxidase, catalase, and 18 free amino acids, of which the most abundant is proline). Then there are the vitamins, minerals and antioxidants (vitamins riboflavin, niacin, folic acid, pantothenic acid and vitamin B6, ascorbic acid (vitamin C), the minerals calcium, iron, zinc, potassium, phosphorous, magnesium, selenium, chromium and

manganese, and antioxidant flavonoids, of which one, pinocembrin, is unique to honey). And there are even more compounds that we won't list.

Has your honey ever turned cloudy, grainy and difficult to pour? Honey tends to crystallize because it is a supersaturated solution of sugar in water. Crystallization depends on carbohydrate composition. The fructose/glucose and glucose/water ratios are used to help predict the tendency of honey to crystallize. Honeys with a low glucose/water ratio do not crystallize easily. Processed honey should be stored between 64-75 °F. Unprocessed (raw) honey should be stored at or below 50 °F. If your honey has crystallized, slowly warm it to 115-120 °F to melt the crystals. You can test this by buying different types of honey and recording the time that they take to crystallize at different temperatures. Then remove the crystals by warming the honey (remove the lid and place the jar in warm water until crystals dissolve). You will have to be patient though because crystallization can take a few weeks.

#### Written by KATHLEEN CARRADO

References: For inspiration, the Food Network Alton Brown's Good Eats episode on honey (EA1D13). Also, www.nhb.org, www.beekmanandbeekman.com, and www.chemsoc. org/ exemplarchem/entries/2001/ loveridge/index-page3.html

All past "ChemShorts": http://membership.acs.org/C/Chicago/ChmShort/ kidindex.html.

#### SECTION'S NEW URL

We have purchased an Internet "Domain" for the Section. This is the URL or name by which a web site can be found. Our new URL is "ChicagoACS.org". It can be reached by typing either of the following into vour browser address box:

http://chicagoacs.org

www.chicagoacs.org

Both upper and lower case letters work. Note: This is NOT a new web site, just a new and simpler name by which our current website can be reached.

MILT LEVENBERG, WEBMASTER

#### REGISTER TO ATTEND MONTHLY SECTION MEETINGS

ON LINE

at www.ChicagoACS.org January, 2004 Vol. 91, No. 1. Published by the Chicago Section of The American Chemical Society, Editorial Staff: Cherlyn Bradley, Editor, and Fran Kravitz; Avrom Litin, Publications Business Manager. Address: 7173 North Austin, Niles, Illinois 60714; 847/647-8405. Subscription rates: \$15 per year, \$15 outside North America. Frequency: monthly-September through June.

#### **CONTACT THE CHAIR**

Do you have any questions, suggestions, recommendations, ideas, gripes, complaints, or pet peeves relating to the Chicago Section? Do you want to volunteer, help out, or lend a hand with Section programs or activities? Then contact your Chair. Simply log onto the Section's Web Page http://chicagoacs.org, find the green button "Contact the Chair", and send me an e-mail. If I can answer your query I will respond personally. If I can't I will forward your e-mail to someone who can, or try to provide you with a contact — all in a timely manner. The Section belongs to you and the other 5,600 ACS members who reside in the Chicago area (northeast Illinois and northwest Indiana). Only you can make it work for you by being involved. But you can also make it fail by not being involved. I look forward to hearing from you.

MILT LEVENBERG Chair



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ANALYSIS FOR THE CHEMICAL ELEMENTS

#### CHICAGO SECTION NATIONAL CHEMISTRY WEEK CELEBRATION, 2003

The Chicago Section's Chemistry Week Celebration was coordinated with the "Earth's Atmosphere and Beyond" national theme. Our primary activities were focused during a day-long event on Saturday 25 October 2003 at the University of Illinois at Chicago Campus. This event attracted more than 1200 students and about 200 adults. The activities were supported by 20 exhibitor organizations (about 40 people), and 16 High School demonstrators, 4 speakers focusing on atmospheric and planetary topics, and 140 volunteer workers, including many ACS members. We have continued to extend our relationship with many area educational organizations, and as a result attendance set a new Chemistry Week record for Chicago. On this clear dry day, students came by the busload, had a fine time, and learned how chemistry affects their lives, and in particular they learned how recent advances in science and technology have helped to improve air quality. The large number of students kept the volunteers at the registration desk busy distributing the proofof-attendance slips that we co-developed with area teachers. The students were instructed to return completed (signed, stamped, and stickers attached) forms to their science and chemistry teachers to verify each student's level of participa-

Improved public relations, exemplified by wider distribution of our flyer - especially to Chicago Public School teachers, was probably an important contributor to this high attendance. In addition, a high school chemistry teacher workshop organized by the ACS High School Committee, a group of high school chemistry teachers, which ran concurrently on the same campus, raised the level of awareness for high school chemistry teachers. Their separate distribution of another flyer that included the Chemistry Day announcement was also important. In that workshop, 24 teachers made a "shoebox spectrometer" and worked on a US National Chemistry Olympiad lab practical. Many Boy Scouts also completed activity badges during this event.

The Chicago Section is enhancing its public relations approach by incorporating targeted marketing techniques to attract a larger number of potential participants. Using this approach, separate flyers, including a workshop announcement for teachers, flyers for Scouts announcing a special activities badge, and Spanish-language flyers were distributed to the respective communities to augment distribution of the general flyer

A team of volunteers were positioned at a large registration desk during the entire day to provide information and directions to exhibits, demonstrations, and presentations. Volunteers were trained to welcome students and distribute attendance record forms.

Chemical demonstrations were conducted all day and drew a continuous stream of students. These demonstrations, developed over several years, were specially designed by areas industry, national labs, and government organizations to have high student interest. The effort was also coordinated with area teachers, who were able to track student activities and interest through the use of attendance forms. The exhibits were very well attended with crowds of active students asking many questions. The hands-on projects, that included "pH is pHun", which examined the acidity of various household materials, and circular chromatography, which demonstrated the power of chromatography to separate dye mixtures, ran continuously from 9:30 to 2:30. Some additional hands-on projects were conducted by the exhibitors. The poster-making contest had over 33 entries, and there were 7 entries for the poetry contest.

Each of four lectures related to "Earth's Atmosphere and Beyond", conducted in parallel to other activities, were attended by approximately 70 students. Dr. Jeff Gaffney, Argonne National Laboratory, spoke on "Megacities: Soot from Chicago to Mexico City", discussing air pollution from Maimonides to the present. Dr. Martina Schmeling, Loyola University Chicago, spoke about her research on the sources and identities of "Particulates in Air Pollution". Dr. Russell Johnson of Honeywell International, discussed "Clean Cars and the catalytic Converter", and brought several examples of materials used in catalytic converters. Dr. Jeff Terry, The Illinois Institute of Technology, discussed "Chemistry and Space Exploration", and included information on a remotely controlled telescope that he had helped develop, and on power sources for space probes.

Michael Heinz of Glenbard South High School, who organized the Chemical Demonstrators, also prepared and performed most of the demonstrations in the Chemical Finale, which had several items with a particularly Halloween theme. The Finale was held in the large lecture room after the four topical speakers had finished and was attended by several hundred students. The Finale has become a Chicago tradition, and was comprised of a fast-moving, highly energetic...and noisy mixture of fun demonstrations that has been developed over several years. Mr. Lee Marek, who was awarded the Helen Free Award this year, and has been on the David Letterman Show more than 20 times, was also present and designed the approach and many of the demonstrations used during the Finale. The Finale is always a hit in Chicago!

The National Chemistry Week Committee was pleased with the large turnout, the quality of the speakers, and the spirit of the student responses. We hope next year will go as well!

We want to thank the following organizations for their gracious donations to this event: Aldrich Chemical Company, Dominick's Inc., Blistex, and Lab Safety & Supply.

—YOUR CHICAGO SECTION CHEMISTRY WEEK COMMITTEE

### CHEMISTRY DAY 2003 — VOLUNTEERS

Allison Aldridge, ACS & Abbott Larry Berman, ACS Angie Boergen, Loyola U Andy Bowen, McCrone Mary Jane B., Cargill Cherlyn Bradley, ACS Danise Burke Billy Burke Kenshe Clark, UIC David Clement, BP Kathy Conolly, Rolling Meadows HS Charlotte Corbett, IL State Police Richard Cornell, ACS Jenna Covey Dave Crumrine, ACS & Loyola U Mike Davis, Harold Washington Coll. Richard Duerst, Abbott Anne Eames, BP Leon Edwards, Customs Bryan Egolf, AIChE Shajee Fakil Janet Ferroni, IL State Police Matt Finn Kathy Garrison, Rolling Meadows HS Jaci Gentile, NCHS Beverly George, Niles NHS John Giagrorio Fay Goldblatt Lisa Grace George Grimes Ann Hallinan, Loyola U Jenna Hayes **Edwin Holmes** Rong Huang, UIC George Huff, BP Thomas Hutch, IIT Frank Jarzembowski, ACS Yvonne John, Naperville North HS Levi Johnston Russ Johnson, ACS & Honeywell Mike Kalnins Patti Kenton, NCHS Snkarth Kidamti, ACS & Nalco Laura Kim Jennifer Klein Don Knight, Nalco Jenny Knox Marilyn Kouba, ACS & lota Sigma Pi Fran Kravitz, ACS Tom Kucera, ACS Michael Lai Margaret Levenberg, ACS & Stepan

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Milt Levenberg, ACS Jessica Lin Avrom Litin, ACS Jim Lukes, Customs Peter Lykos, ACS & IIT Lee Marek, ACS & UIC Ryan Marshfield Peter Martin Linda Matos, Naperville North HS Laura Milleville Janet Miodragonic, Roosevelt U Funmi Moka, ACS & IL State Police Barb Moriarty, ACS & Nalco Emma Morrison Mary Newberg, ACS

Neal Nowicki, BP Seymour Patinkin, ACS Leslie Patsavey Eric Patterson, UIC

Autumn Penney, Lane Tech Marsha Phillips, ACS & Farragut Acad.

Craig Picerno John Pilsits, Nalco Darryl Prater, ACS

Murtuzan Salahuddin, Roosevelt U

Dalia Saulys, Customs

Todd Schaap, Rolling Meadows HS

Stephen Schape, AIChE Todd Schwier, UIC

Gretchen Shearer, IL State Police

Susan Shih, ACS & COD Stephen Sichak, ACS

Chris Simorski Sime Singhe, UIC

Paul Skorownski Awatif Soliman, ACS

Shakeena Stern, Roosevelt U

Frank Tenbarge, Cargill Tim Thomas, Loyola U

David Triea

Fred Turner, ACS & Roosevelt U

Julie Ann Villa, Lane Tech

Matt Vogel

Auste Vygantes, Oakton CC

Janeen Walls

Jeanna D. Walock, IL State Police

Trisha Wang, IIT

Eric Watson, Loyola U

Bob Widing, UIC

Karen Williams, BP Jordan Williams

Joyce Willia

Shari Wood

Margaret Workman, DePaul U & Iota

Sigma Pi

Jerry Wysocki, Triton College

Alan Zagoria, AlChE

#### HIGH SCHOOL TEACHERS WORKSHOP

Aamir Ashigali Kara Boyle Gale Clement Khara Criswell Beth Demarest Jenny Earlandson Karen Enright Jolie Galovich Peter Goff Ethelene Hare

**Preston Haves** Shannon Kelly Walter Kondratko Danielle LaBrasca Marty Landorf Ami LeFevre, ACS & Niles West HS Ann Levinson Sandra Michalek Julie Montgomery Alexandria Moran Sara Pluth Aurora Tyagi

#### **EXHIBITORS**

Christi Veale

Liz Watkins

ACS Minority Affairs Committee American Institute for Chemical Engineers ACS Project SEED ACS Public Affairs Committee Argonne National Laboratory Cargill Chicago Police Department IL State Forensics Laboratory Iota Sigma Pi McCrone Associates Nalco NCW Activity Patch UIC Chemistry Dept.

#### **CHEMISTRY DEMONSTRATORS**

Michael Bachrodt Bernoli Baiellu Kathy Connoly Jaci Gentile **Beverly George** Lisa Gorsuch Michael Heinz Yvonne John Patti Kenton Glen Lid Linda Matos Wally Pape Autumn Penney Jane Russell Julie Ann Villa Shari Wood Dalia Zygas

#### STUDENT AFFILIATE HELPERS

Foster Amaoka, Loyola U Mariysha Bell Kendra Cabrera Jeanne Kang, Loyola U Jennifer Klein **Dimitrios Maniatakis** Anastasia Marcus Melissa Miodragonic, Roosevelt U Joe Rundell, Loyola U Paula Skorownski Janeen Walls Jennifer Waring

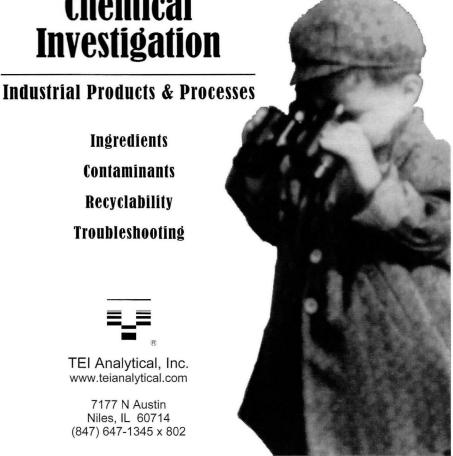
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#### ENGINEERS WEEK 2004: CELEBRATING ANNIVERSARIES

What are some important engineering and scientific advances? When did they happen? How do they relate to what is happening in the same fields today? These are some of the questions we plan to answer at the DuPage Area Engineers Week celebration, held each year during National Engineers Week, February 22-28, 2004. This year we are celebrating our 20th anniversary, and we ask the community to celebrate with us as we recognize various scientific and engineering advances over the years. Programs will be held on Thursday, February 26 and Saturday, February 28, 2004 at Illinois Institute of Technology's Daniel F. and Ada L. Rice Campus.

The Thursday evening Speaker's Forum on February 26, 7 to 9 PM, is in conjunction with an Information Security Workshop and Expo being held that day. While the speaker has not yet been announced, the talk will focus on computer security from a layperson's point of view. Afraid of being hacked? Worried about shopping on the Internet? Let our expert tell you how to protect yourself.

The Saturday event, February 28, will be open from 12:30 to 5:00 PM and features interactive displays and presentations. All presenters will be celebrating one or more anniversaries particular to their society or discipline. Displays this year include a wind tunnel, cryogenics, polarized light, the history of computers, robotics, and safety as well as hands-on SciTech activities and many other attractions.

The first DuPage Area Engineers' Week Open House was held in 1985 at Midwest College of Engineering in Lombard, Illinois. In 1986 Midwest College merged with Illinois Institute of Technology to form a new, west-suburban campus called IIT West, now the Daniel F. and Ada L. Rice Campus. This west suburban campus of Illinois Institute of Technology has continued to host the annual Engineers Week celebration. The DuPage program is a joint effort among professional engineering and scientific societies, the two area national laboratories, businesses, educational institutions and community organizations.

Presentations at the Expo are directed toward introducing students of all ages and their parents to the current state of technology and advances being made throughout industry. The cooperation of the professional engineering societies, academic organizations and industry provide a comprehensive overview of the current state-of-the-art as well as

generating an interest in the sciences among the program's visitors. This certainly aids our objective of communicating what engineering is and what engineers do; attracting young people to careers in engineering, science and technology; and increasing the scientific literacy of the community.

IIT's Rice Campus is located at 201 East Loop Road, Wheaton. For more information on the DuPage program,

visit the program's web site at http://www.rice.iit.edu/engineer-sweek/ or call 630-682-6040.



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#### CHAIR'S LETTER

Dear fellow chemists and ACS members.

Welcome to a new year! Along with a new year we have a new slate of officers and committee chairs in the Chicago Section. First and foremost, it is my great pleasure to thank Susan Shih and all the officers and committee chairs that served with her over this past year and a half during the transition period for our Section from an academic year to a calendar year. A year and a half ago, I had no concept of the enormous work and dedication that is ongoing behind the scenes of our society to keep it running smoothly and providing the services and activities we all take for granted. The list of activities is much too long to list here, but you have only to glance at our web page or the Chemical Bulletin to get a snapshot of the myriad facets of the Chicago Section. We benefit from these efforts, our community of chemists benefit from these efforts, and Chicago benefits from these efforts.

Susan has been wonderful in juggling all these activities and nudging the board members and committee chairs, gently of course, to keep us on track. She has left some big shoes for me to fill. I will do my best, but will be able to do a much better job if each Section member offers to pitch in and do a little something that catches his or her fancy. We are doing a lot of things; there are a lot more that we could be doing to benefit our professional selves. Call me (847-680-1223) and let's talk about some way you would like to help.

Thirty years ago, the local Section meetings provided one of the few mechanisms to expose area chemists to advances in chemistry on a regular basis. With the growth of specialized societies in chemistry, the deluge of journals and technical magazines, and rapid access to information on the web, many of our members no longer look to the monthly meetings to fulfill this need. In fact, as the world and our lives get busier, it becomes harder to justify meeting attendance for this purpose. In recent years the Section program chairs have recognized the value in providing programs of a more diverse and less technical nature, allowing us to learn how chemistry applies to many areas in the world around us apart from our own fields of specialization. I encourage this trend. I see the monthly meetings as a meeting place for people in our local chemical community, a place to network, and a time to expand the width of our horizons rather than the

depth of our specializations. I think we can build the popularity of our monthly meetings by learning from our successes, and less-than-successes, with program topics.

Looking ahead, we have an ambitious project on the table for this summer. We are proposing to sponsor a booth at the Illinois State Fair this August jointly with the other ACS Local Sections in Illinois. There are a lot of opportunities for people to help out on this project. It is new to the Section, so we are feeling our way on how best to do it. We will be forming a committee to spearhead the project, and will need idea people, people with contacts to solicit support from local industry, people to create displays suitable for presentation to students and non-chemists, and people to help man the booth at the fair, just to name a few of the tasks before us. This will be a fun project, so come on along!

What else should our Section be doing for us? Please call me or send me an email with your ideas. As the comedian, Joan Rivers, used to say, "Can we talk?" Welcome to 2004 — let's talk, and let's work together.

MILT LEVENBERG CHAIR, CHICAGO SECTION, ACS



#### **EDITORIAL**

Welcome to the January issue of The Chemical Bulletin. We hope you had a good holiday season and are looking forward to a new year of information related to chemistry and chemists in the Chicagoland area.

Among the items in this issue, you will find photos of our new officers and information on Chemistry Day 2003, DuPage County Engineers Week, and the newly formed Chicago Women Chemist Committee. Our "ChemShorts for Kids", written by Kathleen Carrado of Argonne National Laboratory, is our long-running feature column and continues to be our most popular regular column. Another regular column is our "ALMA e-NEWS", written by Wayne Collins, a member of the Analytical Laboratory Managers Association (ALMA).

Be sure to check out the listing of upcoming events in the Calendar on the back page of this and every issue. If you know of a meeting, course, or other scientific activity that would be of interest to your Section members, send the information to me for inclusion in the Calendar.

With each issue, we keep in mind our commitment to ACS, the Chicago Section's mission, and the goal of being one of your connections to chemistry-related information in the Chicagoland area and from ACS National.

If you have an idea for a new column, let me know. Keep in mind that any regularly featured column needs a regular contributor.

We continually need advertisers to maintain the vitality of the Chemical Bulletin. How about recommending this publication as a way of advertising to your suppliers and colleagues and for your own business. Our rates are reasonable and we reach out to 5,600 subscribers. We accept ads for products, services, and employment opportunities. If you are interested or you know of someone interested, call the Section office at 847-647-8405.

We look forward to receiving articles for publications. While we can not guarantee which issue your article will appear, we try to publish submissions as timely as possible.

CHERLYN BRADLEY, EDITOR (cbrad1027@aol.com)

The Chicago Chromatography Discussion Group will hold its 41st Annual Introductory Course in Gas Chromatography at Roosevelt University in Schaumburg, IL from March 29 to April 1, 2004. For further information, please contact Eva Lopez at 847-647-0157 or go to www.ccdg.org.

### **ALMA E-NEWS**

Gas Cylinders QC

Many of you may have heard about a serious safety incident in the Houston area several years ago that involved two fatalities. Two contract maintenance workers who were cleaning a tank were found dead. Investigation revealed that the breathing air packs that they were using were improperly mixed and contained insufficient oxygen to support life. Also rather disturbing was the fact that the vendor did not have a positive recall system in place and did not know who received other cylinders from the same batch. I found that many labs in the area began checking the oxygen content of all breathing air cylinders that come into their facility.

But the whole issue of gas cylinders can have other serious consequences for labs. One lab manager reported that their gas vendor had called late at night to ask them to take some recently delivered nitrogen cylinders out of their inventory since they were suspected to have been inadvertently filled oxygen! Imagine the catastrophe that this mistake could have caused in the right circumstances. Several managers have reported receiving propane or carbon dioxide cylinders fitted with dip tubes so that liquid was expelled rather than the gas that they expected. As managers, perhaps its time we invited our gas vendors in for a visit to have them tell us about their QC programs rather than just asking about price and delivery.

Past ALMA (Analytical Laboratory Managers Association) e-News editions are available at the website http://www.labmanagers.org/.

If you have any comments, cost saving suggestions, opinions, etc. let me hear from you.

WAYNE COLLINS wayne.collins@bpsolvaype.com

#### **DEATH NOTICE**

Long-time Chicago Section member, Walter E. Kramer, 82, passed away in December 2003. Walt served in many capacities for both the Section and the Chicago Chemists Club. His activities with the Section included serving as Chair of the Gibbs Dinner for several years, Membership Committee Chair, and Board Vice-Chair. He is survived by Marilyn, his wife of 54 years, Steven, his son, and Barbara, his daughter. Donations may still be accepted at the Hospice of the North Shore, 2821 Central Street, Evanston, IL 60201.

## CHICAGO SECTION OFFICERS, BOARD, AND COMMITTEE CHAIRS 2004

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#### TRY GREENER APPROACHES TO UNDERGRADUATE CHEMISTRY EXPERIMENTS!

This book includes 14 laboratory activities that use green chemistry to explore standard undergraduate chemistry laboratory topics. Students gain hands-on experience with common laboratory techniques and equipment while using fewer toxic chemicals. Each laboratory exercise explores relevant chemical concepts and green chemistry topics. Background sections for each laboratory discuss the hazards associated with certain chemicals or chemical processes and the challenges of designing a greener approach. Sample activities and pricing information available via chemistry.org. Order by calling 1-800-227-5558.

## DEADLINES FOR CHEMICAL BULLETIN

Please submit all Chemical Bulletin copy to the editor before the deadlines listed below for each issue. Articles can be emailed to the editor, Cherlyn Bradley, cbrad1027@aol.com.

Since we like the Bulletin to be as timely as possible, we need the lead time indicated. You can help by early planning and submission of your information or articles.

Issue	Deadline	
March 2004	1/16/04	
April 2004	2/27/04	
May 2004	3/26/04	
June 2004	4/30/04	
September 2004	7/16/04	
October 2004	8/27/04	
November 2004	9/24/04	
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#### **ANNOUNCEMENT**

The next Undergraduate Research Symposium will be held in conjunction with the Section's February 20, 2004 monthly meeting. Students from Loyola University will present their research.

Charles E. Cannon, Chair College Education Committee

## CHICAGO WOMEN CHEMISTS COMMITTEE

Members of the Chicago section have initiated a committee to serve the local members. In their kick-off meeting in November, they developed outreach plans for Chicago area members and the community. These plans include a column in the Chicago Bulletin by our members. Topics will include networking, career development, and vignettes of women in chemistry. Also posters or pamphlets will be available at the monthly dinner meetings. Suggestions from our readers are always welcome and may be sent to the Women Chemists Committee at Shihsu@cdnet.cod.edu or chicagoacs@ameritech.net.

The Women Chemists Committee of the Chicago ACS serves the membership of the American Chemical Society. Our mission is to be leaders in attracting, developing and promoting women in the chemical sciences. There are three goals designed to fulfill our mission statement:

- Attract women to a profession in the chemical sciences.
- Provide leadership for career development opportunities for women in the chemical sciences.
- 3. Promote and recognize the professional accomplishments of women in the chemical sciences.

My trip to China in 1990 to train a joint venture partners' sales staff and meet potential customers illustrates how far women have come. The Chinese hosts had two translators for the Americans, one male and one female. She was indeed the higher skilled translator, and yet, the guy was the translator for the salesmen (all males), physicians (all males) and nurses (all females). At the dinner meeting with the physicians, the Chinese salesmen were scattered among the banquet tables. However, they all sat in a far corner table at the nurse's dinner meeting.

We've come a long way from the two cultures stereotype and, yet, there is always a need to extend a helping hand to our family in chemistry. Krista wants to become a molecular biologist. How does she prepare herself? What courses should be taken? Which school and which subspecialty of molecular biology? Abbey is an excellent student but has no idea of the diversity of jobs available to chemistry majors. However, she has the talent and willpower to become one of the best chemists. Denise is upset with the two cultures in the lab. Why is it always her job to tidy up the lab? The Women Chemists

Committee wants to help Krista, Abbey, Denise and others with their career choices and nurture their career growth.

SHARON J. NORTHUP

#### JOB CLUB

The next meeting of the Chicago Section Job Club will be held on Friday, January 23 at Ann Sather's Restaurant at 5 p.m. in the Main Dining Room. The meeting will include a review and discussion of some of the fundamental tools that a chemist can use to conduct a Job Search.

The Job Club provides a continuing opportunity for unemployed members of the Section to meet with one another, share their experiences and develop a network that may help in identifying employment opportunities. Bring plenty of resumes and business cards to distribute to your colleagues. Be prepared to talk about what kind of job you are looking for.

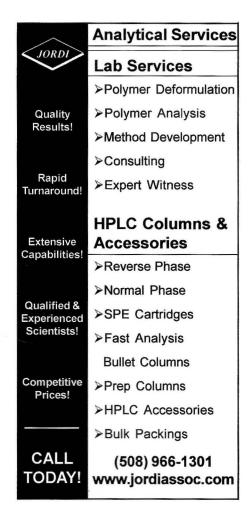
Several participants have received outsource help with resume preparation and marketing strategies to present their best attributes to prospective employers. The group actually critiqued some individual resumes and made suggestions for improvements in a positive way!

The Job Club is also for employers seeking chemists. Employers need to be prepared to describe the positions to be filled and requirements for these positions.

Should you wish to attend the Section meeting following the Job Club, the fee for unemployed members is only \$15 and you can continue your networking activities. Please call the Section office for reservations and indicate that you are eligible for a discount.

## PROMOTING SUCCESSFUL STUDENT TRANSITIONS

Share resources and strategies that facilitate student transfer and foster student retention at the 18th Biennial Conference on Chemical Education (BCCE), July 18-22, 2004. The program "Undergraduate Student Transfer: Addressing the Challenges" will include a keynote presentation, poster session, and symposia with panel discussions. Contact Jodi Wesemann at j\_wesemann@acs.org or 1-800-227-5558, ext. 4587 for more information. Abstracts should be submitted at the web site http://www.chem.iastate.edu/bcce/ by January 26, 2004.



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## CALL FOR TRAVEL AWARD APPLICATIONS

Sponsored by the Eli Lilly & Co., the ACS Matching Gift Fund, and the ACS Women Chemists Committee, funding is available for undergraduate, graduate, and postdoctoral women chemists to travel to scientific meetings in 2004 to present their research.

Awards will be given with preference to the following order: (1) any applicant who will be making her first presentation (regardless of format) at a major scientific meeting; and, (2) graduate or postdoctoral applicants who have not presented at a national or major meeting since leaving undergraduate school.

Grants may be applied only for registration, travel, and accommodations, and are restricted to travel to meetings within the United States. Application deadline is February 15 for meetings between July 1 and December 31, 2004. For more information, check the WCC website: http://membership. acs.org/W/WCC/ or e-mail: wcc@acs.org.

#### COLLEGE OF DUPAGE HONORS SUSAN SHIH

The College of DuPage recently honored their outstanding faculty for 2003. Our own **Susan Shih** was among those honored. We've always known that Susan is a winner and it's about time that COD figured it out.

Susan co-authored a laboratory manual for the *Principles of Chemistry* sequence. She holds her students to high academic standards, combining an effective teaching style with knowledgeable counseling skills. One of her former students wrote: "Professor Shih's methods of instruction prepared me well for the rigors of the university's demanding engineering curriculum."

Susan serves on many college committees and has been involved in three successful proposals for National Science Foundation grants. Nationally rec-

ognized by the ACS, she recently completed serving as chairperson of the ACS Chicago Section (one of the largest sections in the nation) — fulfilling an 18-month term of office during 2002-2003. She also serves as a mentor to part-time faculty.

Congratulations Sue!

#### **FREE T-SHIRTS**

The Hospitality Committee raffles one T-shirt at each monthly dinner meeting. The shirt has Chicago spelled out using the periodic table. So come to a monthly meeting and maybe you'll win one!

Congratulations to T-shirt winner Doug Reed (November meeting).

FRAN KAREN KRAVITZ HOSPITALITY COMMITTEE CHAIR

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For more information, call the Section office (847) 647-8405 or e-mail at chicagoacs@ameritech.net



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## THE CHEMICAL BULLETIN ADVERTISING RATE SCHEDULE

The official newsletter of the Chicago Section American Chemical Society, *The Chemical Bulletin*, publishes news and information of interest to the Section's 5,600 members, who are professional chemists and others in related professions in industry, academia and government throughout greater Chicago.

SIZE Full Page	DIMENSIONS 7.5" wide x 10" depth	RATE \$700
2/3 Page (2 columns)	4.917" wide x 10" depth	\$530
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**CALENDAR** 

**January 13**, **2004**: Society of Cosmetic Chemists - Midwest Chapter meeting will be at the Grazie, Des Plaines, IL. For details, go to **www.midwestscc.org** or contact Angela Tabor at **atabor@stepan.com**, (847) 784-2040.

January 15, 2004: Chicago Chapter of the Commercial Development and Marketing Association will have it's next meeting. The speaker will be John Beagle of Grace-Matthews talking on the "State of the Chemical M&A Union." Contact Ada Nielsen, NielsenC@bp.com, (630) 961-6276 or http://www.cdmaonline.org

February 10, 2004: Society of Cosmetic Chemists — Midwest Chapter meeting. For details, go to www.midwestscc.org or contact Angela Tabor at atabor@stepan.com, (847) 784-2040.

**February 20, 2004:** The Chicago Section American Chemical Society's monthly dinner meeting. The College Education Committee is also sponsoring an undergraduate research symposium prior to the monthly dinner meeting. Stay tuned for further details.

February 26 & 28, 2004: The 20th Annual DuPage Area Engineers Week program. Programs will be held on Thursday, February 26 and Saturday, February 28, 2004 at IIT's Daniel F. and Ada L. Rice Campus located at 201 East Loop Road, Wheaton. For more information on the DuPage program, visit the program's web site at http://www.rice.iit.edu/engineersweek/ or call (630) 682-6040. See article in this issue.

March 1, 2004: Chicago Chapter Commercial Development and Marketing Association's joint meeting with Technology Managers Association of Chicago. Wine tasting and presentation by Dr. Larry Satek, entrepreneur at Satek Winery. Contact Ada Nielsen, NielsenC@bp.com, (630) 961-6276 or http://www.cdmaonline.org

March 7-12, 2004: The Pittsburgh Conference will be in Chicago. The exhibits will be March 8 through the 11th. For more information, call (412) 825-3220 or email at program@pittcon.org.

March 9, 2004: Society of Cosmetic Chemists — Midwest Chapter meeting. For details, go to www.midwestscc.org or contact Angela Tabor at atabor@stepan.com, (847) 784-2040.

March 12, 2004: The Chicago Section American Chemical Society's monthly dinner meeting. The College Education Committee is also sponsoring an undergraduate research symposium prior to the monthly dinner meeting. More information as the date approaches.

March 29-April 1, 2004: The Chicago Chromatography Discussion Group will hold its annual Introductory Course in Gas Chromatography at Roosevelt University in Schaumburg, IL. For further information, please contact Eva Lopez at (847) 647-0157 or visit www.ccdg.org.

March 30-April 1, 2004: Information Quality Improvement seminar in Chicago sponsored by High Technology Seminars. Go to http://HighTechnologySeminars.com or contact Ben Marguglio (845) 265-0123 or benjm@optonline.nethttp://HighTechnologySeminars.com or contact Ben Marguglio (845) 265-0123 or benjm@optonline.net.

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