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MAY • 2006

## THE NINETY-FIFTH PRESENTATION OF THE WILLARD GIBBS MEDAL

(Founded by William A. Converse)

to

PROFESSOR JACQUELINE BARTON

sponsored by the

CHICAGO SECTION AMERICAN CHEMICAL SOCIETY

FRIDAY, MAY 12, 2006

Chateau Rand  
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### DIRECTIONS TO THE MEETING

#### From Chicago or points South

Take the Tri-State tollway (I-294) north to Dempster. Exit west, and almost immediately turn right/north onto Rand Road, Route 12. Go northwest on Rand Road until you pass Golf Road, Route 58. Chateau Rand is on the right just beyond Golf Road.

#### From the North on I-294

Take I-294 South to Golf Road, Route 58. Exit west and travel less than two miles to Rand Road, Route 12. Turn right/north and Chateau Rand is on the right almost immediately.

**Parking:** Free

**RECEPTION** 6:00-7:00 P.M.  
Hors-d'oeuvres  
Open Bar

**DINNER** 7:00 P.M.

Dinner reservations are required. To reserve your tickets, please call the Chicago Section office at **847-647-8405**, register at <http://ChicagoACS.org> by Friday, May 5 and pay \$40 at the door, or fill out the **enclosed reservation form** on page 7 and mail it with a payment of \$40 by Friday, May 5 to the section's office: The Chicago Section, 7173 N.

Austin, Niles, IL 60614.

Tables of 10 may be reserved. If you request seating for a group, please include a list of names of the people in your group and their meal choices. Tickets and nametags will be available at the door. No refunds will be made after noon, on Friday, May 5, 2006.

*(continued on page 2, column 3)*

**AWARD CERMONY** 8:30 PM

### The Willard Gibbs Medal

Dr. Barbara Moriarty, Chair  
Chicago Section, ACS

### Introduction of the Medalist

Dr. Peter B. Dervan  
Bren Professor of Chemistry  
California Institute of Technology

### Presentation of the Medal

**Citation:** For seminal work in the study of the structure and dynamics of DNA. This work is fundamental to our understanding of the molecular chemistry of DNA and its relevance to the development of diseases and inherited abnormalities.

### NOTICE TO ILLINOIS TEACHERS

The Chicago Section-ACS is an ISBE provider of professional development units for Illinois teachers. Teachers who register for this month's meeting will have the opportunity to earn up to 3 CPDU's.

### Acceptance of the Award



**Dr. Jacqueline Barton**  
Arthur and Marian Hanisch Memorial  
Professor of Chemistry  
California Institute of Technology

### Acceptance Address:

**"DNA Charge Transport Chemistry  
and Biology"**

**Abstract:** Charge migration through the DNA base stack results in oxidative damage 200 angstroms from the site of the remotely bound oxidant, but this reaction from a distance is exquisitely sensitive to perturbations in the intervening base stack. Photophysical, elec-

*(continued on page 2)*

*(continued from page 1)*

trochemical and biochemical experiments have been conducted to characterize this chemistry and to explore the consequences of long range oxidative DNA damage, the applications with respect to DNA sensing, and the opportunities for long range signaling within the cell.

### Biographical Sketch:

Dr. Jacqueline K. Barton is the Arthur and Marian Hanisch Memorial Professor of Chemistry at the California Institute of Technology. She is a native New Yorker. Barton was awarded the Bachelor of Arts degree summa cum laude at Barnard College in 1974 and went on to receive a Ph.D. in Inorganic Chemistry at Columbia University in 1979 in the laboratory of S. J. Lippard. After a postdoctoral fellowship at Bell Laboratories and Yale University in the laboratory of R. G. Shulman, she became an assistant professor of Chemistry and Biochemistry at Hunter College, City University of New York. In 1983, she returned to Columbia University, becoming an associate professor of chemistry and biological sciences in 1985 and professor in 1986. In the fall of 1989, she joined the faculty at Caltech.

Professor Barton has pioneered the application of transition metal complexes as tools to probe recognition and reactions of double helical DNA. Using chiral coordination complexes, matching their shapes, symmetries, and functionalities to sites along the strand, she has designed octahedral metal complexes which recognize nucleic acid sites with affinities and specificities rivaling DNA-binding proteins. These synthetic transition metal complexes have been useful in elucidating fundamental chemical principles which govern the recognition of nucleic acids, in developing luminescent and photochemical reagents as new diagnostic tools, and in laying a foundation for the design of novel chemotherapeutics and biosensors. With these transition metal probes, she has also carried out seminal studies to elucidate electron transfer chemistry mediated by the DNA double helix. This work provides a completely new approach to the study of DNA structure and dynamics and may be critical to understanding DNA damage and repair within the cell.

She has received numerous awards. These include the Alan T. Waterman Award of the National Science Foundation (1985), and the ACS Award in Pure Chemistry (1988). She has also received the ACS Eli Lilly Award in Biological Chemistry (1987), the ACS Baekeland Medal (1991), the Fresenius Award (1986), the ACS Garvan Medal (1992), the ACS Tolman Medal (1994), the

Mayor of New York's Award in Science and Technology (1988), the Havinga Medal (1995), the Paul Karrer Medal (1996), the ACS Nichols Medal (1997), the Weizmann Women and Science Award (1998), the ACS Ronald Breslow Award in Biomimetic Chemistry (2003) and the Joseph Priestley Award of Dickinson College and the ACS (2004). She was a fellow of the Sloan Foundation, a Dreyfus Teacher-Scholar, and an NSF Presidential Young Investigator. She is a recipient of a prestigious MacArthur Foundation Fellowship (1991) and has been elected a fellow of the American Academy of Arts and Sciences (1991), the American Philosophical Society (2000), and the National Academy of Sciences (2002).

She has received honorary doctorates of science from Knox College (1991), Williams College (1992), New Jersey Institute of Technology (1993), Kenyon College (1994), Lawrence University (1994), Skidmore College (1997), and Hamilton College and Yale University (2005), as well as university medals from Barnard College (1990) and Columbia University (1992). She has, in addition, served the chemical community through her participation in a wide range of governmental and industrial boards and advisory committees.

*(continued from page 1)*

The cost of the dinner is \$40 for members and guests. The cost to non-members is \$42. The cost for students, unemployed members and retirees is \$20. **Note: Professors must make student reservations.**

Seating will be available after the dinner for people not attending the dinner but interested in hearing the speaker.

**THE MENU:** Cream of Asparagus soup; Caesar Salad; a choice of Mixed Grill (Filet Mignon and Chicken Breast) or Salmon Filet; Twice Baked Potato; Medley of Vegetables; and Ice Cream with Assorted Sweets; Wine. A vegetarian entrée is available on request.

## YOUNGER CHEMISTS COMMITTEE NEWSLETTER

News Flash: The YCC Newsletter Has Gone Electronic!

The ACS National YCC newsletter will only be sent electronically. Sign up for our e-mail notification system! It's easy—just visit our Web site and follow the signup link! Even if you choose not to receive our e-mails, you can always read the newsletter on our Web site, [chemistry.org/ycc](http://chemistry.org/ycc)  
See you on the Internet!

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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 their science literacy. Please cut it out and pass it on to your children, grandchildren, or elementary school teachers. It is hoped that teachers will incorporate some of the projects in this column into their lesson plans.

### Fudge Factor

Kids, what is it about the texture (the "mouth feel") of fudge that just makes it taste so good? Did you know that this texture can be defined by crystals? Little teeny sugar crystals that are completely surrounded by a very concentrated sugar syrup. So, in making your own fudge, you are actually doing your own science experiment in making crystals.

As a demonstration, you'll need a heavy-duty 2-quart saucepan, a wooden spoon, 2 cups sugar and 2 cups H<sub>2</sub>O. Combine the sugar and water in the saucepan and have an adult partner bring to a boil on a stove. You're also going to need a really good thermometer. The best one is a digital candy thermometer. When all of the sugar crystals dissolve, a syrup is created. On a molecular level, the solution's not too hot, so the molecules are moving around slowly and they are more attracted to the surrounding water than they are each other.

Put on the lid for three minutes. The trapped steam will condense on the lid, roll down the sides, and dissolve any sugar crystals that might be stuck there, waiting to set off a chain reaction of crystallization. Take off the lid and put in the thermometer. As the solution boils it becomes more concentrated because the water can escape as steam but the sugar can't. As a result, the temperature of the solution begins to rise beyond 212°F. So not only are the sugar molecules moving around a lot faster now, they don't have near as much room to move in. In other words, this solution is concentrating. Now, by watching the temperature, you can gauge when the concentration is right for forming the crystals. This controls the candy of your choice.

An adult partner can try this with a wooden spoon. When a small dollop of syrup is dropped into cold water, it behaves in a very specific way that depends on the sugar concentration. From 230-234°F, it forms soft threads. Between 234-240°F, it forms a soft ball, which is just right for fudge or pralines. Between 244-250°F, you get a firm ball,

good for caramels. From 250-266°F, you get a hard ball (great for nougat). Taffy makers wait for 270-290°F when hard but pliable threads form in the water. Threads also form between 300-310°F. These are very brittle but perfect for hard candies, brittles and lollipops. The section's web-site version of this article shows pictures of all these stages.

Let the syrup cool completely and then dispose it. The reference below has a true fudge recipe; the trick is to keep the crystals small enough by proper temperature and vigorous stirring. Big crystals make grainy fudge. Yuk!


Can you make decent fudge in a microwave? No. But you can make a nice fudge-like candy and it's a whole lot safer. Cut up 2 sticks of unsalted butter and add a cup of peanut butter in a microwave-safe bowl. Stir until it is smooth. Cover with plastic wrap, poke a couple of holes for steam, and microwave on high for 2 minutes. Since we're not making a syrup, the large amount of fat here will make a liquid thick enough for the crystals to be suspended. Carefully remove the plastic wrap just enough to get a wooden spoon in. Give it a good stir, re-cover, and microwave on high for another 2 minutes of cooking. It's really hot now, so use oven mitts. Add 1 tsp vanilla and 16 oz powdered sugar. Stir until the luster is gone (it gets so thick that a potato masher works best). Scoop into a well-greased 8" x 8" glass baking dish and put in the refrigerator.


Reference: Alton Brown of TV Food Network's "Good Eats" at <http://www.godeatsfanpage.com/Season7/Fudge/fudgefactor.htm>

EDITED BY K. A. CARRADO,  
ARGONNE NATIONAL LABORATORY

All past "ChemShorts": <http://membership.acs.org/C/Chicago/ChmShort/kiindex.html>

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## THE WILLARD GIBBS AWARD

Founded by William A. Converse

The award was founded in 1910 by William Converse (1862-1940), a former chairman and secretary of the Chicago Section. The medal was named for Professor Josiah Willard Gibbs (1839-1903) of Yale University. Gibbs, whose formulation of the Phase Rule founded a new science, is considered by many to be the only American born scientist whose discoveries are as fundamental in nature as those of Newton and Galileo.


Mr. Converse supported the award personally for a number of years, and then established a fund for it in 1934 that has subsequently been augmented by the Dearborn Division of W. R. Grace & Co. J. Fred Wilkes and his wife have also made considerable contributions to the award. Since the sale of the Dearborn/Grace division to Betz, the BetzDearborn Foundation, located in Horsham, Pennsylvania has most generously offered to continue the historic relationship between the Section and Dearborn. This Foundation has contributed annually since the purchase toward the Willard Gibbs Medal Fund to help defray the cost of the medal and of the banquet itself—helping to make the banquet award the outstanding and gracious event that it is. We are most appreciative of their support.

The purpose of the award is "To publicly recognize eminent chemists who, through years of application and devotion, have brought to the world developments that enable everyone to live more comfortably and to understand this world better." Medalists are selected by a national jury of eminent chemists from different disciplines. The nominee must be a chemist who, because of the pre-eminence of his work in and contribution to pure or applied chemistry, is deemed worthy of special recognition.

The award consists of an eighteen-carat gold medal having, on one side, the bust of J. Willard Gibbs, for whom the medal was named. On the reverse is a laurel wreath and an inscription containing the recipient's name.

Given annually for ninety-three years, the recipients span more than three-quarters of a century of chemistry. Most of the names are familiar to chemists regardless of specialty. This fame may result from later recognition, including, in many cases, the Nobel Prize. Another reason for the familiarity of these names may be that textbooks have permanently associated many of these names with classic reactions or theories. In any case, the fame achieved by the Gibbs medalists has crossed the boundaries between chemistry specialties.

Svente Arrhenius	1911	Bert Lester Vallee	1981
Theodore W. Richards	1912	Gilbert Stork	1982
Leo H. Baekeland	1913	John D. Roberts	1983
Ira Remsen	1914	Elias J. Corey	1984
Arthur A. Noyes	1915	Donald J. Cram	1985
Willis R. Whitney	1916	Jack Halpern	1986
Edward W. Morley	1917	Allen J. Bard	1987
William M. Burton	1918	Rudolph A. Marcus	1988
William A. Noyes	1919	Richard B. Bernstein	1989
F. G. Cottrell	1920	Richard N. Zare	1990
Mme. Marie Curie	1921	Gunther Wilke	1991
Julius Stieglitz	1923	Harry B. Gray	1992
Gilbert N. Lewis	1924	Peter B. Dervan	1993
Moses Gomberg	1925	M. Frederick Hawthorne	1994
Sir James Colquhoun Irvine	1926	Sir John Meurig Thomas	1995
John Jacob Abel	1927	Fred Basolo	1996
William Draper Harkins	1928	Carl Djerassi	1997
Claude Silbert Hudson	1929	Mario J. Molina	1998
Irving Langmuir	1930	Lawrence F. Dahl	1999
Phoebus A. Levene	1931	Nicholas J. Turro	2000
Edward Curtis Franklin	1932	Tobin J. Marks	2001
Richard Willstätter	1933	Ralph Hirschmann	2002
Harold Clayton Urey	1934	John I. Brauman	2003
Charles August Kraus	1935	Ronald Breslow	2004
Roger Adams	1936	David A. Evans	2005
Herbert Newby McCoy	1937		
Robert R. Williams	1938		
Donald Dexter Van Slyke	1939		
Vladimir Ipatieff	1940		
Edward A. Doisy	1941		
Thomas Midgley, Jr.	1942		
Conrad A. Elvehjem	1943		
George O. Curme, Jr.	1944		
Frank C. Whitmore	1945		
Linus Pauling	1946		
Wendell M. Stanley	1947		
Carl F. Con	1948		
Peter J. W. Debye	1949		
Carl S. Marvel	1950		
William Francis Giauque	1951		
William C. Rose	1952		
Joel H. Hildebrand	1953		
Elmer K. Bolton	1954		
Farrington Daniels	1955		
Vincent du Vigneaud	1956		
W. Albert Noyes, Jr.	1957		
Willard F. Libby	1958		
Hermann I. Schlesinger	1959		
George B. Kistiakowsky	1960		
Louis Plack Hammett	1961		
Lars Onsager	1962		
Paul D. Bartlett	1963		
Izaak M. Kolthoff	1964		
Robert S. Mulliken	1965		
Glenn T. Seaborg	1966		
Robert Burns Woodward	1967		
Henry Eyring	1968		
Gerhard Herzberg	1969		
Frank H. Westheimer	1970		
Henry Taube	1971		
John T. Edsall	1972		
Paul John Flory	1973		
Har Gobind Khorana	1974		
Herman F. Mark	1975		
Kenneth S. Pitzer	1976		
Melvin Calvin	1977		
W. O. Baker	1978		
E. Bright Wilson	1979		
Frank Albert Cotton	1980		



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**ANALYSIS FOR THE CHEMICAL ELEMENTS**

### Successful Women in Chemistry Book

If you do not have your copy of the ACS National's Women Chemists Committee (WCC) book "Successful Women in Chemistry: Corporate America's Contribution to Science," it is not too late to order this ACS symposium series, which highlights the careers of some of today's successful women in the scientific field. To order your book, call the Oxford University Press at 1-800-451-7556 for information. Please be sure to reference the ISBN number 0-8412-3912-6.

## WCC COLUMN

Members of the Chicago Section's Women Chemists Committee (WCC) are developing outreach plans for Chicago Area section members and the community. These plans include a column in *The Chicago Bulletin* covering topics such as networking, career development, and vignettes of women in chemistry. This month's topic is about **Fran Seabright (May 17, 1912 - January 27, 2005)**.

Frances Krausz Seabright, a long time member of the Chicago Section ACS was known for her many enthusiasms -travel, flowers, butterflies, volunteering, and especially friendliness.

Fran was born in the Upper Peninsula of Michigan, where her father was a machinist for a copper mining company. When the mine closed down because of a strike, the family moved to the Portsmouth, Ohio area, where Fran attended school. Her father treated her to her first airplane ride, over the city of Columbus, Ohio, while she was in high school. This started her interest in travel. She then attended Ohio University in Athens, Ohio, majoring in math and chemistry, and earning a B.S. in Education in 1934. She had a teaching position in Portsmouth in 1934, earning a salary of \$792 for her first year. She taught in several schools, including high school, until 1938. During summers, she attended Ohio State University, graduating in 1937 with an M.S. in chemistry.

Fran's first extended trip was a two-month long driving tour of southern and western United States and part of Mexico, with her sister and two friends, during the summer of 1938. She then entered a Ph.D. program in chemistry at the University of Iowa, Iowa City, but dropped out to marry Larry Seabright in 1939. They had met at OSU where Larry was also studying for a M.S. in chemistry. As a Christmas gift, the year before they were married, Larry gave Fran a membership in the American Chemical Society, which she kept up all her life.

The Seabrights moved to Chicago, and Fran began working for Sears, Roebuck & Co., where she tested pharmaceuticals, household equipment, and products made using substitute materials (this was 1942). Her supervisor recommended her for membership in Iota Sigma Pi, where she served as president of the Aurum Iodide (Chicago) chapter in 1966 and as national secretary in 1981.

After moving to Elmhurst, IL in 1941,

Fran taught chemistry at Elmhurst College for two years, working summers at Columbus Labs in Chicago. She also taught at St. Xavier College a year. During this time, her two children, Robert and Carol were born. From 1950-1953, Fran worked at Coleman Instruments in Maywood. She made pellets to control the pH of solutions.

The long association with the University of Illinois in Chicago began in 1953 with Fran teaching chemistry at the Navy Pier campus. She moved to the new campus at Chicago Circle in 1964. From about 1970 on, she combined teaching chemistry and serving as a supervisor for student teachers in public and parochial school with being a student advisor of students in both chemistry and other fields in the College of Liberal Arts. She became an assistant professor a few years before her retirement in August 1980.

Not content to be idle in retirement, she first obtained a real estate license, then began her travel agent career at Best Travel. She became a member of the American Society of Travel Agents and enjoyed many familiarization (fam) trips around the world. In the last year of her life (at the age of 92), she realized her goal of traveling on all seven continents of the world, by taking a trip to the Antarctic, a trip that would daunt many of us.

The Seabrights were members of the Elmhurst United Methodist Church, and Fran belonged to many of the women's groups. She did the flower arrangements for the church Sunday services and for many other occasions. She was also a member of the Elmhurst Women's Club, the League of Women Voters, the local AAUW chapter, Delta Kappa Gamma (an honorary education society), and was an election judge and a volunteer at the Elmhurst Historical Museum. She also worked out and swam several times a week at "The Courts" in Elmhurst.

Fran Seabright was an early member of the "Women in Chemistry" group that combined industrial experience, an academic career, and family and community responsibilities. Her wide range of interests and tireless energy made her a valued friend. Some of us remember her at the last ACS dinner meeting she attended (the Friday before she died) having an interesting conversation with several Northwestern University students at her table.

MARILYN KOUBA

**Note:** Most of this biographical material was supplied by Frances Seabright's son-in-law, Robert Christensen who has written a biography of her.

## ILLINOIS STATE FAIR Volunteers Needed

The Chicago Section, along with the other Illinois sections of the ACS, are planning to again have a cooperative tent at the Illinois State Fair this summer. The Illinois State Fair is from August 11-20 in Springfield. Our joint-sections' tent activities provide information to the public on chemistry by way of demos, hand-on activities, literature, and give-aways. These activities give us a chance to touch the lives of many Illinois citizens and governmental leaders. Last year, over 11,000 people visited our tent.

We are looking for volunteers to help during the fair and also to help in planning this project. Our first planning meeting for this year was in February via a conference call. If you are interested in helping for a few hours during the State Fair in August (you do get free admission and parking), helping on the planning committee for the tent activities, or if you think your company may be able to give a much-needed donation (monetary or in supplies) — just e-mail Cheryl Bradley at [CBRAD1027@aol.com](mailto:CBRAD1027@aol.com) or call the Section office at (847) 647-8405.

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## ALMA E-NEWS

### Teamwork

Teamwork is one of the basic tenants of quality management and is preached as gospel by managers, consultants, and business thinkers. Cross-functional teams have been enthusiastically embraced by most large and middle-sized companies and it is accepted that a person must be a "team player" to progress in the organization.

However, in looking at the track record of teams over the years, I have noticed that some teams sub-optimize, under-achieve, or even fail to achieve a lasting solution to the problem that led to their creation. While the members of these cross-functional teams do contribute their special expertise, they also bring their biases and department politics with them. Solutions contrary or disadvantageous to their political interests may be discarded in order to achieve consensus even though these solutions may be in the best interest of the business. Companies sometime perpetuate this sub-optimal performance by rewarding team participation rather than rewarding hard, measurable results obtained over a year or more. As managers, we need to hold teams accountable for results and judge them by measurable performance standards just as we do for individual contributors. Recognizing and rewarding only team participation does a disservice to the individual, the team, and the company.

If you have any comments, cost saving suggestions, or opinions, contact me at the email address below.

Past ALMA (Analytical Laboratory Managers Association) e-News articles by Dr. Wayne Collins, a former ALMA President, are available at the website <http://www.labmanagers.org/>. This one is from the July 2001 edition.

WAYNE COLLINS  
wayne.collins@thermo.com

### POP TOP RINGS COLLECTION

Instead of throwing away those pop top rings from your pop cans, please bring them to the dinner meeting so we can donate them to a program at Ronald McDonald House.

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## CALENDAR

**May 12:** The Chicago Section's Willard Gibbs Award Banquet Meeting at the Chateau Rand Banquets in Des Plaines, IL. **See cover page of this issue.**

**May 12-17:** North American Membrane Society 17th Annual Meeting, Chicago Renaissance Hotel. This conference brings together some of the world leaders in membrane technology from academia as well as a diverse range of industries, such as petrochemical, food, pharmaceutical, and chemical, that utilize membrane processing technologies. For more detailed program information or to register, visit [www.membranes.org](http://www.membranes.org).

**May 13-18:** American Industrial Hygiene Conference and Exposition, Chicago. For more information, go to <http://www.aiha.org>.

**May 17-20:** The 37th ACS Central Regional Meeting will be in Frankenmuth, Michigan during their World Festival of Beer. CRM will open with Jean Michel Cousteau speaking on Ecology and Economics of the Sea and end with a two-day silicon symposium. Visit their website at [www.crm2006.org](http://www.crm2006.org)

**May 28-June 1:** The 54th ASMS Conference on Mass Spectrometry, Washington State Convention and Trade Center, Seattle, WA. For more information go to [www.asms.org](http://www.asms.org) or call (505) 989-4517.

**May 31-June 2:** The Great Lakes Regional Meeting, Hyatt Regency Hotel, Milwaukee, WI. The theme is "A Festival of Chemistry in the City of Festivals". For more information, go to [chemistry.org/meetings/regional](http://chemistry.org/meetings/regional).

**June 4:** The fourth Climate Change Forum, "How Can We Continue to Meet Our Energy Needs without Jeopardizing Our Future", Chicago Cultural Center, 10 am to 1 pm.

**June 23:** Chicago Section Dinner Meeting. The after-dinner speaker is Dr. Penny Le Couteur, Dean of Arts & Sciences, Capilano College, North Vancouver, British Columbia. She is the co-author of the book "Napoleon's Buttons - How 17 Molecules Changed History" and she will speak about how her book was developed and several of the stories within the book.

**June 26-30:** High Performance Liquid Chromatography: Fundamentals, Troubleshooting, and Method Development course, Axion Analytical Laboratories, 14 North Peoria St., Suite 100, Chicago. For details, contact Lee Polite at (312) 243-2153 or [lee@axionlabs.com](mailto:lee@axionlabs.com). The course will also held October 23-27.

**June 26-30:** 10th Annual Green Chemistry & Engineering Conference, Washington, DC. The theme is "Designing for a Sustainable Future". To learn more about the conference, please visit the conference website: [www.greenchem2006.org](http://www.greenchem2006.org)

**July 10-14:** McCrone Research Institute will host the Inter/Micro 2006 conference in Chicago, IL. Full information on the event will be on website, [www.mcricri.org](http://www.mcricri.org).

**August 11-20:** Illinois ACS Sections' joint tent activities at the Illinois State Fair - including chemistry demonstrations, hands-on activities, give-aways, and daily raffle. Contact the Section office at (847) 647-8405 if you would like to volunteer to help.

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