

The Chemical Bulletin

<http://chicagoacs.org>

APRIL • 2012

CHICAGO SECTION AMERICAN CHEMICAL SOCIETY MEETING THURSDAY, APRIL 19, 2012

Viceroy of India
233 E. Roosevelt Road
(at Highland Ave.)
Lombard, Illinois 60148
(630) 627-4411

DIRECTIONS TO THE MEETING

From the North:

Take I-355 south to the Roosevelt Road exit. Go east on Roosevelt Road to the restaurant.

or

Take the I-294 south to I-88 west. Continue on I-88 and take the Highland Ave exit. Turn right (north) onto Highland Ave. Continue on Highland and turn right (east) on Roosevelt Road. The restaurant is on the right.

From the West:

Take I-88 east to the Highland Ave exit. Continue north on Highland and turn right (east) on Roosevelt Road. The restaurant is on the right.

From Chicago:

Take I-290 west to I-88 west. Continue on I-88 west and get off at the Highland Ave exit. Turn right (north) onto Highland and go to Roosevelt Road. Take a right (east) on Roosevelt Road. The restaurant is on the right.

PARKING: Free

JOB CLUB

5:00 - 6:00 P.M.

SOCIAL HOUR

5:30 - 6:30 P.M.

Cash Bar

DINNER (see page 2)

6:30 P.M.

GENERAL MEETING 8:00 P.M.



General Meeting Speaker

Dr. Ben McCall, Associate Professor of Chemistry and Astronomy, University of Illinois at Urbana-Champaign

Topic: "Astrochemistry: From H_3^+ to C_{60} "

Abstract: Our galaxy's interstellar medium contains roughly 10^{16} more molecules than the Earth, and over 150 different interstellar molecules have been definitively identified by high resolution spectroscopy. However, our inventory of this vast chemical repository remains very incomplete, and our understanding of the chemical and physical processes that produce and destroy these molecules remains primitive.

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Our group is engaged in an interdisciplinary program of laboratory experiments and astronomical observations aimed at answering some of the key unsolved questions in "astrochemistry." In this talk, I will describe how our observations of H_3^+ (the simplest polyatomic molecule) have revealed the presence of a large flux of low energy cosmic rays in diffuse interstellar clouds. I will also present our laboratory measurements of the most common bimolecular reaction in the universe ($H_3^+ + H_2 \rightarrow H_2 + H_3^+$) and the simplest electron recombination process for a polyatomic molecule ($H_3^+ + e^- \rightarrow$ products), and discuss how these processes determine the ortho:para ratio of H_3^+ in these clouds. I will describe our development of two new laboratory techniques for molecular ion spectroscopy: cavity-enhanced velocity modulation spectroscopy (CEVMS) and sensitive, resolved, cooled ion beam spectroscopy (SCRIBES), which we expect will ultimately enable the astronomical detection of more complex molecular ions. Finally, I will report on our search for the first rotationally-resolved spectrum of C_{60} , the largest and most symmetric molecule to be studied with high-resolution spectroscopy.

Biography: Professor McCall received his B.S. degree in Chemistry from the California Institute of Technology in 1995 and a joint Ph.D. in Chemistry and Astronomy & Astrophysics from the University of Chicago in 2001. He was then a postdoctoral fellow at the University of California at Berkeley. He joined the University of Illinois faculty as an Assistant Professor in 2004.

He has received multiple awards, including, in part: being named a Helen Corley Petit Scholar; a Camille Dreyfus Teacher-Scholar Award; a Dean's Teaching Fellowship; a Sloan Research Fellowship; a Coblentz Award; a Cottrell Scholar Award; an Air Force Young Investigator Award; a David and Lucile Packard Fellowship; a Presidential Early Career Award for Scientists and Engineers (PECASE); an NSF Career Award and being named a Miller Research Fellow.

The realm of most traditional areas of chemistry is the Earth, which consists of "only" $\sim 10^{50}$ molecules. However, there are $\sim 10^{66}$ molecules in the Milky Way galaxy, which makes the study of Earth's chemistry seem like a small part of the overall picture. His research is in the emerging field of "astrochemistry," the study of molecules of astronomical importance and is focused in the areas of molecular ion spectroscopy, investigation of the structure of carbocations and observational astrochemistry.

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WCC ARTICLE AUTHORS NEEDED

The Chicago Section's Women Chemists Committee has a project to highlight women, both current and historical, and topics of interest to women. The project is called the "WCC Column" in the *Chemical Bulletin* and the project has been very successful.

We invite anyone, women or men, to join us in this endeavor of writing an article for the column. The article needs to be about 500 words long and will also be put on the Chicago Section website. The author also needs to design a poster for the corresponding monthly meeting. Our office manager, Gail Wilkening, will help with the poster, which can be primarily a large font version of what you wrote, if you wish. We welcome new authors and those who have already discovered what a pleasure this project is.

CO-CHAIRS MARGY LEVENBERG
AND TERI COLLINS

DINNER INFORMATION

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, April 17. PLEASE HONOR YOUR RESERVATIONS. The Section must pay for all dinner orders. No-shows will be billed.

MENU: Buffet style -- Butter Chicken (chicken barbequed in clay oven and cooked in a sauce made from onions, tomatoes and various herbs), Palak Panner (spinach cooked with cubes of homemade cheese. A north Indian staple), Dal Makhani (a black lentils dish), Eggplant Bhartha (eggplant cooked with onions, tomatoes, garlic and many herbs and spices), Lamb Curry (lamb cooked in a tasteful mild onion and tomato gravy), Nan Bread (leavened bread), Peas Pulao Rice (special basmati rice cooked to perfection and lightly sautéed with peas and cumin), Salad, Yogurt dish;

Desserts: Mango Kulfi (special Indian ice cream made with mangos) and Gulab Jamun (golden brown dumplings made from semolina and dry milk and served in sweet syrup); Beverages

The cost is \$30 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-members is \$32. The cost to students and unemployed members is \$15. Seating will be available for those who wish to attend the meeting without dinner.

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.

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

**Advertise with us and be in good company
For information on advertising, call 847-391-9091
or email chicagoacs@ameritech.net**

"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 interest in science. 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.

Clementine Candle

Kids, did you know that you don't always need a wick and wax to make a candle? All you need for this alternative is a clementine orange and some olive oil. The clementine orange acts as a natural wick for the oil. A candle works by vaporizing wax or oil by burning, via a chemical reaction that produces water and carbon dioxide from oxygen and the carbon-based oil. The reaction also produces energy in the form of heat and light.

You'll need:

- a clementine orange (you could also try another citrus fruit)
- olive oil (you could experiment with other vegetable oils)
- an adult partner to serve as your lighter

The steps:

Cut the clementine in half and carefully peel away the fruit, leaving ALL of the white part, called the pericarp or albedo, intact and exposed. This includes the edges near the rind AND the center piece. The pericarp consists primarily of pectin, which is a plant polymer like the cellulose you would find in an ordinary candle wick. The pericarp, by the way, is high in vitamin C. Your goal is to have half of the fruit peel intact, and dry. If you made a mess with the juice, dry the rind off. Once the rind is prepared, pour a small amount of olive oil into the "candle." It really doesn't take very much, plus you want the "wick" to remain well exposed and not drowned in oil.

Have an adult partner light the candle. It might light right away or it could take a few tries. If the pericarp "wick" chars rather than lights, then rub a bit of olive oil into it and try again. Once the candle is lit, it will burn very cleanly. Although the bottom shouldn't get hot, you may want to place the candle on a heat-safe surface just to be safe. The candle should go out on its own once the oil is used up, but never leave it unattended.

If desired, clean out the other half of the clementine, cut a hole in the top of the rind, and place it on top of the burning bottom half. The hole will ensure that the candle gets enough oxygen. Cutting into the rind is a nice way to add a decorative flair to the project. Also, you may wish to watch a video at http://www.youtube.com/watch?v=231vgb5_Lqs showing how to make a clementine candle.

Reference:

Anne Marie Helmenstine at About.com: Chemistry
<http://chemistry.about.com/od/funfireprojects/ss/Clementine-Candle.htm>

Submitted by DR. KATHLEEN CARRADO GREGAR

To view all past "ChemShorts for Kids" go to:
<http://www.chicagoacs.net/ChmShort/kidindex.html>

JOIN US AT THE FAIR!

The Chicago Section, jointly with the other ACS Illinois Sections, again plans to have an exhibitor's tent at the Illinois State Fair **August 10-19** in Springfield, IL. Our cooperative tent activities provide information to the public on chemistry with demos, hands-on activities, computer quizzes, posters, literature, and give-aways. They give us a chance to show the positive aspects of chemistry to many Illinois citizens and governmental leaders. **Last year, over 11,200 people visited our tent.**

We particularly need volunteers to help during the fair. Student members and other student volunteers are welcomed! If you are interested in helping us for a few hours in this fun and worthwhile science outreach activity (you receive free admission to the Fair and free parking if you sign up to volunteer in time!) -- call the Section office at (847) 391-9091 and go to our website at <http://chicagoacs.net/statefair/index.html> for information and to sign-in using our online volunteer scheduler.

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www.toxconsultants.com

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

Please join the Chicago Section of the ACS for the 101st Celebration of the **Gibbs Award** to be presented to **Dr. Mark Ratner** of Northwestern University on Friday, May 18. This is a chance to hear a fascinating speaker at the Casa Royale in Des Plaines for \$40. Sign up now for an enjoyable evening by registering at chicagoacs.net or calling 847-391-9091. See the Gibbs Coupon on page 4 for details.



**AMERICAN CHEMICAL SOCIETY CHICAGO SECTION
2012 WILLARD GIBBS MEDAL AWARD PRESENTATION
Friday, May 18, 2012**



You and your guest(s) are cordially invited to attend the presentation of the 101st Josiah Willard Gibbs medal to Professor Mark Ratner, Dumas University Professor at Northwestern University, Evanston, Illinois, on Friday, May 18, at Casa Royale, 783 Lee Street, Des Plaines, IL 60016. A social hour begins at 6 PM. Dinner is served at 7 PM. Dr. Ratner's talk will begin at approximately 8:30 pm.

After a social hour with Hors-d'oeuvres and two Complimentary Drinks, dinner on this special occasion includes Cream of Asparagus Soup, Signature Salad Pre-Dressed with Raspberry Vinaigrette Dressing; a choice of Prime New York Strip or Baked Salmon with Dill Sauce or Eggplant Parmigiana; Duchesse Potatoes and Green Beans Almandine; and Warmed Apple Cobbler à la mode with Caramel Sauce, as well as Wine.

To reserve your tickets, please call the Chicago Section office at 847-391-9091 or register at <http://ChicagoACS.org> by Monday, May 14 and pay \$40 at the door, or fill out the attached reservation form and mail it with your payment of \$40 by Wednesday, May 9 to the address below. If you are not a member of the Chicago Local Section, you are not eligible for half price tickets for students, unemployed, or retired Chicago Section members. Tickets and nametags will be available at the door. No refunds will be made after noon on Monday, May 14, 2012.

The Gibbs Award Dinner is always a memorable occasion. Only the Nobel Prize is considered more prestigious. Please come to salute the recipient and rejoice in Dr. Ratner's achievements in and contribution to the science of chemistry.

Margaret Stowell Levenberg
Gibbs Arrangements Committee

..... cut here

2011 GIBBS DINNER RESERVATION FORM

Name _____ Affiliation _____

Address _____ Phone(____) _____

Email Address _____

tickets for ACS members & guests (\$40.00/ticket) _____

tickets for students, unemployed members, and retirees who are Chicago Section members (\$20.00/ticket) _____

Note: Professors must make student reservations.

dinners:

Prime New York Strip _____

Baked Salmon with Dill Sauce _____

Eggplant Parmigiana _____

Total Enclosed \$ _____ Payable at time of reservation if reservation is made by mail. Please include a list of your guests' names, affiliations and dinner selections with this form.

Return with payment to: American Chemical Society, Gibbs Reservations
1400 Renaissance Drive, Suite 312, Park Ridge, IL 60068

**Chicago Section American Chemical Society
Balance Sheet
December 31, 2011**

ASSETS**Current Assets**

Checking/Savings adjustment	300.00
Northern Trust Bank	<u>1,845.73</u>
Total Checking/Savings	2,145.73

Accounts Receivable	
Accounts Receivable	<u>1,382.00</u>
Total Accounts Receivable	1,382.00

Other Current Assets

Gibbs Medal Inventory	3,782.28
Petty Cash	400.00
Prepaid Expenses	200.00
S-N Self-Managed Equities	285,533.59
S-N Self Managed Gen Money Mkt.	76,297.81
S-N Self Managed Mutual Funds	368,002.82
S-N Self Managed Other Invest.	116,495.61
S-N Self Managed Preferred	280,364.16
S-N Self Managed Unr. Cap Gains	<u>-101,300.39</u>
Total Other Current Assets	<u>1,029,775.88</u>

Total Current Assets 1,033,303.61

Fixed Assets	
Security Deposit	<u>781.67</u>
Total Fixed Assets	<u>781.67</u>

TOTAL ASSETS 1,034,085.28

LIABILITIES & EQUITY**Liabilities****Current Liabilities****Other Current Liabilities**

Contingency Reserve Fund	42,352.09
Freud Trust Endowment Fund	7,099.08
General Endowment Fund	25,617.21
Holding Fund	1,090.47
Ipatieff Library Endowment Fund	16,904.15
Lishka Scholarship Endow. Fund	64,975.68
Marshall S. Smoler Endowment	28,037.89
Meeting Place Reserve Fund	188,349.43
Payroll Liabilities	
Payroll Liabilities - State WH	404.64
Payroll Liability--FICA	139.63
Payroll Liability--Medicare	140.78
Payroll Liability - Federal WH	<u>602.70</u>
Total Payroll Liabilities	1,287.75

Project SEED Endowment Fund 41,767.25

(continued on page 6)

CONTACT THE CHAIR

Do you have any questions, suggestions, ideas, gripes, or complaints relating to the Chicago Section? Do you want to help with Section programs and activities? Then contact your Chair. Simply log onto the Section's Web Page at <http://www.chicagoacs.net/>, click on the "Contact Us"; click on "Contact the Chair"; and send me an e-mail. If I can answer your query, I will respond personally. If I can't answer directly, I will forward your e-mail to someone who can, or try to provide you a contact – all in a timely manner. The Section belongs to you and the other 4,546 ACS members residing in the Chicagoland area (including 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.

AVROM LITIN
CHICAGO SECTION CHAIR

**TRY
COLOR
IN YOUR AD**

COLLEGE LIFE FAIR

The New York Times is launching its first **College Life Fair** in Chicago in May. The Fair will provide students and their families with an introduction to the college experience and will incorporate exhibits and presentations on admissions as well as on the broader college experience, academic expectations, athletics, student life, technology, health, wellness, career counseling, tutoring and residential life.

The event will be an interactive one where attendees will have access to colleges, universities and other exhibitors. The New York Times College Life Fair takes place on **Thursday, May 31, 2012** from 9AM to 2:30PM and from 5PM to 8PM at Navy Pier in Chicago. The Illinois Association for College Admission Counseling is supporting this event. For more information and to register, go to: www.nytimes.com/collegefair.

(continued from page 5)

Schaar Scholarship Fund	13,560.10
Scholarship Endowment Fund	509,472.55
Scholarship Operating Fund	58,217.00
W. Gibbs Medal Endowment Fund	<u>31,031.16</u>
Total Other Current Liabilities	<u>1,029,761.81</u>
Total Current Liabilities	<u>1,029,761.81</u>
Total Liabilities	1,029,761.81
Equity	
Opening Bal Equity	7,473.46
Retained Earnings	-23,440.61
Net Income	<u>20,290.62</u>
Total Equity	<u>4,323.47</u>
TOTAL LIABILITIES & EQUITY	<u>1,034,085.28</u>

**Chicago Section American Chemical Society
Profit and Loss Statement
January through December 2011**

Income	
Affiliate Membership Dues	30.00
Chem. Bull. Advertising	12,794.00
Donations	
Donations-Cash	240.00
Snack Donations	865.00
Donations – Other	<u>700.00</u>
Total Donations	1,805.00
Gibbs Meeting Registrations	1,700.00
Investment Transfer	0.00
Local Section Dues	32,873.74
Meeting Registrations	15,310.37
Miscellaneous Revenues	2,490.00
Nat'l Allotments & Commissions	27,418.00
National ACS Reimbursements	21,448.03
Project SEED Income	4,750.00
S-N Self Managed Earnings	64,198.89
Sales of Items (Chem Day)	209.00
State Fair	<u>5,725.00</u>
Total Income	190,752.03
Expense	
Awards	602.54
Chair	328.02
Chair-Elect	808.38
Chem. Bull. Production	4,680.00
Chemical Bulletin Advertising	552.50
Community Affairs	
Chemistry Week	<u>927.46</u>

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SPONSORS NEEDED-- STATE FAIR CHEMISTRY TENT PROJECT

The Chicago Section, along with the other Illinois Sections of the ACS, is again planning to have an exhibitor's tent at the Illinois State Fair August 10-19. **Last year, over 11,200 people visited our tent.** The tent provides science outreach to the public on chemistry through demos, hands-on activities, literature, and give-aways.

We are looking for individuals and companies to help sponsor our tent this year. In return for financial contributions, we will display your company's name at the front of the tent as a sponsor and on CDs with information given to over 350 teachers throughout the state of Illinois. **This is a great way to get your company recognized in the public and to promote chemistry.** If you are interested in making a donation to help keep this worthwhile public outreach project going strong, please call the Section office at (847) 391-9091. Thank You!

FRAN KRAVITZ
CHERLYN BRADLEY
Co-Chairs, Ad-Hoc Committee of the
Illinois Sections of the ACS
Cooperative State Fair Project

WOMEN CHEMISTS WEBLINKS

Chemistry International www.iupac.org/publications/ci/2011/3301

Women Chemists in the National Inventors Hall of Fame www.layingthegroundwork.com/inventors

INSPIRE THE NEXT GENERATION OF SCIENTISTS WITH ACS VIDEO SERIES

An ACS video series — aptly named *Spellbound* — tells the stories of eight chemists whose childhood curiosity about everyday things helped them launch careers in laboratories, win Nobel Prizes and make other notable achievements. Suitable for classrooms and other audiences, the videos are available free at www.acs.org/Spellbound, iTunes, and on Youtube. You can also request a free DVD by emailing Michael Bernstein (m_bernstein@acs.org).

Total Community Affairs	<u>927.46</u>
Comptroller	1,126.53
Dinner Meetings	14,140.33
Dinner Subsidies	2,415.00
Gibbs Arrangements	11,771.96
Great Lakes Reg. Mtg.	143.97
High School Education	2,008.92
Hospitality	895.61
House	1,724.96
Illinois State Fair	7,225.00
Insurance	1,840.00
Office	1,023.51
Payroll Expenses	
FICA	1,801.34
Medicare	458.94
Payroll Expenses - Other	<u>33,134.52</u>
Total Payroll Expenses	<u>35,394.80</u>
Postage	318.41
Pre-Dinner Meeting	160.00
Primary Education	1,281.41
Professional Relations	82.99
Program	2,702.67
Project SEED	8,500.00
Public Affairs	735.36
Public Relations	200.00
Rent	9,951.24
Scholarships	22,750.00
Secretary	5,211.61
Telephone	1,689.84
Travel (Councilor)	28,601.33
Treasurer	10.00
Web	107.40
Women Chemists	84.69
Younger Chemists	<u>464.97</u>
Total Expense	<u>170,461.41</u>
Net Income	<u>20,290.62</u>

**Chicago Section American Chemical Society
Illinois State Fair Project Finances
December 31, 2011**

Income	
Donation	8,400.00
Misc. Income	0.00
Sales at State Fair	<u>653.00</u>
Total Income	<u>9,053.00</u>
Expense	
Bank Service Charge	17.95
Exhibitor Space	1,093.68
Toy Moles	150.00

(continued on page 8)

MEMBERSHIP APPEAL - COMMITTEE ON MINORITY AFFAIRS

The Committee on Minority Affairs (CMA) supports the claim that ACS places high priority on active involvement of minorities. The objective of the committee is to cause change in institutional culture and obtain the goal of full participation and expression of intellectual and creative capacity of these minorities.

A list of what CMA is expected to do is included on the parent organization's webpage. Included are the promotion and recognition of the professional accomplishments of Minorities; attraction of minority students to the chemical professions; identify minority-friendly education institutions and businesses; increased involvement of minorities at local, regional and national levels; provision of mentoring to minority students; compilation of best practices for recruitment, retention, career development, and evaluation of programs for the advancement of minorities.

Our Local Section has a Committee on Minority Affairs. Ongoing efforts are being made to attract members to join this committee. Past committee activities included involvement of minority students matriculating at local institutions by extending invitations to participate in a section meeting such as the educational night monthly dinner meeting. The committee has a modest budget from which the students' dinners are sponsored. Ideas are welcomed from potential volunteers as well as members. Tapping into the America Chemical Society's new initiative to assist unemployed chemist in networking and finding employment the local CMA has a great opportunity to add this to the list of "things to get more involved in" now. I appeal to you, fellow members of the section to step forward and assist in strengthening and building a vibrant Committee on Minority Affairs.

CHARLES CANNON
Chair, Chicago Section CMA

**Put your ad here
Reach prospective clients
by advertising in
The Chemical Bulletin**

.....
**For more information, call
the Section office
(847) 391-9091**

(continued from page 7)

Sales Tax	38.00
Service Charge	-40.00
Storage Rental	600.00
Supplies for Fair	4,745.69
Tent Rental	1,784.02
Total Expense	8,389.34

Net Income	663.66
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ASSETS**Current Assets**

Checking/Savings	3,511.38
Total Checking/Savings	3,511.38

Total Current Assets	3,511.38
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TOTAL ASSETS	3,511.38
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LIABILITIES & EQUITY**Equity**

Opening Bal Equity	3,897.65
Retained Earnings	(1,049.93)
Net Income	663.66

Total Equity	3,511.38
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TOTAL LIABILITIES & EQUITY	3,511.38
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GET EXPERIENCE WEBSITE FOR UNDERGRADUATE STUDENTS: SHARE RESEARCH OPPORTUNITIES IN CHEMISTRY

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Go to <http://www.getexperience.dreamhosters.com/>

LAB SPACE FOR RENT IN LAKE VILLA, IL

Looking for lab space to carry out some research projects? A small chemistry research lab is available for rent in a quiet industrial park in Lake Villa, Illinois. The 1,500 sq. ft. facility includes two furnished offices and two labs in good working condition. The labs are lined with benches and the following equipment is available: chemical hood, biochemical hood, rotary evaporator (with bath and water aspirator), vacuum pumps, air compressor, spectrometer, hydrogenator, manometers, centrifuges, drying ovens, refrigerator, freezer, chromatography supplies, eppendorf pipettes, gases (nitrogen, oxygen, hydrogen) with regulators, assorted glassware, and miscellaneous lab supplies. Excellent for start-ups. First month's rent free with a one-year contract. For more information or to schedule a viewing, call 847-549-0104 and ask for Neil.

AWARDS ON ACS CHICAGO SECTION'S WEBSITE

We've created a section on the section's website to highlight the various award opportunities available to our members. There are programs for students, educators, researchers, and professionals you can find them at www.chicagoacs.net/new/awards.php. Most of the programs offer some kind of financial incentive in addition to recognition, but either way winning an award looks really good on a resume! Go ahead and apply or recommend somebody you think deserves a little attention from the industry. With all of the talented chemical professionals in the Chicago region, it would be great to show off the contributions our members have made.

Special notes:

A few of the programs listed on the website are currently closed but now is a good time to plan ahead. View the application requirements and start gathering the information so that you're ready to go when the programs open up again in 2012.

The site is a work in progress, therefore if you have any suggestions for improvement, please send them to info@chicagoacs.net.

Special thanks to Katie Leach for creating the Awards page on the Chicago ACS website.

EVA MONTGOMERY
Awards Committee Chair

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SCIENCE AND THE EDUCATED AMERICAN: A CORE COMPONENT OF LIBERAL EDUCATION

Nearly all American undergraduates take at least one science-related course in college. For most, this coursework marks their last engagement with formal science education. Yet the pace of scientific and technological change means that all adults must be prepared to learn and evaluate new science information after they leave schooling. College graduates, no matter their career, should be proficient in this regard.

The Academy's publication, *Science and the Educated American: A Core Component of Liberal Education*, explores whether American colleges and universities are providing students with the foundation necessary for lifelong scientific learning. Jerrold Meinwald, co-editor of the volume and the Goldwin Smith Professor of Chemistry Emeritus at Cornell University, suggests that "we need a widespread reexamination and reevaluation of the contents as well as the methods of presentation employed in science courses designed to be of interest and value for all."

The publication may be downloaded free of charge at <http://www.amacad.org/publications/scienceSLAC.aspx>.

Several common themes emerge in the publication:

- Without a basic level of scientific literacy, the public cannot rely on even the best science journalism and communications to equip them with the ability to make informed decisions about science issues.

- Science courses belong in the liberal arts curriculum for the benefit of both science and non-science majors.

- Teaching science should convey the wonders and rewards of science but also the limits of science and the dangers of misapplying it.

- Science and the humanities have much more in common than is generally appreciated.

Science and the Educated American grew out of an American Academy conference and study, *Science in the Liberal Arts Curriculum*. The study is co-chaired by Jerrold Meinwald and John G. Hildebrand, Regents Professor of Neuroscience, with joint appointments in Chemistry and Biochemistry,

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APRIL HISTORICAL EVENTS IN CHEMISTRY


- April 4, 1867** Otto Folin, who was a pioneer in clinical chemistry, was born. He was instrumental in the systematic development of "micromethods"; the use of colorimetry in biochemistry using the Duboscq colorimeter; and, the analytical use of an enzyme, urease, to measure urea. With Vintila Ciocalteu, he developed the "Phenol Reagent" for use in protein analyses that is the basis of the Lowry method for protein determination.
- April 6, 1928** James D. Watson, who shared the Nobel Prize in Physiology or Medicine with F. H. C. Crick and M. H. F. Wilkins for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material, was born. He is a researcher on the double helix structure of the deoxyribonucleic acid (DNA) molecule.
- April 10, 1887** Bernardo A. Houssay, who discovered how glycogen is catalytically converted, was born. He shared the Nobel Prize in Physiology or Medicine in 1947 for his discovery of the part played by the hormone of the anterior pituitary lobe in the metabolism of sugar with Gerty T. Cori and Carl F. Cori for their research on the hormone of the anterior lobe and its role in the metabolism of sugar.
- April 10, 1790** The U. S. Patent Office was established. The first patent was on potash and pearl ash granted to Samuel Hopkins.
- April 16, 1850** Sidney G. Thomas, who solved the problem of separating phosphorus from iron in the Bessemer Converter, was born.
- April 17, 1869** Robert Robertson, who did research in explosives, was born.
- April 19, 1912** Glenn T. Seaborg, codiscoverer of americium, berkelium, californium, curium, einsteinium, fermium, mendelevium, nobelium, plutonium, and seaborgium, was born. In 1951, he and Edwin M. McMillan received the Nobel Prize in Chemistry for their discoveries in the chemistry of the transuranium elements.
- April 20, 1912** Gertrude E. Perlmann, who did research in protein chemistry and received the Garvan Medal in 1965, was born.
- April 20, 1927** K. Alexander Müller, who shared the Nobel Prize in Physics with J. Georg Bednorz in 1987 for their important break-through in the discovery of superconductivity in ceramic materials, was born.
- April 21, 1889** Paul Karrer, who shared the Nobel Prize in Chemistry in 1927 for his investigations on carotenoids, flavins and vitamins A and B2 with Walter N. Haworth for his investigations on carbohydrates and vitamin C, was born. He synthesized vitamins A, B2 (riboflavin), and E (tocopherol).
- April 22, 1919** Donald J. Cram, who shared the Nobel Prize in Chemistry in 1987 with C. J. Pedersen and J-M. P. Lehn for their development and use of molecules with structure-specific interactions of high selectivity, was born. He did research in the application of stereochemical techniques to organic reaction mechanism; invented carceplexes or guest molecules completely encapsulated by the host, and synthesized a variety of host-guest complexes including crown ether complexes.

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

Additional historical events can be found at Dr. May's website, <http://faculty.cua.edu/may/Chemistrycalendar.htm>

(continued from page 9)

Entomology, and Molecular & Cellular Biology, at the University of Arizona. Thirty-four colleges and universities participated in the study, which focuses on the challenges of and opportunities for teaching science in a general education context.



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THE UN-COMFORT ZONE

with Robert Wilson

Be True To Yourself

One afternoon, back in 8th grade, I was hanging out with my pal Charlie, when I noticed copies of *Sports Illustrated* and *Car & Driver* magazines on his desk.

"Hey, I didn't know you were into cars and sports," I said.

"I'm not," he replied.

"But these magazines are addressed to you."

"I read them, because that's what the guys at school are talking about, and I want to join in. I want them to like me."

"Why don't you talk about what you like?"

Charlie just shrugged.

I couldn't believe Charlie would waste his time doing something he didn't like or care about, but a year later I was guilty of the same thing - only worse.

I was looking wistfully at pictures of cute girls in my high school yearbook when I said to my friend Tony, "I sure wish I knew how to talk to girls."

Tony replied, "The girls always talk to guys on the football team, you should go out for football."

It was all the motivation I needed. So, without ever having played the game before, without even knowing the rules, I joined the football team. I immediately found that I hated it. I had to run, in full pads, two or more miles every day in the hot sun. I had to lift weights, do sit ups and push ups, but the roughest part was tackling. I was six feet, two inches tall and weighed 150 pounds. I was a skinny bag of bones with no cushion and getting my body slammed to the ground really hurt. And, I was getting bruised for nothing; the girls still weren't talking to me.

I wanted to quit, but that would've meant losing face, so I stuck it out. Then one day, because of my height, I was asked to scrimmage on the defensive line with the Varsity team.

"Ten, twenty-two, seventeen, hut!" The quarterback yelled. I burst through the line and lunged forward to tackle him.

I was inches from grabbing him, when suddenly I was hit so hard it lifted me in the air. I crashed to the ground face first, and when I tried to stand, I felt an explosion of pain that made me black out. Seconds later, I came to, but my leg would not move. When I looked down, it was bent in the wrong place, and I could see the bone pushing against my skin.

My decision to pursue a sport, not for the joy of it, but instead to impress someone that I did not even know, put me in the hospital for two weeks. I had two surgeries, screws put into my bone, and a cast on my leg for six months. Adding insult to injury, walking on crutches didn't get the girls' attention either! It was a Lose/Lose situation.

You would think that I might have learned a lesson from that experience, but for years afterward, I repeated it again and again. I would pursue jobs, relationships, even leisure activities for the wrong reasons. In short, I was not true to myself. Sometimes when others are persuading us, we find ourselves doing things that make us feel uncomfortable. We ignore those feelings because we want to be accepted. Peer pressure doesn't end at age 18, it continues until we learn to listen to our feelings.

When we are motivated by something that makes us feel anxious, nervous or ill at ease, we need to pay attention to that feeling, and find its root. When we do, we will most likely find that we are uncomfortable because we are living a lie. I have learned that pursuing interests that bring me joy also give me confidence. My confidence then attracts people who want to be with me for who I am; and situations that generate greater satisfaction. I have finally found the formula for a Win/Win situation!

--

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.

INTERNATIONAL YEAR OF CHEMISTRY CONTINUES IN 2012

For only the second time in its 44-year history, the International Chemistry Olympiad (IChO) will be hosted in the U.S. (from July 21-30, 2012). IChO provides chemistry students the opportunity to compete at the highest levels and establish networks that go beyond cultures and borders. As part of its ongoing commitment to science, technology, engineering and math (STEM) education, The Dow Chemical Company is investing \$2.5 million to bring the IChO to the U.S. for the first time since 1992. The American Chemical Society (ACS), a not-for-profit organization chartered by the U.S. Congress and the world's largest scientific society, will be the event host.

"As a global company with operations in more than 40 participating nations, Dow sees the International Chemistry Olympiad as a prime opportunity to help inspire the next generation of scientists," said Andrew Liveris, Dow Chairman and CEO. "With more than 95 percent of all manufactured products requiring some level of chemistry, highly educated and inspired scientists will help ensure a sustainable future for our company, our planet and our communities."

More than 70 nations will send teams of four students for the ten-day event of exams, laboratory work and scientific and cultural excursions based at the University of Maryland, College Park, outside Washington, D.C. Competition will cover several areas of chemistry, including: analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry and spectroscopy. Qualifying student teams are typically chosen through a series of regional and national Olympiads.

For more information about the International Chemistry Olympiad, visit www.icho2012.org.

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e-mail address
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CALENDAR

April 19: Chicago Section ACS Dinner Meeting. This is a Thursday meeting. **See details in this issue.**

April 22: Earth Day; The theme is "Rethinking Recycling-It's Easy to Be Green"

May 18: Chicago Section ACS Gibbs Award Banquet and Lecture.

May 20-24: ASMS Conference on Mass Spectrometry, Vancouver, BC, Canada. For further information, go to: www.asms.org.

May 31: The first New York Times College Life Fair in Chicago providing students and their families with an introduction to the college experience from 9AM to 2:30PM and from 5PM to 8PM at Navy Pier. For more information and to register, go to: www.nytimes.com/collegefair.

June 5-9: Central ACS Regional Meeting (CERMACS), Dearborn, MI. For information, go to www.acs.org/meetings/regional.

June 18-20: 16th Annual Green Chemistry & Engineering Conference, Washington, DC. For further information, go to <http://www.acs.org/gci>

June 21: Chicago Section ACS Distinguished Service Award and 50 & 60-year members honored.

August 10-19: ACS Illinois Sections' cooperative tent project at the Illinois State Fair in Springfield. For further information on this fun and worthwhile outreach activity, contact the section office at 847-391-9091. Also, visit website <http://chicagoacs.org/statefair/index.html>

August 19-23: 244th ACS National Meeting & Exposition, Philadelphia, Pennsylvania

September 20: Chicago Section ACS Meeting at Benedictine University in Lisle. This is a Thursday meeting.

October 21-27: National Chemistry Week (NCW); NCW is 25 years old.

October 24-27: Midwest ACS Regional Meeting (MWRM), Omaha, NE. For information, go to www.acs.org/meetings/regional.

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.

2012 Issue Deadline

June	May 4
September	July 20
October	August 31
November	September 28
December	October 26

CHEMICAL SAFETY RESOURCES

Safe chemical practices are the most basic and fundamental parts of chemistry education. The ACS Committee on Chemical Safety provides many resources for teaching safe chemistry, handling chemicals, safe facilities, design and operation. For further information, visit the acs.org website and search the keyword "chemical safety".

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JOB CLUB

The next meeting of the Chicago Section **ACS Job Club** will be held on Thursday, **April 19 at 5:00 p.m. at Viceroy of India**. 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 \$15 and you can continue your networking activities. Please call the Section office for reservations and indicate that you are eligible for a discount.

Also, the Chicago Section's website has a link to the Job Club's yahoo job forum group. If you can't attend the Job Club, you can still find out about job openings and other information.

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