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NOVEMBER • 2004

# CHICAGO SECTION AMERICAN CHEMICAL SOCIETY

Joint Meeting of the University of Chicago Department of Chemistry and the Chicago Section ACS
Julius Stieglitz Award Lecture,
Dinner and Presentation

# FRIDAY, NOVEMBER 19, 2004

Drury Lane Oakbrook 100 Drury Lane Oakbrook Terrace, IL 630-530-8300 The English Room

### **DIRECTIONS TO THE MEETING**

From the North or South: Take 294 to I-88 West. Exit Cermak Rd. (22nd Street). (The exit is just past the toll booth.) Cross Cermak and proceed north on Spring Road. Continue north on Spring Road. The road jogs left at 16th Street, but do not go west on 16th. Bear to right, continue on Spring Road going north which narrows after this slight jog. Go past Oakbrook Terrace Tower to Drury Lane Road, and turn left (west) into the Hilton Hotels/Drury Lane Dinner Theatre Complex.

From Downtown: Take 290 West (Eisenhower) to I-88 West. Exit Cermak Rd. Follow the directions above to the hotel.

From the West: Take I-88 East and exit at Midwest Road, turn right, proceed to Butterfield Road (Route 56) and turn right. Watch closely and follow the signs to Drury Lane so you don't end up on the wrong road.

### **FREE PARKING**

UNDERGRADUATE RESEARCH SYMPOSIUM: 4:00-5:00 P.M.

JOB CLUB:

5:00-5:45 P.M.

**TOPICAL GROUP:** 

5:30-6:30 P.M.

"Illuminating the Structure and Self-Assembly of Alzheimer's β-Amyloid Fibrils" presented by Dr. Robert Botto, Chemistry Division, Argonne National Laboratory
See page 2 for more information.

SOCIAL HOUR (Cash Bar):

6:00-7:00 P.M.

DINNER

7:00 P.M.

Menu: Fresh Fruit Panache; Spinach Mandarin Salad; Steak with Bearnaise sauce and Vesuvio Potatoes, Baked Scrod with long-grain and wild rice blend, or Vegetarian Spinach and Ricotta Rotolo; buttered broccoli; fresh baked bread and butter; Deep-dish Dutch Apple Pie with Cinnamon Cream and Caramel Sauce; beverage.

Dinner reservations are required and should be received in the Section Office via phone (847-647-8405), fax (847-647-8364), email (chicagoacs@ ameritech.net), or website (http:// ChicagoACS.org) by noon on Tuesday, November 16. The dinner cost is \$30 to Section members who have paid their local section dues, members' families, and visiting ACS members. The cost to non-Section 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. PLEASE HONOR YOUR RESERVATIONS. The Section must pay for all dinner orders. Noshows will be billed.

PRESENTATION OF STIEGLITZ LECTURE

8:00 P.M.



Dr. Eloy Rodriguez James A. Perkins Professor of Biology and Natural Products Chemistry Cornell University, New York

Topic: "Chemical Novelty from the Amazonian Jungles and Caribbean Seas: Playgrounds for Synthetic Organic Chemists and Chemical Biologists"

Abstract: The biosynthesis that leads to the chemical diversity among simple and complex organic molecules in natural environments is indeed the spice of life in the tropical regions of the world. Amazonian spiders, plants, insects, birds and fish continue to evolve novel

(continued on page 2)

# 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 up to 5 CPDU's.

(continued from page 1)

organic chemical structures that are used in animal defense, fitness, mating, repulsion and attraction. In many cases those molecules inhibit key biological processes and with a skill surpassing the genius of synthetic organic chemists, various organisms convert highly toxic molecules into life-savings miracles.

In this presentation, highlights of drug discovery from my laboratories at UC Irvine, Cornell and the Amazon will be presented. The biological importance of complex molecules, ranging from Amazonian derived viagra-like cocktails to apoptosis-inducing (cancer-cell death) alkaloids, to those found in chemical secretion from certain birds, that have been found to kill parasites, bacteria and viruses, will be described. The birds obtain the toxic molecules by ingesting poisonous ants as a part of their diet.

The talk will highlight the highly interdisciplinary nature of this research, pointing out the necessity of using organic chemistry, chemical biology and ecology in the important and neverending search for novel molecules that will cure diseases, relieve suffering and just coincidentally, furnish great challenges for synthetic organic chemists.

Biography: Professor Eloy Rodriguez is the James A. Perkins Professor of Biology and Natural Products Chemistry at Cornell University in New York. He has published over 160 research articles, 2 books and presented invited lectures throughout the US, Europe, Latin America and Asia.

He received his Ph.D. with the organic chemist Dr.Tom Mabry at the University of Texas, Austin in 1975 and conducted postodoctoral research in the laboratory of Dr. G.H.N. Towers at the University of British Columbia, Canada. He was visiting professor in Medicinal Chemistry at UC San Francisco and in the Chemistry Department at the University of Miami.

He is currently an endowed Professor in Plant Biochemistry and Environmental Toxicology at Cornell and has trained over 16 Ph.D. students in Chemistry and Chemical Biology of Natural Products. He has also provided research training to over 350 undergraduate students, of which a large number have been underrepresented US minorities and women.

He is very interested and involved in K-8 science education as shown by his creation of KIDS — Kids Investigating and Discovering Science, a program which is aimed at K-8 students. The focus of the program is to develop critical thinking and a love for chemistry and biology. His research is funded by NIH, NSF, Hughes Medical Institute and private foundations.

# **TOPICAL GROUP SPEAKER**



Dr. Robert E. Botto "Illuminating the Structure and Self-Assembly of Alzheimer's β-Amyloid Fibrils"

Abstract: Alzheimer's Disease is characterized histopathologically by the deposition of amyloid plagues, especially in areas of neuron loss. The primary component of these plaques is a 39-43 amino acid peptide called β-amyloid (AB). Specific interpeptide distance constraints are determined with dipolar recoupling NMR on fibrils prepared from a series of singly labeled peptides containing 13C-carbonyl-enriched amino acids, and skipping no more that three residues in the sequence. From these studies, we demonstrate that the peptide adopts the structure of an extended parallel β-sheet in-register at pH 7.4. Analysis of NMR data indicates interstrand distances of 5.3 ± 0.3 Å (mean ± standard deviation) throughout the entire length of the peptide. Intrastrand NMR constraints, obtained from peptides containing labels at two adjacent amino acids, confirm these findings. Using peptides with 13C incorporated at the carbonyl position of adjacent amino acids, structural transitions from  $\alpha$ -helix to  $\beta$ sheet were observed at residues 19 and 20, but using similar techniques, no evidence for a turn could be found in the putative turn region comprising residues 25-29. SAXS and SANS were used to characterize long-range order. Implications of this extended parallel organization for Aβ(10-35) for overall fibril formation, stability, local disorder, and morphology based upon specific amino acid contacts will be discussed.

**Biography:** Robert E. Botto is a chemist/spectroscopist at Argonne National Laboratory. He received his A.B. in Chemistry from Rutgers University and his M.S. and Ph.D. in Organic Chemistry from Michigan State University.

Robert has received several honors, including the Pacesetter Award,

Argonne National Laboratory (1995); National Research Council Research Fellow, National Bureau of Standards (1979-81); NATO Grant Award (1977); Merit Teaching Award, Michigan State University (1973).

He has been a National Tour Speaker for the Society for Applied Spectroscopy, a co-organizer of the 5th and 7th Int'l Conferences on Magnetic Resonance Microscopy, session chairman of "Applications of NMR to Complex Systems," at the fall 1999 ACS National Meeting, symposium chairman on "Solid State NMR: Materials Imaging and Polymer Spectroscopy," at the 1995 Chemical Congress of Pacific Basin Societies, U.S. Editor, Journal of "Solid-State NMR", 1994-present, NMR Symposium chairman (1993) and co-chairman (1994) for the Rocky Mountain Conference, editor of the ACS Advances in Chemistry Series, "Techniques in Magnetic Resonance of Carbonaceous Solids," 1993, NMR Laboratory Director, Chemistry Division, 1990-1995. Dr. Botto has several publications and is the co-editor and editor of a number of books on magnetic resonance.

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# "CHEM SHORTS" For Kids

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

### A Chemistry Pie

Kids, we have cooked up a treat for you just in time for Thanksgiving. This activity will involve the baking of an unusual apple pie, one that needs no actual apples. It tastes and looks like apple pie because some tricks of chemistry are used to reproduce the taste of apples, and other ingredients are used to resemble the look and texture of apples. The classic recipe for this ("Mock Apple Pie") can be found on the back of a box of Ritz TM crackers. There are also a few slightly different recipes available on the internet (see the links below for "Chemical Pies").

The classic recipe is repeated here. You will need: two 9-inch pre-made pie crusts, 36 Ritz TM crackers (coarsely broken up), 1-3/4 cups water (H2O), 2 cups sugar (sucrose, C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>), 2 teaspoons cream of tartar (potassium bitartrate or potassium hydrogen tartrate, KC<sub>4</sub>H<sub>5</sub>O<sub>6</sub> or KO<sub>2</sub>CCH (OH)CH(OH)CO<sub>2</sub>H; these are all the same thing!), 2 tablespoons lemon juice and the grated peel of one lemon, 2 tablespoons margarine or butter, and 1/2 teaspoon ground cinnamon. Step 1. Line a 9-inch pie plate with one pastry shell. Place cracker crumbs in the shell and set aside. Step 2. Have an adult partner heat the water, sugar and cream of tartar to a boil in a saucepan and then simmer for 15 minutes. Add the lemon juice and peel, then let it cool. Step 3. When cooled, pour the syrup over the cracker crumbs. Dot with margarine or butter and sprinkle with cinnamon. Cover with the remaining pie shell. Slit top crust to allow steam to escape. Step 4. Bake at 425°F for 30 to 35 minutes. Cool completely and enjoy eating your experiment.

If you were to give a piece of this pie to an unknowing friend or relative telling them that it is apple pie, chances are that they will eat it, like it, and never know the difference. Why does this work so well? The cream of tartar produces a weak acid which, when combined with the other ingredients, produces the tangy taste of apples. The pieces of cracker closely resemble the texture and appearance of apple pie. Our senses of taste and smell are then tricked into thinking that it is, indeed, apple pie. Because our senses can be easily tricked this way, as scientists we must use sensitive instruments to accurately measure and identify substances and the changes that occur around us.

PROVIDED BY K. A. CARRADO, ARGONNE NATIONAL LABORATORY

# References:

http://www.backofthebox.com/recipe s/pies-pastries/ritz-mock-applepie.html

http://collections.ic.gc.ca/science/english/chem/projects/artifical.html http://www.geocities.com/Cape Canaveral/Hall/1410/lab-Food-04.html

http://www.usoe.k12.ut.us/curr/ science/sciber00/8th/matter/sciber/c hempie.htm

All past "ChemShorts":

http://membership.acs.org/C/ Chicago/ChmShort/kidindex.html

# **JOB CLUB**

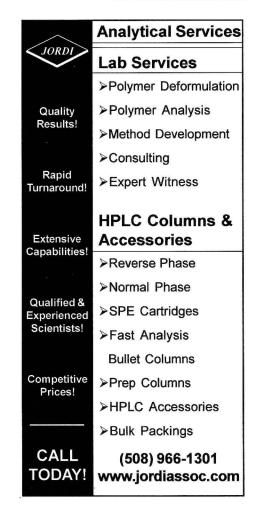
The next meeting of the Chicago Section ACS Job Club will be held on Friday, November 19 at Drury Lane Oakbrook at 5:00 p.m. The meeting will include areview and discussion of some of the fundamental tools that a chemist canuse to conduct a Job Search. The Job Club provides a continuing opportunity for unemployed members of the Section to meet with one another, share their experiences and develop anetwork that may help in identifying employment opportunities. Bring plentyof resumes and business cards to distribute to your colleagues. Be preparedto talk about what kind of job you are looking for.

Several participants have received outsource help with resume preparationand marketing strategies to present their best attributes to prospectiveemployers. The group actually critiqued some individual resumes and madesuggestions for improvements in a positive way!

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

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

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# BUDGET DIRECTOR'S NOTE:

It has come to the attention of the Chicago Section Board that the number of members paying local section dues over the years has decreased. Upon surveying Board members it was noted that if you have your company pay your dues they may not be including your local section voluntary portion of \$15. Please check with your company. You can pay your local section dues direct to the Chicago Section by mailing them to our office at Chicago Section ACS, 7173 North Austin Avenue, Niles, IL 60714.

# REPORT OF COUNCIL MEETING HELD IN PHILADELPHIA ON AUGUST 25, 2004

The 228th National Meeting of the ACS was held in Philadelphia, PA from August 22 - 26, 2004. The Chicago section was fully represented by 12 councilors and 2 alternate councilors. The councilors who attended for the section were: Allison Aldridge, Cherlynlavaughn Bradley, Charles E. Cannon, Nathaniel L. Gilham, Russell W. Johnson, Fran K. Kravitz, Thomas J. Kucera, Claude A. Lucchesi, Barbara E. Moriarty, Seymour H. Patinkin, Marsha Anne Phillips and Stephen Sichak. The two alternate councilors were Susan Shih and Mark Cesa. James Shoffner was also present at the meeting.

Two Chicago Section councilors were recognized for completing their service on ACS governance committees; they were Cherlynlavaughn Bradley (Project SEED) and Barbara Moriarty (Economic and Professional Affairs). In addition, Kenneth Fivizzani was recognized for his service as Chair of the Committee on Chemical Safety. Stephen Sichak was recognized for his 25 years as a member of Council.

**Budget:** ACS is projected to end 2004 \$60,000 favorable to the approved budget, with a net contribution of \$1,531,000 from operations. The Budget and Finance Committee is proceeding with the 2005 budget process. The Board of Directors has approved funding for ChemCensus 2005 and the PROGRESS project. In addition, they announced the decision to sell the Belmont Conference Center.

**Education:** At this meeting the first Academic Employment Initiative (AEI) poster session was held as part of SCI-MIX. This provided 126 candidates seeking faculty positions to interact with recruiters before a more formal campus interview.

Local Section Affairs: The Chicago Section was awarded the Outstanding Local Section Chemluninary Award for Very Large Sections. In addition, the first Local Section/ Division Collaboration Chemluminary Award was won by the Chicago Section and the Division of Professional Relations. The name of the Peoria Local Section was changed to the Illinois Heartland Local section.

Membership Affairs: As of 6/30/04, the Society's membership was 159,945, representing a decline of less than 1% in overall membership. We are continuing to see a 50% increase in the number of recent graduates who join the society.

Meetings and Expositions: Attendance at this meeting was reported to be 13,805 registrants, including 7,741 regular meeting attendees, 1929 exhibitors, 2919 students and 482 guests. The 2005 advance meeting registration fee for members will be \$295.

Economic and Professional Affairs: As of the end of Tuesday, there were 1556 job seekers at Chemjobs Career Center (formerly NECH); there were 107 employers with 303 posted positions available. The number of interviews conducted in Philadelphia, as of the end of Tuesday, was 1639. In addition, there were 150 mock interviews, 206 resume reviews and 30 workshops held in Philadelphia. Council approved an updated edition (7th) of the Professional Employment Guidelines (PEG).

**Project SEED:** Students' stipends will be increased by 30% for next year with the goal of doubling it in four years from its present levels of \$1,750 for SEED I students and \$2,000 for SEED II students. Consequently, for 2005, the students' stipends will be \$2,275 for SEED I and \$2,600 for SEED II.

Constitution and Bylaws: Council approved three amendments to the ACS Constitution. The petition for electronic balloting will allow the option of electronic balloting. The petition to change the annual report deadline for divisions will make the deadline for submitting annual reports by divisions consistent with the deadline for Local Section annual reports. The petition to change the membership requirements for pre-college teachers allows experience to be a factor in their consideration for membership. A proposal to form an Ethic Committee as an Other Committee of the Council was sent back for further study.

Multidisciplinarity Opportunities: At the Spring meeting. President Casev began the idea of spending some time discussing a topic of interest to the ACS. The topic of this meeting's discussion was multidisciplinarity. This topic is of interest to ACS since many members, especially recent grads, are not focusing on traditional fields of chemistry (organic, inorganic, physical or analytical). Between 1970 and 2002, the number of PhD graduates in traditional fields of chemistry dropped from 2,238 to 1,922, while the number of PhDs in chemistry-related fields (i.e. biochemistry, materials science) increased from 1,391 to 2,739. This may mean that new members do not have a strong identity as a "chemist". The ACS wants to make sure that they provide a home for multidisciplinary

chemists. A taskforce has been set up to assess the challenges and identify opportunities. If you have feedback for this taskforce, including comments on what areas are underserved, and/or do we need new structures, send an email to multidiscipline@acs.org.

Bill Carroll's presidential agenda for 2005 will be Chemistry Enterprise 2015. A white paper on the Chemical Enterprise 2015 is available on the web.

Strategic Alliances: At the spring meeting, there was a lot of discussion about a potential merger with the American Institute of Chemical Engineers (AlChE). A merger will not be pursued. However, instead, the ACS and AlChE will work together on some programs to achieve the goals provided in each organizations strategic plan. For instance, the Spring 2008 meeting of each organization will be co-located in New Orleans. In addition, developing the guidelines for initiating strategic alliances are being pursued.

If you have any questions and/or comments about the above actions, please contact me by email (bmoriarty@nalco.com) or one of the other councilors.

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# WCC COLUMN

Members of the Chicago Section's Women Chemist 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, vignettes of women in chemistry. This month's topic is about Jennifer Holmgren.

Jennifer Holmgren is Director of Exploratory and Fundamental Research at UOP LLC. The Exploratory and Fundamentals Department sponsors programs that provide the tools, methods, and skills necessary to support UOP's project portfolio as well as programs which take UOP in new directions. She is also directly accountable for three of UOP's core groups: New Materials Synthesis, Advanced Characterization and Combinatorial Chemistry. Combinatorial chemistry is one of the most significant programs that Jennifer has cultivated at UOP; the critical technology for this program was developed in collaboration with SINTEF (the Norwegian independent research foundation) and Novodynamics, Inc. (NDI), Striatus, Inc. and was partially funded by NIST's Advanced Technology Program (ATP). UOP has commercialized the first heterogeneous catalyst invented using combinatorial chemistry. It is PI-242 and is successfully running in 2 commercial units. Concurrent with her job responsibilities, Jennifer is enrolled in the Executive MBA Program at the University of Chicago's Graduate School of Business.

Jennifer became interested in chemistry in high school. She had been fascinated by science and had already developed an interest in science by reading newspaper accounts of the U.S. space program as a preteen living in Colombia. Her high school chemistry teacher provided the impetus. She loves chemistry and is excited about her work.

She is the oldest of three children. The family came to the U.S. when her father, a skilled aircraft mechanic employed by Avianca, the Colombian airline, took a new assignment. Her mother was a homemaker and worked odd jobs, such as the night shift at the Avianca counter, thus starting a career in the travel industry. Her parents valued education and encouraged Jennifer to develop her interests and skills. One brother is an accountant, another a computer scientist.

Jennifer received a B.Sc. in Chemistry from Harvey Mudd College (1981) in Claremont California. A day before she was graduated, Jennifer marriedDonald Holmgren, now a physicist at the Fermi National Laboratory. Both received the Ph. D. degree from the University of Illinois at Urbana-Champaign; Jennifer's was in Inorganic Materials Synthesis (1986). Her thesis was "The Chemistry of Triruthenium Hydrocarbyls". Then she chose a Post Doctoral appointment at the university as her husband was completing his degree. Her work in NMR Characterization of Sol-gel Derived Ceramics enabled her to be hired in the new materials group at UOP LLC (1987). Jennifer chose industrial employment because she wanted to use chemistry to impact daily lives by commercializing a technology.

Her assignments at UOP have included the preparation and characterization of novel zeolites, molecular sieves and layered materials (clays, pillared clays and layered double hydroxides). In addition she was responsible for the development of microactivity tests for the characterization of novel materials and setting up the infrastructure necessary to develop fundamental mechanistic understanding in UOP's core areas. She also participated on a number of Technology Delivery projects in the BTX (Benzene, Toluene and Xylenes) and Olefins areas.

She was a member of the R&D Reengineering Design Team, which redefined UOP's technology commercialization methodology. She was the first Chair of the R&D Technical Community Organization. She is the author or co-author of 50 US patents, 20 scientific publications and is the 2003 recipient of the Council for Chemical Research's (CCR) Malcolm E. Pruitt Award for pioneering work in establishing combinatorial chemistry techniques, particularly for her successful efforts to extend UOP's external collaborations in research through a NIST ATP grant. These collaborations brought together a consortium of academic and industry partners to create a robust technology platform. By this Jennifer has become a recognized leader in the fields of heterogeneous catalysis and combinatorial chemistry. Jennifer is the first woman to receive the Pruitt Award.

Jennifer attributes her technical successes to her key mentors: her high school chemistry teacher, Mr. Green; her undergraduate thesis advisor, Professor Kubota; her graduate advisor, Professor Shapley; and, Dr. Stan Gembicki, the Vice-President of Research and Technology at UOP, who counseled her on how to best develop a vision for technology growth and an environment under which technology could flourish. Jennifer would like to be identified as someone who created change: either change in the way we do chemical R&D or how we select the

problems we research.

Her spare time activities include walking the family dogs, a Rottweiler mix and a Dalmatian, obtained from a local shelter. She also enjoys hiking, reading and playing pinball.

# Jennifer Holmgren's comments on careers in the chemical sciences:

• What advice would you give a student contemplating chemistry as a career?

Do it. I think there are exciting times ahead for chemists. I think that chemists and chemical engineers will contribute a great deal to creating a sustainable energy future, which I believe is the next big technical challenge of our times.

 What career building blocks are important?

What does one need to do to be effective? Make sure you don't neglect the soft side of your education. I think that science is important but you need to do more than that — you need to really learn to communicate (that includes written and verbal). I loved reading literature and poetry as much as I loved science. I would not have chosen one of those as a career (perhaps that means I loved science more) but Iwould have been a very different person if I hadn't had the opportunity to explore learning outside of my chosen fields. I went to school at Harvey Mudd College, which required us to minor in a social science. So I minored in linguistics. I feel that a well-rounded education will serve you more in life than one that focuses you on your career choice alone.

• Is "good science" sufficient to succeed in a chemistry career?

No. I think you need to be able to communicate. This is critical to get funding to pursue your ideas. Another critical component is teamwork. Teamwork now extends through collaborations (which are becoming more and more critical) to people outside of your company.

• What are the emerging career issues for chemical scientists?

I think the biggest issue is the erosion of the support for chemistry as a field. I think organizations are doing less R&D and therefore there is less of a need for chemists and less interesting career paths for the chemists that remain. I think that will change.

- Has the quality of incoming chemical scientists changed?
   No there are still good (great) people coming in.
- What do you use to decide whether (continued on page 6)

(continued from page 5)

to hire a chemist?

Most critical are ability to think on your feet and depth of technical knowledge. We also look for people that can communicate and get along with others.

 Do you miss laboratory hands-on work? How do you compensate for that?

I do miss lab work. I remember driving in to work wondering if my syntheses had been successful (I opened Parr Reactors early in the morning). I also enjoyed solving technical problems. Usually when you are doing technology/lab work you can complete a task and feel as if you have accomplished something. Outside of the lab- my role is not as task oriented and I work on open-ended activities. It is much harder to feel that you have contributed or "accomplished" something in that environment. Perhaps over a long period (5-10 years) you can see the progress and the impact you are having but certainly not in the near term. One of my friends told me once that I have incredible patience; that's interesting because I approach things with tremendous urgency. But I think the comment reflects that I have a vision of what I want to accomplish and that vision is a 5-10 year plan. So I can take the daily defeats as long as I can see the overall fabric coming together the way I want it to over the longer period.

### · Other issues/comments?

Personal factors to consider. It is very important to seek and listen to advice and consider the possibilities; but the responsibility for decision-making remains with the individual. When picking a career, remember that you are going to spend 30+ years, 8+ hours per day on this. Pick something you love and are going to get excited about, every day.

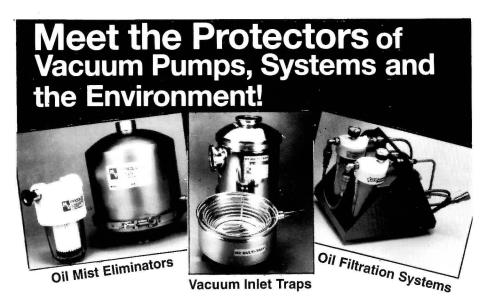
# **FOOD DRIVE**

We will be collecting canned goods for charity at the December Holiday Party. Please bring at least one can of food to donate when you come.

Last year you donated about 500 pounds of food that went to the Loaves and Fishes Community Pantry for distribution. This matched what we collected last year. Let's try to beat last year's record!

INARA BRUBAKER

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# WHO WAS JULIUS STIEGLITZ?

In 1849, Edward Stieglitz, a native of Thuringia, Germany, came to the United States, married, and settled in Hoboken, New Jersey. Three boys and three girls were born to the couple. The oldest boy, Albert, became an internationally known photographer. The other two boys were twins: Julius, the chemist and Leopold, a doctor. Apparently the senior Steiglitzs were not poor. When the older children reached school age, the family moved to New York to assure each child a better education. When they reached the age for secondary schooling, they returned to Germany, where the boys attended Real Gymnasium in Karlsruhe. Then Leopold went to Heidelberg for medicine, while Julius chose chemistry and went to the University of Berlin, where he received his doctorate in 1889.

After a short time with Victor Meyer in Gottingen, Julius returned to the U.S. in 1890, going to Clark University in Massachusetts, and, in the same year, to Detroit as a toxicologist for Parke Davis, & Co. In 1891, he married Anna Marie Stieffel of Karlsruhe, who had remained in Germany until this time. In 1892, he came to the University of Chicago as a docent, lecturing without salary, his only compensation from contributions by the students. In 1893, he became an Assistant: then Instructor, Assistant Professor. and Associate Professor. In 1905, he was named Professor; in 1912, Director of University Laboratories, and in 1915, Chairman of the Chemistry Department. In 1933 he was named Professor Emeritus, but continued to serve until his death in January 1937. Along the way, he collected a D.Sc. from Clark University (1909) and a Ph.D. from the University of Pittsburgh (1916).

Does he-sound like a 'drag'? According to the files at the Section office, this was far from the truth. He was interested in spectator sports, especially horse racing and boxing, and participative sports, especially golf. His hobbies included art, music (he played the cello), and photography. All this was in addition to his work as a chemist, research scientist, an author, and, above all, as a precise but interesting lecturer who held the attention of his students and assisted and directed them to help them reach the goals they aspired to.

He was a loving father. His daughter Hedwig and son Edward both entered the field of medicine. Hedwig married a doctor and Edward became Associate Clinical Professor at Rush Medical College in Chicago. Stieglitz's activities did not prevent his participation in civic affairs. In 1917, when the United States entered World War I and any chemicals we might have been receiving from Axis countries were cut off, this American of German parentage found time to give to the development of much-needed industrial and pharmaceutical chemicals.

He joined the ACS and the Chicago Section in 1901. In 1904, he was Section Chairman, and in 1917 he was elected President of the ACS. He guided the development of the Willard Gibbs Award, and received the medal himself in 1923. In 1980, posthumously, he was given our Distinguished Service Award.

# THE STIEGLITZ LECTURE FOR 2004

We are pleased and honored to have as our Stieglitz Lecturer for 2004 Dr. Eloy Rodriguez, James A. Perkins Professor of Biology and Natural Products Chemistry at Cornell University in Ithaca, NY. Dr. Rodriguez has had an outstanding career working at the interface of chemistry and biology. Most of his work has been carried on in the field. where the "action is," with laboratories in the Caribbean and the Amazon regions. We hear a lot about the need for diversity these days. On this issue. he has walked the talk, with students in his research group coming from many racial and ethnic backgrounds. He has had many published articles, and he was a featured speaker at the 100th Anniversary Observance of the Birth of Dr. Percy Julian at the ACS National Meeting in Anaheim, spring 1999. Dr. Rodriguez has received the Martin De La Cruz Silver Medal for Research in Medicinal Chemistry and the Ernest E. Just Lecture Award for Basic Research for 1998.

The Stieglitz Lecture was established in memory of Dr. Julius Stieglitz upon his death in 1937 after a distinguished career as a professor of chemistry at the University of Chicago. In addition he also served as chair of the Chicago Section in 1904 and ACS President in 1917. the lecture is sponsored in alternate years by the University of Chicago and the Chicago Section. Over the years, we have had many distinguished chemical scientists as Stieglitz Lecturers; an up-to-to date list is given in this issue of the Chemical Bulletin. Prof. Rodriguez will be the 56th lecturer in this series, which began in 1940.

# STIEGLITZ LECTURERS, 1940-2003

1040 2000	
Lecturer	Year
Edward A. Daisy	1940
Fred C. Koch	1941
Carl S. Marvel	1943
Linus Pauling	1944
Wm. Draper Harkins	1945
Dan M. Yost	1946
Dorothy Wrinch	1947
Vincent du Vigneaud	1948
E.S. Cohn	1949
Herman I. Schlesinger	1950
Christopher K. Ingold	1950
Robert B. Woodward	1952
Frank R. Mayo	1953
Paul D. Bartlett	1954
Frank C. Westheimer	1956
Henry B. Hass	1957
Herbert C. Brown	1958
H.A. Lardy	1959
Louis P. Hammett	1960
Nelson J. Leonard	1962
William S. Johnson	1963
Paul Doty	1964
Charles C. Price	1965
H. Gobind Khorana	1966
Wm. von Eggers Doering	1967
George Hammond	1968
D.J. Cram	1969
Jerome A. Berson	1970
Carl Djerassi	1971
Jerrold Meinwald	1972
Andrew Streitwieser	1973
Derek H.R. Barton	1974
E.J. Corey	1975
Bengt Samuelson	1976
James Collman	1977
Joseph Chatt	1978
Gilbert Stork	1979
Robert H. Abeles	1980
Barry Trost	1980
Roald Hoffman	1981
Yoshita Kishi	1982
David Evans	1983
W. Clark Still	1984
Malcom Green	1985
Ronald A. Hites	1988
R. Ernst	1989
George Olah	1990
George Whitesides	1991
William Jorgenson	1992
Peter Kim	1993
Tobin Marks	1994
Frederic Menger	1999
Joanna Fowler	2000
Patrick R. Gruber	2002
Eric Jacobsen	2003
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# **ALMA E-NEWS**

Fume Hoods

Almost all laboratories have fume hoods to protect workers from exposure to hazardous materials. As managers, it is our responsibility to establish an appropriate inspection and maintenance program to insure that these devices function properly. This usually includes inspection of belts and motors and verification that the face velocity is in the correct range (usually 100 to 125 fpm). However, there is an additional responsibility to insure that the hood is used properly and personnel are adequately informed on safe operation.

For many hoods, sash height determines the face velocity and must be maintained at the proper position to provide maximum protection; velocities either higher or lower than the recommended range increase potential for exposure. Hot plates or other electrical devices placed inside a hood are potential ignition sources when volatile solvents are being used. The interior panels of hoods used for combustion procedures requiring an open flame should be verified to be fireproof (many are made of polymer) and all other materials should be removed.

Hoods should not be used for long term storage of solvents since they are not designed for this purpose and do not offer the fire protection of solvent cabinets.

Analysts should also be reminded of common sense items such as keeping their heads out of the hood except when constructing or dismantling equipment and to maintain operations at least six inches inside the hood. And finally, covering air intakes, blocking baffles, or otherwise altering hood operation to maintain temperature control in the laboratory should not be permitted.

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

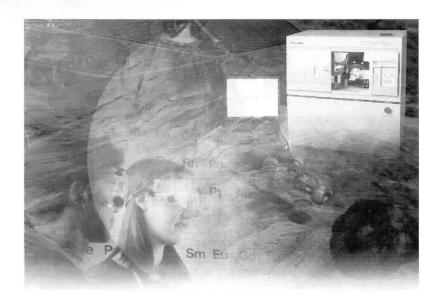
ALMA will celebrate its silver anniversary at the 25th annual conference to be hosted by Agilent Technologies in Wilmington, DE on **November 10-12**. In addition to a strong technical program, this conference will feature many special events that will make this a memorable occasion. If you've never attended one of our annual conferences, this is the one you can't miss-put those dates on your calendar!

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

WAYNE COLLINS wayne.collins@bpsolvaype.com

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You can get help improving your resume through the Career Consultants. These are volunteers trained by the American Chemical Society to assist its members with writing resumes, contacting prospective employers, and providing tips on interviews.

There are several Career Consultants in the Chicago Section who are willing to meet with you and help improve your resume. Simply call the Section office at 847-647-8405 and set up an appointment. Fifteen to thirty-minute sessions will be arranged at our monthly meetings. Should you require more time arrangements can be made with your consultant to continue discussions by telephone, by e-mail or by additional face-to-face sessions. You also can attend the Section's Job Club where you can network with other people having similar concerns.

We are here to help. All you need to do is pick up the telephone and bring copies of your resume to the next monthly meeting.

### CEPA AND GLOBALIZATION

Globalization, offshoring, outsourcing, insourcing, jobless recovery... You have all heard these terms. The ACS Committee on Economic and Professional Affairs (CEPA) has formed an active Task Force on Globalization Issues to "monitor, communicate, coordinate, and cooperate" with others on globalization and how it relates to employment in the chemical industry. The task force includes liaisons from Corporation Associates. Committee on International Activities, Committee on Science, Divisions of Professional Relations, Business Development and Management, Small Chemical Businesses, and other interested parties. At the ACS meeting in Philadelphia, CEPA hosted a successful first Open Forum for all ACS members to voice their views on globalization issues, and different perspectives were shared.

Please visit the CEPA website at http://www.chemistry.org/committees\cepa\index.html for more details on the activities of this task force, and a new Message Board coming soon where you are invited to enter your opinions and comments on globalization issues, especially as it relates to your job and career!

# THE CHEMICAL BULLETIN ADVERTISING RATE SCHEDULE

The official newsletter of the Chicago Section American Chemical Society, The Chemical Bulletin, publishes news and information of interest to the Section's 5,100 members, who are professional chemists and others in related professions in industry, academia and government throughout greater Chicago.

SIZE Full Page	<b>DIMENSIONS</b> 7.5" wide x 10" deep	<b>RATE</b> \$700
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Business Card	3.5" wide x 2" deep	\$95

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# 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!

FRAN KAREN KRAVITZ HOSPITALITY COMMITTEE CHAIR

# SECTION SURVEY

Did you know that there is an ACS Chicago Section Survey available on our website? The Membership Committee invites you to fill out and send in the survey for the purpose of finding out your opinions and preferences on the monthly dinner meeting locations, meeting format, and topics. Go to http://ChicagoACS.org to fill out the survey.

# THE U.S. NATIONAL CHEMISTRY OLYMPIAD INVITES YOU TO APPLY FOR A COLLEGE MENTOR POSITION

College educators are invited to apply for a position as mentor for the U.S. National Chemistry Olympiad program. Duties during the three-year term include helping to conduct the national study camp for high school students held at the United States Air Force Academy located in Colorado during June 2005, 2006, and 2007. Generally, in their second and third year, mentors accompany four U.S. student competitors to the International Chemistry Olympiad (IChO). During the competition, the mentors will serve as members of the IChO Jury. The 2006 and 2007 IChO events are scheduled to be held in Korea and Lithuania, respectively. The ACS sponsors the U.S. National Chemistry Olympiad program. For more information, go to chemistry.org and search under the keyword, olympiad.



### **GIFTS NEEDED**

The Hospitality committee is asking all companies in the area and individuals employed by area companies to donate either cash or promotional items with their company name on it for the annual holiday party. This event has become one of the sections largest dinner meetings. Those who donate will be listed on announcement cards on the table and in the Chemical Bulletin. The committee will be happy to pick up items at your convenience by calling the office at (847) 647-8405 or they may be sent to the section office at: 7173 N. Austin Avenue, Niles, IL 60714.

So please take the time and call the section office with your donation. It is a great way to advertise your company.

FRAN KRAVITZ

# SECTION SPEAKERS' BUREAU

The Section is trying to rejuvenate its Speakers' Bureau. We have had some individuals volunteer to speak at schools, service organizations etc and a few requests for speakers or demonstrators. We are in need of someone willing to take responsibility for compiling a list of volunteer speakers and topics and for getting this information out to area schools, libraries and service organizations. One person has volunteered to help organize this but cannot take on the project without assistance. If you can possibly fit this task into your busy schedule, please call or e-mail the Section office. If you cannot do this but are interested in speaking, please also let us know.

SUSAN SHIH, CO-CHAIR LONG RANGE PLANNING

# 20 YEARS OF CHEMMATTERS ON ONE CD!

ChemMatters, the ACS magazine for high school readers, motivates teens to read science content with topics connecting to their everyday lives. It's loaded with articles on "Health and Wellness" to help you get ready for National Chemistry Week. Now, issues from twenty years of the award-winning magazine are available on one CD ROM. Find articles on tattoos, light bulbs, cosmetics, foods, bug sprays, global warming, and much more. All of the widely acclaimed Teacher's Guides with their reproducible classroom materials for encouraging effective reading are included. For a limited time, the price for twenty years of great issues is only \$25. Order today by calling the ACS Office of Society Services at (800) 227-5558.

# **HOLIDAY PARTY**

Get those fingers ready to make reservations for the annual Chicago Section. American Chemical Society holiday party on Friday, December 10, 2004. This year the Hospitality committee plans to use the same plan as last year that made the holiday gift raffle more efficient. Prior to the meeting, gifts will be numbered randomly and placed on tables in the back of the dining room. Each attendee will draw a clip with a number on it when they register that evening for the meeting. Please attach that number to your name badge.

Gifts will be handed out by volunteers throughout the evening by calling up groups of individuals having a series of numbers. Larger gifts such as dinner certificates or gift certificates will be announced separately throughout dinner. Meeting attendees are asked to claim their gift only during the time their numbers have been announced. A schedule will be handed out at the time of registration. 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 numbered clip in order to pick up their gift. There will be no exchanges for anyone who is unhappy with their raffle gift. These gifts are only meant to be a token item.

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.

FRAN KRAVITZ

# **DONATION POP TOPS**

Save the environment and help the Ronald McDonald House at the same time. In January of this year, the Chicago Section American Chemical Society started a program to collect pop tops, those little rings on top of your soda can. The section has a goal of collecting one million pop tops by the end of December.

Just a little trivia, one million pop tops weighs 790 pounds.

What will we do with all those pop tops? They will be taken to a collection site near Loyola University Medical Center and the money from the aluminum will be donated directly into the operating costs of the Ronald McDonald House. Ronald McDonald House provides a temporary "home away from home" for families of seriously ill or injured children who are in the hospital.

So, please help the cause and bring your pop tops to a monthly section dinner meeting and put the in the jar at the registration desk.

FRAN KRAVITZ HOSPITALITY CHAIR



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# CHICAGO SECTION'S PROJECT SEED 2004 PROGRAM

The Chicago Section's Project SEED program had two students participate in Summer I research programs. Beatriz Uribes and Susana Uribes, then juniors at East Aurora High School, successfully completed their research projects at North Central College in Naperville. Their research projects involved the Maillard reaction, which is the reaction responsible for the non-enzymatic formation of flavor compounds and the browning reactions in cooking processes. The students learned about the reaction products and mechanism, did preparations and characterizations using chromatographic and spectroscopic techniques. Their SEED mentor was Dr. Jeff Bjorklund.

In addition to hands-on research, Project SEED students receive guidance on their career and personal development. Mentors provide strategies for helping students reach their objectives, give feedback, and allow opportunities for growth that may include exposure to key members of an organization. SEED I students who have completed a Summer I program and have not matriculated in college can return a second summer and do more research. On completion of a SEED II research program, the students also have the opportunity to apply for one of the Project SEED college scholarships.

CHERLYN BRADLEY
Co-Chair, Project SEED Committee

# CONTACT THE CHAIR

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

MILT LEVENBERG Chair

# NORTH CENTRAL COLLEGE'S PROJECT SEED STUDENTS IN THE LAB



Beatriz and Susana Uribes



Beatriz and Susana with research mentor Jeff Bjorklund

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**CALENDAR** 

**November 3-4, 2004:** The Consumer Specialty Products Association (CSPA) hosts the Pesticide Toxicology 101 Workshop at the Alexandria Hilton, Alexandria, Virginia. Contact Michelle Pitkin at **mpitkin@cspa.org** or at 202-833-7305 for workshop details.

**November 4-6, 2004:** NSTA CONVENTION — The K-8 Office of the American Chemical Society will offer a free workshop at the Midwestern Area Convention of the National Science Teachers Association in Indianapolis, IN. Teachers will learn about inquiry-based physical science activities they can do with elementary and middle school students. For further information, go to **http://nsta.org/conventions**.

**November 10-12, 2004:** The 25th Annual ALMA Conference will be held Agilent Technologies in Wilmington, DE. For detailed information, contact ALMA at (505) 989-4683, alma@labmanagers.org, or go to www.labmanagers.org.

**November 19, 2004:** Joint Chicago Section ACS Dinner Meeting with the University of Chicago's Department of Chemistry for the Julius Stieglitz Award Lecture.

**December 10, 2004:** Chicago Section ACS Holiday Party & Dinner Meeting. The speaker will be Dr. Sheila Bailey, NASA Glenn Research Center, who will talk on "Missions to Mars-Past, Present, and Future.

January 14, 2005: Chicago Section's monthly dinner meeting.

**February 25, 2005:** Chicago Section's monthly dinner meeting.

**February 27 - March 4, 2005:** PittCon 2005 will be held in Orlando, FL, Orange County Convention Center. Go to **www.pittcon.org** for more information.

March 13-17, 2005: The 229th ACS National Meeting will be in San Diego, CA.

March 25, 2005: Chicago Section's monthly dinner meeting.

April 22, 2005: Chicago Section's monthly dinner meeting.

May 20, 2005: Chicago Section's Willard Gibbs Medal Presentation Lecture.

June 24, 2005: Chicago Section's monthly dinner meeting.

**September 23, 2005:**Chicago Section's monthly dinner meeting.

October 21, 2005: Basolo Medal Award joint meeting with Northwestern University.

**November 18, 2005:** Chicago Section's monthly dinner meeting.

**December 9, 2005:** Chicago Section's Holiday party and dinner meeting.

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