

The Chemical Bulletin

<http://chicagoacs.org>

DECEMBER • 2010

Chicago Section American Chemical Society Joint Meeting with Chicago Chemists' Club and Iota Sigma Pi HOLIDAY PARTY/MEETING

Friday, December 10, 2010

Hilton Garden Inn
2930 South River Road
Des Plaines, IL 60018
847-296-8900

DIRECTIONS TO THE MEETING

From O'Hare Airport: Follow I-190 East and exit at River Road North. Follow River Road one mile and hotel will be located on the left side.

From North: Take I-294 South to I-190 West and exit at Manheim Road North. Go 1.0 mile to Higgins Road and turn right. Go 0.6 miles to Devon Avenue. Take a slight left. Go 0.6 miles to Des Plaines River Road and turn left. Go 0.3 miles and the hotel is located on the left side.

From South: Take I-294 North and exit at River Road. Proceed to traffic light and turn left onto Des Plaines River Road. Proceed 1.0 mile to hotel which is located on the left side.

From West: Take I-90 East to I-190 West and exit at Manheim Road North. Go 1.0 mile to Higgins Road and turn right. Go 0.6 miles to Devon Avenue. Take a slight left. Go 0.6 miles to Des Plaines River Road and turn left. Go 0.3 miles and the hotel is located on the left side.

From East: Follow I-90 West to I-190 West and exit at River Road. Turn left onto River Road and follow River Road one mile to hotel which is located on left side.

(continued on page 2)

CHANGING OF THE GAVEL 8:10 P.M.

Outgoing Chair Ken Fivizzani will turn over the gavel to the incoming 2011 Chair Keith Kosteka.

GENERAL MEETING 8:15 P.M.

After-Dinner Speaker



Dr. Sara J. Risch, Founder, Science By Design

Topic: "Advances in Food Packaging"

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Abstract: Food packaging has often been considered a dust cover or simply something to contain foods during distribution. Over the past years, packaging has become much more an integral part of food products, serving to protect foods and extend their shelf-life. The protection can be from light to prevent deteriorative reactions catalyzed by light, from oxygen which participates in oxidative reactions that can cause off-flavors and colors in foods as well as nutrient loss and provide barriers to moisture to either keep a food crisp or prevent it from drying out. The barriers can be physical such as glass or metal or they can be chemical in nature by designing polymers that provide barriers to oxygen and moisture. In addition to protecting foods, some packages today play an active role in food preservation. Examples of these include oxygen absorbers that can remove residual oxygen from inside packages to help eliminate oxidation, particularly lipid oxidation. Some microwave packages are active in that they have a very thin layer of metal deposited on a PET film that is incorporated into the package. The layer of metal is thin enough so that it interacts with microwave energy and will heat to over 400°F in a microwave oven, allowing for browning and crisping. These and other developments in food packaging will be presented.

Biography: Sara Risch is the principal in the consulting firm of Science By Design, which she founded in 1993. She works with food and packaging companies as well as those in related industries, giving technical assistance in product development, packaging, and regulatory issues. From 2004 to 2006, she was Director and Professor of the School of Packaging at Michigan State University. She is the author of numerous technical papers and has edited six books; including two on flavor-package interactions. She is active in the Agricultural and Food Chemistry Division of the American Chemical Society, currently serving as a councilor and a member of the Committee on Committees. Prior to starting her consulting firm, she was Director of Research and Development for Golden Valley Microwave Foods. Sara received a B.S. in food science from the University of Minnesota, an M.S. in food science from the University of Georgia and returned to the University of Minnesota to complete her Ph.D. in food science.

**The Chicago Section's
e-mail address
is
chicagoacs@ameritech.net**

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PARKING: Free

This is the Chicago Section ACS/Chicago Chemists' Club/Iota Sigma Pi Annual Holiday party/meeting.

Come join in the celebration with all your fellow chemists and friends. In addition to our technical program, Santa will be bringing gifts! ENJOY!

We are asking you to also bring a gift!!! Please bring some canned food or other non-perishable food item (in non-glass containers), clothing, or toy that we, as the ACS, can donate to charities for needy people in the Chicagoland area. See article on page 5. **Let's share our good fortune in the spirit of the season. THANK YOU!!**

JOB CLUB 5:30 - 6:30 P.M.

SOCIAL HOUR 6:00- 7:00 P.M.
Cash Bar
Complimentary Cheese Tray

DINNER 7:00 P.M.

Dinner reservations are required and should be received in the Section Office via **phone** (847-391-9091), **email** (chicagoacs@ameritech.net) or **website** (<http://chicagoacs.org>) by noon on Tuesday, December 7.

The cost is \$35 to Section members who have paid their local section dues, members' families, and visiting ACS members. The cost to members who have NOT paid their local section dues and to non-Section members is \$37. The cost to students and unemployed members is \$20. Seating will be available for those who wish to attend the meeting without dinner. **PLEASE HONOR YOUR RESERVATIONS.** The Section must pay for all dinner orders. **No-shows will be billed.**

Holiday Menu: Vegetable Minestrone Soup, Field Greens Salad with choice of dressing; Entrée choices: Prime Rib or Grilled White Fish; Garlic Mashed Potatoes; Asparagus with Baby Carrots; Roasted Vegetables over Wild Rice; Rolls and Butter; Lemon Supreme Cake; Coffee or Tea

NOTICE TO ILLINOIS TEACHERS

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

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CHICAGO CHEMISTS' CLUB

Club History

The Chicago Chemists' Club was chartered December 30, 1919 as a social organization to promote good fellowship and camaraderie among Chicago-area chemists.

Social Events

The social calendar of the Chemists' Club includes ten dinner meetings per year where spouses and/or guests are welcome to attend. Meetings are usually on the second Wednesday of the month at various restaurants in the Chicago area featuring a variety of cuisines. We present timely, stimulating speakers in fields such as science, politics, medicine, etc., and folk-singers, artisans and world travelers. In the spring the Club has a dinner-theater party. Each year, jointly with the ACS Chicago Section's Education Meeting, we present the Bernard Schaar Memorial Award to the first-place winner of the ACS high-school chemistry examination. The Club is also a co-sponsor of the ACS Chicago Section's annual Holiday Party in December.

Membership Benefits

Membership dues are \$25 per year. As a non-profit organization, the Club returns a portion of these dues to its members in the form of dinner price reductions.

Joining the Club

Memberships is open to chemists, chemical engineers and allied scientists.

"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 their science literacy. Please print it out and pass it on to your children, grandchildren, or elementary school teachers. Teachers are encouraged to incorporate the projects in this column into their lesson plans.

A Crystal Christmas Tree

Kids, this crystal Christmas tree project enables you to make a tree from a sponge or heavy paper. The tree "grows" its crystal foliage from a solution made from household materials.

An adult partner will need to obtain and handle these materials:

- 6 tablespoons or 90 mL water
- 6 tablespoons or 90 mL table salt (preferably uniodized)
- 6 tablespoons or 90 mL Mrs. Stewart's liquid laundry bluing agent
- 1 tablespoon or 15 mL household ammonia
- food coloring

Make the magic solution by dissolving the salt in the water and stirring in the bluing liquid and then the ammonia. Bluing is a non-toxic and biodegradable bleaching product suspended in water (this is called a "colloidal suspension").

Here are two ways to try growing your crystal tree. You can cut a sponge into the shape of a Christmas tree, set it in a shallow dish, and pour the crystal solution over the sponge. Set the dish someplace where it won't be disturbed. You can dot the sponge with food coloring (like ornaments), if desired. Depending on the temperature and humidity, crystals may start to appear on the sponge tree in less than an hour. You should have a nice set of crystals if you let the dish sit out overnight.

Another method for making a crystal tree is to cut a cardboard or blotting paper into the shape of a Christmas tree. If you make two of these cutouts, you can cut one halfway down the top and the other halfway up from the bottom, match the notched ends together, and create a standing 3-dimensional tree. Again you can decorate your tree with food coloring ornaments, or use green coloring alone in the solution to make a solid green tree. Set this tree in a shallow dish that contains the

crystal growing solution. Crystal 'leaves' will start to grow on your tree as the liquid is wicked up the paper and evaporates.

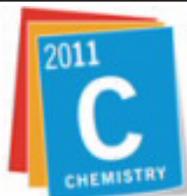
References:

Anne Marie Helmenstine, "Magic Crystal Christmas Tree" <http://chemistry.about.com/od/crystalrecipes/a/crystaltree.htm?nl=1>

Submitted by DR. KATHLEEN CARRADO

All past "ChemShorts for Kids":

<http://www.chicagoacs.net/ChmShort/kidindex.html>



International Year of CHEMISTRY 2011

What is "365: Chemistry for Life"?

For every day of 2011, ACS plans to highlight on the ACS National website a different aspect of chemistry covering the categories of environment, energy, materials and health.

See which ideas have been suggested!

Contact

Email questions about IYC-2011 and 365: Chemistry for Life to: IYC2011@acs.org.

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!

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JOB CLUB

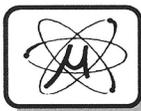
The next meeting of the **Chicago Section ACS Job Club** will be held on **Friday, December 10 at 5:30 p.m. at the Hilton Garden Inn**. The meeting will include a review and discussion of some of the tools that a chemist can use to conduct a job search.

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 the kind of job you are seeking.

Several participants have received outsource help with resume preparation and marketing strategies to present their best attributes to prospective employers. The group has 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's dinner meeting following the Job Club, the cost is \$20 and you can continue your networking activities. Please call the Section office for reservations and indicate that you are eligible for a discount.



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CHICAGO SECTION'S ELECTION RESULTS

The ACS Chicago Section's Tellers Committee met on Friday, October 22 to count the ballots for the 2010 election. There were 390 ballots received as of noon on that day. Of these, 387 ballots were counted and three ballots were invalid. The results are as follows:

Chair-Elect: Avrom Litin

Vice-Chair: Mark Kaiser

Secretary: Theresa Collins

Treasurer: Amber Arzadon

Directors: Dave Crumrine
Lisa Fredin
Herb Golinkin
Michael Koehler
Fran Kravitz
Katie Leach
Laura Li
Margaret Schott

Councilors: Cherlyn Bradley
Russ Johnson
Barbara Moriarty

Alternate

Councilors: Irene Cesa
Tom Higgins
Frank Jarzembowski
Mark Kaiser
Keith Kostecka
Paul Young
Robin Zavod

Officers, directors, councilors, and alternate councilors take office January 2011.

Thanks to all the candidates for participating and congratulations to the winners!

**REGISTER ONLINE for
Chicago Section
monthly meetings
www.ChicagoACS.org**

LASERS: TRANSFORMING LIFE VIDEO

The laser turned 50 years old in 2010! Do you know how many different types of lasers are present in our everyday lives? A special 50th-year anniversary video demonstrates laser applications in a compelling yet easy-to-understand manner and shows laser research that may lead to future clean energy sources or explain such mysteries as black holes. For details, go to <http://www.laserfest.org/lasers/video-life.cfm>

THANKS FROM OUR OUTGOING CHAIR

Our holiday party and dinner meeting will be on Friday, December 10. The speaker will be Dr. Sara Risch, an international consultant in food chemistry and founder of Science by Design. The title of Dr. Risch's presentation will be "Advances in Food Packaging." If you have never thought there was anything interesting to learn about food packaging, plan to attend this meeting.

My term as section chair ends this month. 2010 was an interesting, challenging, and busy year that was at times inspiring, exhausting, and fun. I have always been amazed at the volunteer effort that goes into organizing our various activities. Your section's Board of Directors, Committee Chairs, and other section volunteers have worked hard to provide a program of activities that should make us proud to be in the Chicago Section. Our dinner meetings are our main events during the year. Frank Jarzembowski made sure we had nice facilities and good meals to share with one another. Richard Cornell helps with so many details to make our meetings run smoothly. We had a good mix of speakers on both technical and general interest topics. I enjoyed every speaker, but I think the section's highlights would include our Gibbs Medalist, Maurice Brookhart, in May and Vicki Colvin in September (we still have three great meetings to go as this is written). Thanks to Margy Levenberg for all of the Gibbs arrangements, and thanks to Paul Young for organizing the Job Club.

The ACS Booth at the Illinois State Fair is a great outreach to both adults and students; thanks to Fran Kravitz and Cherlyn Bradley for organizing this program. Chemistry Day requires careful planning for the logistics and the program; Irene Cesa, Avrom Litin, Laura Li, and Dave Crumrine have led this effort. DuPage Area Engineers Week reaches suburban students; thanks to Barb Moriarty. Linda Bennett chaired a team that organizes outreach activities for our high school students, including the Annual Chemistry Exam and Scholarship Awards and Education Night.

I must thank those who contribute all throughout the year, making our regular activities and processes run smoothly. Much of this is not glamorous or high visibility work, but these people are crucial to the ongoing success of the section. Josh Kurutz has not only kept very accurate minutes of our board meetings; he keeps track of where we are within the agenda. Cherlyn Bradley keeps us on schedule for each issue of

The Chemical Bulletin; I am very proud of our monthly newsletter. Fran Kravitz keeps us thinking about our budget limitations and guides our planning process. Our Comptroller, Herb Golinkin, and our Trustees, Sharon Northup, Mark Kaiser, and Milt Levenberg oversee our investments and financial accountability. Milt Levenberg makes our website interesting, lively, accurate, and up-to-date. Gail Wilkening, our office manager, has been a tremendous resource to me and to all of our section members. I thank Gail for all that she continues to do and for the cheerful way that she does it. Space limitation does not allow me to name everyone who has contributed to section programs and events, but I appreciate all of your work on the section's behalf. I also want to thank those individuals whose contributions I do not even know about. Finally, it was an honor to represent the section at the ChemLuminary Awards in Boston where the Chicago Section won the 2009 award for the Outstanding Performance by a Local Section in the Very Large Size Category. Amber Arzadon led us through a great year, wrote up a great annual report, and had lots of fantastic support from section volunteers. Congratulations to Amber and to the entire Chicago Section on a job well done.

As my year as your chair progressed, one of my personal goals was to say "thank you" to as many of you as I could. Your contributions are essential, and your participation is what makes the experience so enjoyable. We keep trying to improve our programs and meet the needs of our section members as we become aware of them. But you should be proud of what all of you have accomplished during the past year. Observing your hard work and faithful participation in section programs, I feel as if I have been honored and blessed throughout this year. Thank you so very much. My wishes for you and your families are a wonderful holiday season and a healthy and happy new year.

KEN FIVIZZANI

FIND OUT MORE ABOUT THE GLOBAL CELEBRATION OF IYC-2011

Visit the global IYC website www.chemistry2011.org, the primary source of information on the IYC, created and maintained by the International Union of Pure and Applied Chemistry (IUPAC) with the guidance and sponsorship of the United Nations Education, Scientific and Cultural Organization (UNESCO).

FOOD, CLOTHING AND TOY DRIVE

We will be collecting nonperishable food items (no glass items) for charity at the December Holiday Party again. The food is donated to the local Loaves and Fishes Community Pantry for distribution. Loaves & Fishes Community Pantry is a community-based, non-profit organization established to provide food and personal care essentials to residents in need.

Also, this year we continue our clothing and toy drive for Ada S. McKinley. Ada S. McKinley Community Services, Inc. is a social agency in Chicago and Oak Park serving individuals with disabilities or other limiting conditions that need help in finding and pursuing paths leading to healthy, productive and fulfilling lives. They are requesting our help in two of their programs: the adult services and the emergency foster care program.

They are requesting a collection of adult and children clothing and a collection of new children's toys. The collection of adult men and women's clothing is for their clients to use for job interviews. The collection of children's clothing is for their emergency foster care program serving children who have been removed from their homes because of neglect or abuse or because the foster home placement was disrupted. Most of these children will be coming from their homes after being taken from their family; often with nothing but the clothes they are wearing. They are requesting boys' and girls' clothing for the age range from infant to 17 years old.

The second project is a collection of children's toys for toddlers to 12 year olds. They are especially in need of new small stuffed plush animals without detachable decorations for new children in their emergency foster care program. They use these stuffed animals year round. These stuffed animals can be found at Target, Walmart, Meyers, etc for fewer than five dollars.

Please open your heart to both of these programs and bring a nonperishable food item and a piece of gently used or new clothing or a new toy to the holiday party.

THE UN-COMFORT ZONE

with Robert Wilson

Instead of serving it cold....Don't serve it all

On a summer day in 1973, my 12 year old sister was riding her horse on the quiet streets near our house. There was a little more traffic than usual as two cars came toward her from opposite directions. Cindy rode onto the well-tended lawn of a stately two-story house to get out of the way. While she waited, her horse relieved himself. She then rode on, unknowing that her steed had left a pile of manure on the emerald zoysia grass. Cindy was two hundred feet down the road, when a car sped past, then skidded to a tire-squealing halt in front of her horse. The startled horse reared up; throwing Cindy to the pavement below. A man leapt out of his car, then without asking if she was hurt, started screaming at her for allowing her horse to defecate on his lawn. Crying and in pain from bruises to her back and arms, Cindy struggled to her feet, then managed to catch her horse who had only wandered off a few feet.

She apologized profusely, but the hysterical homeowner would not be satisfied. He insisted she walk her horse back to his yard, where he forced her to remove the horse droppings with her bare hands. Then without offering her an opportunity to wash her hands, he ordered her off his property.

I was enraged when she told me the story. As a hormone-filled sixteen year old, I wanted to retaliate on her behalf. I told her I would get two hundred pounds of salt; then under the cover of night, use it to write a message on his lawn. Within a few days, alphabet-shaped sections of his grass would die. Revenge would be sweet as his neighbors read in brown letters the profane words that described the true nature of his character.

Fortunately, my sister is more forgiving than me, and refused to tell me which house the jerk lived in. Cindy's wisdom probably kept me out of jail.

Revenge is a powerful motivator. It is a survival instinct that dates back to our caveman days. If we were attacked and did not retaliate, then our enemy would attack again and again until they succeeded in killing us.

The problem is that when someone hurts us today, that primal urge still rises quickly. It doesn't take much -- it can be an emotional injury, an insult or a rejection -- to stimulate that response within

us. If we act upon it, we usually find ourselves feeling worse than before the slight. And, if we get too carried away, we may find ourselves on the wrong side of the law. As Mahatma Gandhi observed, "An eye for an eye makes the whole world blind."

The trick is curbing that response, and using that powerful motivation in a positive way for ourselves. I like the way psychologist and author, Vijai P. Sharma, puts it, "It is better to let the other person get away with it, so that you can get away from it."

We can control our instinct and put it to work for us instead of against us by using that energy in positive ways. Exercise is a great way to blow off that initial steam you feel. I like to get out on my inline skates and skate ten or more miles. Not only does it burn energy, the repetitive activity is meditative and allows me to put things into perspective.

Loving yourself by investing in your personal growth and development is another way to thwart those primal urges. Use your time to get better at what you do -- pour that energy into your business and hobbies. Treat yourself to a massage, a gourmet meal, or a mini-vacation. And, surround yourself with friends who know and love you best. As Welsh poet, George Herbert, said in 1630, "Living well is the best revenge."

--
Robert Evans Wilson, Jr. is a motivational speaker and humorist. He works with companies that want to be more competitive and with people who want to think like innovators. For more information on Robert's programs please visit www.jumpstartyourmeeting.com.

WHO DISCOVERED OXYGEN?

Was it Priestley? Lavoisier? Scheele?

A play titled *Oxygen*, written by renowned chemists Carl Djerassi of Stanford University and Nobel Laureate Roald Hoffmann of Cornell University, tells the story of a fictitious modern day Nobel panel's attempt to determine who discovered oxygen. The story is told in a series of flashbacks to the 18th century lives of Joseph Priestley, Antoine Lavoisier, and Karl Wilhelm Scheele. It presents three experiments, one reflecting the work of each scientist. A DVD of the play is available for purchase. It is the official, professionally recorded version from a theater production at the University of Wisconsin-Madison and includes personal interviews with the authors and director. For more information, visit website www.teachersource.com/Chemistry/Shakhashri/Oxygenwithteacher-guide.aspx.

LEARN MORE ABOUT THE BENEFITS OF ACS MEMBERSHIP

ACS is working to advance chemistry around the world and dedicated to supporting the global chemical science community and collaborating with scientists and engineers worldwide through a broad range of activities and events. Find more information at www.international.ACS.org.

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North Park University, a Christian liberal arts school of over 3,000 students located in Chicago invites applicants for a tenure-track position in **Analytical** or **Bioanalytical** chemistry, beginning August 2011. Ph.D. required. Visit www.northpark.edu/facultyjobs for application details and instructions. An equal opportunity employer.

IYC 2011 COMMUNITY OUTREACH

ACS members, chemistry enthusiasts, and educators are invited to help celebrate the International Year of Chemistry (IYC) throughout 2011 by participating in or hosting a special event. Each quarter the ACS Office of Community Activities will focus on a specific theme to confirm that chemistry is a worldwide science that impacts all people positively.

- **Water in the Environment (1st Quarter)**

An awareness of water, its sources, and the importance of water purity with its relevance to sustainability will be promoted.

- **Alternative Energy (2nd Quarter)**

Viable alternative energy sources will be presented as a key aspect of sustainability. The alternative energy focus coincides with Chemists Celebrate Earth Day (CCED), to be celebrated on April 22, 2011.

- **Materials (3rd Quarter)**

The significant facets of recycling, properties of materials, and nanomaterials will be introduced.

- **Health (4th Quarter)**

The chemistry of health and the positive impact of the chemical sciences on the world as it relates to nutrition, hygiene, and medicine will be the final theme of the year. The health quarter will be prepared in conjunction with National Chemistry Week (NCW), which will be celebrated October 17–23, 2011.

Print and Online Resources

Special web editions of Celebrating Chemistry will be available for the 1st and 3rd quarters of IYC. Celebrating Chemistry will be available in print and online for CCED and NCW 2011. Each edition of Celebrating Chemistry will contain three to four articles, three hands-on activities, two puzzles/games, and one Meg A. Mole interview which will feature chemists who will talk about their careers.

Supplementary materials such as additional hands-on activities and articles, puzzles/games, theme related PowerPoint Packs, as well as comprehensive book, video, and e-resources will be

available for students, educators, ACS members, Local Section Coordinators, Faculty Advisors, and enthusiasts.

For more information, contact the ACS Office of Community Activities at oca@acs.org.



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ACT4CHEMISTRY.ORG

The new home of the ACS Legislative Action Network (LAN) to:

- Contact Policymakers
- Link to daily policy news
- Engage in Act4Chemistry blog

DECEMBER HOLIDAY PARTY

Get those fingers ready to make reservations for the annual Chicago Section's ACS holiday party on Friday, December 10. Gifts for the raffle will be numbered randomly and placed on side tables in the dining room. Each attendee will draw a number when they register that evening for the meeting.

Gifts will be handed out throughout the evening by calling up groups of individuals having a series of numbers. Meeting attendees are asked to claim their gift only during the time their numbers have been announced. Those individuals who forget to claim their gift will have another opportunity to claim them at the end of the evening. Individuals must present their number in order to pick up their gift.

Door prizes of wine will only be handed out to those 21 or older. A substitute prize will be handed out to students under the age of 21. As always, please do not open your wine at the table.

RICHARD CORNELL
HOSPITALITY CHAIR

IOTA SIGMA PI

Iota Sigma Pi is a national honor society for women in chemistry. Its major objectives are:

- to promote interest in chemistry among women students
- to foster mutual advancement in academic, business, and social life
- to stimulate personal accomplishment in chemical fields.

It was founded in 1902 was organized on a nation-wide basis in 1916. Over 10,000 members have been initiated into this organization. More than 40 local chapters have been established in various colleges, universities and metropolitan areas. The Aurum Iodide chapter in Chicago was established in 1939.

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DECEMBER HISTORICAL EVENTS IN CHEMISTRY

- December 1, 1743** Martin H. Klaproth, who discovered cerium with J. Jacob Berzelius and William Hisinger, was born. He also discovered zirconium in 1789, uranium in pitchblende in 1789, and chromium which had been discovered previously by N. L. Vauquelin in 1797.
- December 3, 1886** Karl Manne Georg Siegbahn, who was a researcher in x ray spectroscopy, was born. In 1924, he was awarded the Nobel Prize in Physics for his discoveries and research in the field of X-ray spectroscopy.
- December 8, 1878** Eugene C. Bingham, who was a researcher on plastic flow and viscosity, was born.
- December 10, 1967** "Project Gasbuggy," the world's first commercial experiment with nuclear mining under the New Mexico desert, was started.
- December 12, 1960** It was announced at the meeting of the American Nuclear Society that the first pure compound of californium (Cf, 98) was synthesized.
- December 13, 1935** F. Victor Grignard died. He developed the magnesium reagent used in organic synthesis and was awarded the Nobel Prize in 1912 for the discovery of the so-called Grignard reagent, which has greatly advanced the progress of organic chemistry.
- December 16, 1929** Bruce N. Ames, who developed the Ames Test, an indicator of carcinogenicity of chemicals that measures the rate of mutation by a chemical in bacteria, was born.
- December 17, 1908** Willard F. Libby, who was awarded the Nobel Prize in Chemistry for his method of using carbon 14 for age determination in archaeology, geology, geophysics, and other branches of science, was born.
- December 19, 1949** Berkelium was discovered by ion exchange chromatography at the University of California, Berkeley.
- December 22, 1903** Haldan K. Hartline, who was a researcher in night vision in humans and performed single-fiber analysis of the optic responses of the vertebrate retina, was born. He shared the Nobel Prize in Physiology or Medicine in 1976 with G. Wald and R. Granit, for their discoveries concerning the primary physiological and chemical visual processes in the eye.
- December 25, 1761** Rev. William Gregor, who discovered titanium, was born.
- December 25, 1904** Gerhard Herzberg, a researcher on the electronic structure and geometry of molecules and free radicals using spectroscopy, was born. In 1971, he received the Nobel Prize in Chemistry for his contributions to the knowledge of the electronic structure and geometry of molecules, particularly free radicals.

LEOPOLD MAY
 Professor Emeritus of Chemistry
 The Catholic University of America
 Washington, DC

Historical events can be found at Dr. May's website, <http://faculty.cua.edu/may/Chemistrycalendar.htm> or This Week in Chemical History at the ACS website: <http://www.acs.org/whatischemistry>.

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NEXT ISSUE is
 for the
January 19
Chicago Section ACS
Joint Meeting with the
Chicago Section AIChE

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CALENDAR

December 2: Chicago Section ACS Board meeting, 1400 Renaissance Dr., Suite 312, Park Ridge, IL 60068; 847-391-9091.

December 10: Chicago Section ACS Holiday Party and Dinner Meeting at the Hilton Garden Inn, 2930 South River Road, Des Plaines, IL. **See details in this issue.**

January 19, 2011: Chicago Section ACS Dinner Meeting held jointly with AIChE. This is a Wednesday meeting.

January 29-February 2, 2011: LabAutomation2011 Conference and Exhibition, in Palm Springs, CA, hosted by the Association for Laboratory Automation. For more information, visit www.labautomation.com/LA11, or call 1-630-208-6830.

February 24: Chicago Section ACS Dinner Meeting.

February 26: DuPage Area Engineers Week Expo 2011 will be held at the Daniel F. and Ada L. Rice Campus of the Illinois Institute of Technology, 201 East Loop Drive in Wheaton from 11:00 a.m. to 3:30 p.m. For further information, visit the website www.dupageweek.iit.edu.

March 13-18: Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon 2011), Georgia World Congress Center, Atlanta, GA. For additional information, visit the Pittcon website at www.pittcon.org.

March: Chicago Section ACS Public Affairs Dinner Meeting. Date to be determined.

March 27-31: ACS National Meeting in Anaheim, CA.

April 27: Chicago Section ACS Dinner Meeting. This is a Wednesday meeting.

May 20: Chicago Section ACS Gibbs Award Banquet and Lecture.

June 23: Chicago Section ACS Distinguished Service Award and 50 & 60-year members honored.

DUPAGE AREA ENGINEERS WEEK EXPO 2011

The DuPage Area Engineers Week will be held on **Saturday, February 26, 2011** at the Daniel F. and Ada L. Rice Campus of the Illinois Institute of Technology at 201 East Loop Drive in Wheaton. Events are free and open to the public and celebrate the fun that math, science and engineering provide to learners of all ages. The goal of the Expo is to ensure a dedicated, diverse and well-educated future engineering workforce by promoting pre-college literacy in math and science. While the Expo's target age group is middle school, people of all ages will enjoy the displays and presentations.

The event will be from 11:00 AM to 3:30 PM. The theme will be "Tomorrow's Technology Today". A speaker's series targeting an adult audience will be held earlier.

For the most up-to-date information on participants and demonstrations, see the website: www.dupageweek.iit.edu.

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, Cheryl 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.

<u>2011 Issue</u>	<u>Deadline</u>
February	December 31
March	January 28
April	March 4
May	April 1
June	May 6
September	July 15
October	September 2
November	September 30
December	October 21

2010 NOBEL PRIZES IN CHEMISTRY AND PHYSICS

The Nobel Prize in Chemistry 2010 was for palladium-catalyzed cross couplings in organic synthesis. It was awarded jointly to Richard F. Heck, 79, who is retired from the University of Delaware and living in the Philippines, Akira Suzuki, 80, Professor Emeritus of Hokkaido University in Sapporo, Japan, and Ei-Ichi Negishi, 75, Professor of Purdue University for more efficient ways of linking carbon atoms together to build the complex molecules. Cross couplings involve reaction between two chemically distinct partners allowing control over both halves of the resulting molecule. Cross coupling reactions often involve aryl, alkenyl, or alkyl halides or pseudohalides as one reaction partner with a much greater variety in the other reaction partner. This cross-coupling has vastly improved the possibilities for creating complex molecules, for example, natural products. One reaction is the Suzuki-Miyaura cross coupling of 1-aryltriazines and boronic acids catalyzed by the polymer-supported Pd-NHC catalyst.

Another chemical composed only of carbon is graphene. The Nobel Prize in Physics was awarded to two Russian-born scientists, Andre Geim, 51, a Dutch national and Konstantin Novoselov, 36, a dual citizen of Great Britain and Russia. They first worked together in the Netherlands before moving to the University of Manchester in Great Britain where they reported isolating graphene in 2004. By applying Scotch tape to graphite, they pulled off thin flakes that consist of one, several, or many layers of graphene. To locate the rare one-layer flakes, they deposited the layers on a silicon dioxide substrate of just the right thickness. When they shone light on the substrate, they were able to distinguish the one-layered graphene by its interference fringes. Graphene may find use as a sensor for gases and should find many applications in the electronic industry.

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

Have a Happy and Safe Holiday Season