theCHEMICALbulletin

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NOVEMBER • 2002

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 22, 2002

Manzo's Banquets
1571 South Elmhurst Road
Des Plaines IL 60018
847-593-2233

DIRECTIONS TO THE MEETING

From the East: Take I-90 west. Exit Elmhurst Rd North. Go past first light (Oakton St.). The banquet hall is on your right.

From the West: Take I-90 east. Exit Arlington Heights Rd. Turn right. Turn right. Go to Higgins Rd. (Rt. 72). Turn left. Take Higgins to Oakton St. Turn left. Go to Elmhurst Rd. Turn left. The banquet hall is on your right.

From the North: Take 294 south to I-90 west. Exit Elmhurst Rd. North. Go past first light (Oakton St.). The banquet hall is on your right.

From the South: Take 294 North to I-90 west. Exit Elmhurst Rd. North. Go past first light (Oakton St.). The banquet hall is on your right. Another way from the South is to take I-355 North to I-90 east. Exit Arlington Heights Rd. Turn right and go to Elmhurst Rd. Turn left. The banquet hall is on your right.

FREE PARKING

Topical Group **5:30 - 6:30 P.M.**

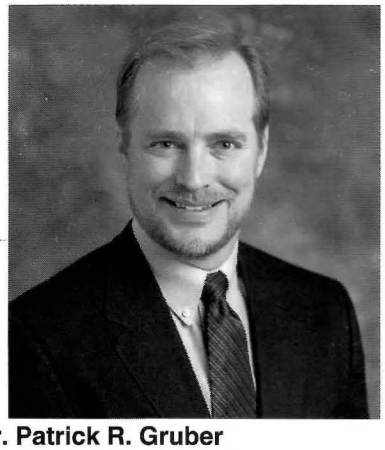
Dr. Luke Hanley of the Department of Chemistry, University of Illinois at Chicago, will present a talk entitled **"Controlling the Nanoscale Morphology and Chemistry of Organic Films Deposited by Polyatomic Ions"**. See page 2 for more details.

SOCIAL HOUR: **6:00- 7:00 P.M.**
Cash Bar available.

DINNER **7:00 P.M.**
Menu: Fresh Onion Soup, Garden Salad with choice of dressing, Entrée choices of Orange Roughy, New York Strip Steak, or Pasta Primavera, rolls and butter, Spumoni ice cream.

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://membership.acs.org/C/Chicago) by noon on Tuesday, November 19, 2002. The dinner cost is $28.00 to Section members who have paid their local section dues, members' families, and visiting ACS members. The cost to non-Section members is $30.00. The cost to students and unemployed members is $14.00. Seating will be available for those who wish to attend the meeting without dinner. PLEASE HONOR YOUR RESERVATIONS. The Section must pay for all dinner orders. No-shows will be billed.

PRESENTATION OF STIEGLITZ LECTURE **8:00 P.M.**



Dr. Patrick R. Gruber
Vice President and CTO
Cargill Dow, LLC

Title: Polymers from Renewable Resources: No Longer a Field of Dreams

Abstract: Polymers and advanced material really can be made and commercialized successfully when starting from renewable resources. In order to be successful a shift in thinking is required. The combination of modern biotechnology and chemical processing has opened whole new avenues of what is possible. These advances are enabling a new echelon of green chemistry and materials with improved sustainability having impact reaching from farmers to consumers.

Cargill Dow LLC is bringing to market a family of new polymer materials made from lactic acid. This new material which we are marketing as NatureWorks™ PLA is the first major new industrial polymer product made from renewable resources in since the early 1900's. PLA has value in the marketplace because it works well and addresses sustainability issues. We are operating a world-scale manufacturing facility with an annual capacity of 300 million pounds. The technology depends both on industrial biotechnology and modern chemical processing.

In this presentation I'll briefly discuss what we've done, explain the products, why they are valuable, the process and design choices that brought us to where we are; principles of sustainability. I'll talk about principles of designing chemical products for the very real, but emerging, green chemicals and materials market.

(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 the November meeting will have the opportunity to earn up to 5 CPDU's.

(continued from page 1)

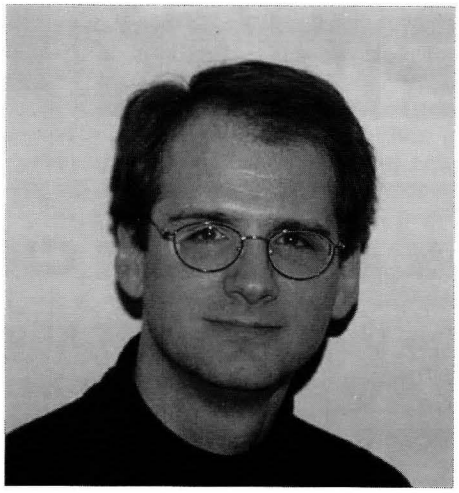
Biography: Dr. Patrick Gruber is the vice president and chief technology officer, Cargill Dow LLC. He has served in his current position since the company's inception in 1997. Prior to the formation of Cargill Dow, Gruber held several positions in the technology and business development areas of Cargill, Inc., but has spent the majority of his career specializing in chemical products made from renewable resources, targeted to animal feed products, food ingredients and industrial chemicals. During his tenure at Cargill, Inc., Dr. Gruber served on several strategy and business teams. He was director of technology development for Cargill's Bioproducts areas from 1995-1998 and technical director of Cargill's BioScience division from 1998-1999. In this position, he served as a member of the business management team where he was involved in the identification and incorporation of several new businesses, as well as increasing capability in the areas of food products and animal nutrition.

Dr. Gruber has been recognized by several industry leaders for his achievements, in addition to obtaining more than 47 patents and having more than a dozen pending. In 2001, Gruber received the Discover Award for Environmental Innovation, presented by the Christopher Columbus Fellowship Foundation. In 1998, Gruber received the Inventor of the Year Award from the Minnesota Patent Lawyers and in 1993 he was recognized by R&D Magazine's Top 100 Inventions of the Year for advances in stabilizing enzymes. Other awards include The Presidential Green Chemistry Award, Popular Mechanics Design and Engineering Award, Industry Week's Technology of the Year award and the Department of Energy OIT Technology of the Year award.

Several years earlier, Gruber was named leader of Cargill's Renewable Bioplastics project. This position led to the development and marketing of a lactic acid polymer, which is now known as NatureWorks™ PLA, and is the basis upon which Cargill Dow LLC is built today. Dr. Gruber earned a bachelor's degree in chemistry and biology from the College of Saint Thomas, St. Paul, Minn., and a doctorate in chemistry from the University of Minnesota. Additionally, Gruber earned a master's degree in business administration from the Carlson School of Management at the University of Minnesota.

Topical Group

Title: "Controlling the Nanoscale Morphology and Chemistry of Organic Films Deposited by Polyuatomic ions



Dr. Luke Hanley, UIC

Abstract: The control of chemistry and morphology on the nanometer scale is critical to a range of new technological applications. Polyatomic ion beams with hyperthermal kinetic energies ranging from 1 to 500 eV are advantageous for practical surface modification and nanofabrication due to their ability to fabricate thin film nanostructures with controlled morphology, unique collision dynamics, and ability to transfer intact chemical functionality to the surface. Hyperthermal polyatomic ions also play a critical role in plasma processing, laser ablation, and several other energetic deposition processes. Several experiments are described in which mass-selected and non-mass-selected polyatomic ion beams are used to create nanometer organic thick films with controlled surface and buried interface morphologies. X-ray photoelectron spectroscopy, atomic force microscopy, x-ray reflectivity, and scanning electron microscopy are utilized to analyze the morphology and chemistry of these films. Polyatomic ions are found to control film morphology on the nanoscale through variation of the incident ion energy, ion structure, and/or substrate.

Biography: Luke Hanley received his Ph.D. in Physical Chemistry from the State University of New York at Stony Brook in 1988, where he studied gas phase reactions of metal clusters with Prof. Scott L. Anderson using a home built tandem mass spectrometer. He was National Science Foundation Postdoctoral Research Fellowship in Chemistry with Prof. John T. Yates, Jr. at the University of Pittsburgh from 1988 to 1990, studying photochemistry on metal surfaces. He has been a faculty member at UIC since 1990, where he received a NSF Young Investigator Award in 1993 and a University Scholar Award in 1995. He is currently Professor of Chemistry and Bioengineering, with funding from the National Science Foundation and the National Institutes of Health. His research interests include polyatomic ion-surface interactions and the modification and analysis of biomaterials surfaces.

JOB CLUB

The next meeting of the Chicago Section Job Club will be held on Friday, November 22 at Manzo's Banquets at 5 p.m. The Job Club provides a continuing opportunity for unemployed members of the Section to meet with one another, share their experiences and develop a network that may help in identifying employment opportunities. Bring plenty of resumes and business cards to distribute to your colleagues. Be prepared to talk about what kind of job you are looking for.

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

Should you wish to attend the Section meeting following the Job Club, the fee for unemployed members is only $14 and you can continue your networking activities. Please call the Section office for reservations and indicate that you are eligible for a discount.

IN THIS ISSUE

Features

In Every Issue

"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.

SALT CRYSTAL GARDEN

Kids, in a glass or plastic bowl put 1-3 small pieces of porous materials such as coal, charcoal, brick, tile, cement and/or sponge. On day 1, pour two tablespoons each of water, table salt, and Mrs. Stewart's Bluing (MSB) solution (more on this later) directly over the porous materials. On day 2, sprinkle two more tablespoons of salt over them. On day 3, pour into the bottom of the bowl (not directly on the porous pieces) two tablespoons each of salt, water, and Mrs. Stewart's Bluing, and then add a few drops of food coloring or ink to each piece. By this time a beautiful flower-like growth should have appeared. It may be necessary to add two tablespoons of household ammonia to aid the growth. A free circulation of air is necessary, and these formations will develop better where the air is dry. To keep it growing add more MSB, salt, and water from time to time. It will "bloom" indefinitely into beautiful rosebuds of crystal. Take care to keep the majority of the porous pieces above the liquid level.

How Does It Grow? Table salt (NaCl) can be dissolved in water. As salty water evaporates, some of the salt cannot be retained and crystals of salt form along the edges of a container (precipitation). This recipe calls for large amounts of salt with little liquid so that crystallization takes place quickly. MSB is a colloidal suspension of extremely small particles of blue iron powder (ferric hexacyanoferrate) in water. As the water evaporates, two things happen. The blue particles can no longer be supported and the excess salt cannot stay in solution. The salt crystallization process takes place around the blue particles (which act as "nuclei" or "seeds"). Small amounts of ammonia are added to speed up evaporation.

The purpose of the porous material is to provide a means for capillary action to carry the liquid containing bluing and salt up from the main source of liquid. This further speeds up evaporation and causes the crystals to form over a larger area than just the rim of the bowl. Additions of bluing and salt on later days should be made by slipping the new liquid in below the rest of the growth. No chemical reaction takes place in this process, just dissolving and recrystallization. But it is fun and pretty, and involves common household chemicals. MSB is nontoxic, biodegradable, non-hazardous, and environmentally friendly.

Color experts tell us that the brightest of whites has a slight blue hue. Simple bleaching is not enough to make new white clothes acceptable to customers, so manufacturers of sheets, towels, shirts, etc., "blue" them too. After fabric is used, the effects of the bleaches wear off and clothes begin to "yellow" after repeated washings. The fabric is clean but it is not "snow-white". To counteract the yellow, blue must be added. A little dilute MSB in the washing process adds the necessary tint; it does not remove stains or clean, but it optically whitens white fabric.

Submitted by DR. K. A. CARRADO, Elementary Education Committee.

References: www.mrsstewart.com for more information and to order a Salt Crystal Garden Kit.

Past "ChemShorts" are on the Internet at: http://membership.acs.org/C/Chicago/ChmShort/kidindex.html

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CONTACT THE CHAIR

Do you have any questions, suggestions, ideas, gripes, or complaints, relating to the Chicago Section? Do you want to volunteer to help with Section programs or activities? Then contact your Chair. Simply log onto the Section's Web Page at http://membership.acs.org/C/Chicago, 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. I look forward to hearing from you.

SUSAN SHIH
Chair

CHAIR'S LETTER
NHCL?

In late September, Alice Hamilton and the development of occupational medicine were dedicated as a National Historic Chemical Landmark (NHCL) at Hull-House. The nomination process was an excellent collaboration of the Chicago Section and several other groups within the ACS and UIC and resulted in the recognition of Alice Hamilton and her work as a milestone. This is only the second area landmark among a total of 43 dedicated by the ACS. Do you know of others who might qualify? Check out the current landmarks and the process by which a landmark is determined at http://center.acs.org/landmarks/. If you are interested in working on the nomination of another landmark, let me know.

I hope you were among those who enjoyed Chemistry Day last month at UIC. A full report will be in a later issue of *The Chemical Bulletin.*

This month we have the Stieglitz Lecture presented by Dr. Patrick Gruber. Details of his presentation and a brief history of the Stieglitz lecture are in accompanying articles.

Just a reminder, we will be collecting items for a local food pantry at the December holiday party.

See you at a meeting!

SUSAN SHIH,
SECTION CHAIR

REPORT OF COUNCIL MEETING HELD IN BOSTON ON AUGUST 21, 2002

The 224th National Meeting of the ACS was held in Boston, MA from August 18 - 22, 2002. Attendance at this meeting was reported to be 17,121 people, including 12,478 meeting attendees, 2664 exhibition only attendees and 1979 guests. The Chicago section was fully represented by eleven councilors and two alternate councilors. The councilors who attended for the section were: Roy H. Bible Jr. (1964-2002), Cherlyn Bradley (1993-2004), Charles E. Cannon (2001-2002), Nathaniel L. Gilham (1988-2002), Russell W. Johnson (2001-2004), Fran K. Kravitz (1992-2003), Thomas J. Kucera (1970-2002), Claude A. Lucchesi (1974-2003), Barbara E. Moriarty (1996-2004), Seymour H. Patinkin (1978-2004), and Marsha Anne Phillips (1998-2003). Marilyn Kouba (for David Crumrine) and Allison Aldridge (for Steve Sichak) attended as alternate councilors. Jim Shoffner was present at the meeting as a Director-at-Large, while Ellis Fields was present as a past president of the society. Both Jim and Ellis are exofficio councilors.

Two Chicago Section councilors, Nathaniel Gilham (15 years) and Seymour Patinkin (25 years) were recognized for their years on the ACS Council. Congratulations!

Officer Reports: President Eli Pearce continued his emphasis on diversity at this meeting. He reported that 50% of new members are women and 25% of current members are women. There were a variety of programs and presidential events dealing with the diversity among ACS members. Past President Attila Pavlath gave his final report to Council after his 12 years on the Board of Directors, first as director - at - large and then as a member of the presidential succession. He received a standing ovation from Council for all his hard work.

Governance: The three candidates for 2003 president-elect campaigned at caucuses and at SciMix. The three candidates are Charles P. Casey of the University of Wisconsin, Alvin L. Kwiram from the University of Washington and E. Ann Nalley from Cameron University. Ann Nalley was nominated by petition. Candidates for Director-at-Large also were introduced to Council. There is a special election to fill the director-at-large vacancy created when Joan Shields resigned from the Board to become a member of the Governing Board on Publications. In this election, which has already taken place, Dennis Chamot was elected to take the position.

One Chicago Section member, Sara J. Risch (Councilor for the Division of Agricultural and Food Chemistry), was elected to the Nominations and Elections Committee.

One of the issues that was raised recently was the size of the national committees. Last year the council voted to increase the size of standing committees. A vote on an amendment to increase the size of society committees was approved by a vote of 263 Yes, 126 No and 5 Abstentions.

Budget: This continues to be a challenging year for the ACS in terms of its budget. To allow members to be more informed regarding the ACS finances, there will be a new Budget and Finance website, debuting in late October. The ACS has also started a process, called the Strategic Expense Management System (SEMS) to provide a closer connection between the strategic objectives of the society and how ACS spends its money.

ACS is looking very carefully at new programs and any request for funding for 2003. The immediate impact from this is on the Matching Gift Fund Program, which is now depleted. Twelve Society programs (including Project SEED, National Chemistry Week, and the U.S. National Chemistry Olympiad) have benefited from the success of this fund-raising mechanism. At the time of the Boston meeting, the prospect of funding for 2003 to allow continuation of the Matching Gift Fund was uncertain. A consideration by the Board of Directors of ACS of a possible request for reauthorization was deferred until December 2002 when the details of the 2003 proposed budget are available. Until a new appropriation is authorized, no funds are available to match contributions to support Society programs such as Project SEED.

One of the other petitions to Council, that was subsequently withdrawn, dealt with ways to change the funding of local sections and divisions. This is an issue that has come up in part because 16 of the 33 divisions ran deficits for national meeting programming. Discussions on how to fund divisions and local sections will continue.

ChemLuminary Awards: Several councilors and the section chair, Susan Shih, attended the 4th Annual ChemLuminary Awards ceremony on Tuesday, August 20. We were finalists for three awards, but came away without any of the awards. The Peoria local section won the award for the best medium small section for the third year in a row. Congratulations!

Membership Affairs: The number of members in 2002 has declined compared to the 2001 membership. In addition, as of July 31, there were 12,000 members who had asked for a dues waiver due to unemployment, an increase of 300 over the same time period in 2001. One new enhanced feature is that in 2003 online dues and subscription renewals will be possible. In 2002 approximately 70% of dues paying members were members of at least one division.

Economic and Professional Affairs: At this meeting, a new computerized system was used at the National Employment Clearinghouse (NECH) for the first time. Even though there was no onsite registration for NECH at this meeting, there were 1242 candidates, vying for 512 job postings from 154 companies. As of the Wednesday morning, there were 4667 interviews scheduled, a new high for interviews at NECH. Work to revise the Professional Employment Guidelines (PEG) has started. If you have any ideas for possible revisions, please contact Fran Kravitz.

Outreach: The theme for this year's National Chemistry Week (NCW) is "Chemistry Keeps Us Clean." The Soap and Detergent Association and the American Council on Chemistry have asked their members to support NCW. In 2003 the NCW theme will be "Earth's Atmosphere and Beyond."

Chemical Safety: There is an online conference on Teaching Safety in High Schools, Colleges and Universities coming up. It begins on Sept. 30, and continues through Nov. 21, 2002. Information on the conference and participating in it can be found at http://www.ched-ccce.org/confchem/index.html. The conference is sponsored by the ACS DivCHED. The 7th edition of Safety in Academic Laboratories (SACL) is scheduled for publication by year's end. The new edition consists of a volume for students and one for faculty/administrators. Also, coming shortly, is a quick-reference student's pocketguide of SACL, originally drafted by Steve Sichak. There will also be revisions to the Small Business Safety Manual.

Project SEED: Project SEED celebrates its 35th Anniversary next year and planned events include having 40 SEED posters presented at the Presidential Event at the New Orleans Spring meeting. This year there were 295 Summer I students at 86 institutions and 88 Summer II students at 45 institutions participating in research programs. This included 3 Summer I students that completed research projects at FUHS/The Chicago Medical School and at UIC in the Chicago Section.

Eighty students presented posters of their summer research at SciMix. Two students, Delliah Redd and Jesus Ruiz, from the Chicago Section were among those that gave posters. Applications

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for the 2003 summer research program will be available online. A letter addressed to high school science teachers to recruit them as coordinators was finalized and is scheduled to be sent out in the Fall.

Project SEED and Minority Affairs Committees co-sponsored a workshop entitled "Hearing from the Experts: What Makes for Successful Mentoring?". Past SEED mentors and recent ACS Scholars were involved in the panel discussion.

As part of the committee's strategic plan, there is a task force with the assignment of identifying geographic areas that don't have SEED programs. This task force reported that there are currently 51 local sections that are large enough to have, but don't have, a SEED program. These sections will be contacted in the Fall by mail and follow-up phone calls by the committee members to provide more detailed advice on just how to become involved in SEED and to provide encouragement.

Constitution and Bylaws: The ACS counsel and the Constitution and Bylaws (C & B) committee had some issues with the bylaws that were voted on last Spring. Tom Kucera discussed the proposed Section Bylaws with the Head of C&B committee and the ACS counsel. The wording on the Dissolution articles was agreed upon that was satisfactory to the National C&B and legal and answers to the concerns regarding the status of the restricted funds in the event of the Section being dissolved (extremely unlikely!) were given. The wording used would not require resubmission to the Section membership for approval. This was last remaining question on the revised Bylaws. We are currently awaiting written confirmation of all this from Washington.

If you have any questions and/or comments about the above actions, please contact me (630-305-2224 or by email bmoriarty@ondeo-nalco.com) or one of the other councilors.

BARBARA MORIARTY
(with help from Tom Kucera and Cherlyn Bradley)

ONLINE CONFERENCE ON TEACHING SAFETY

There is an online conference on Teaching Safety in High Schools, Colleges and Universities that started September 30 and continues through November 21, 2002. Information on the conference and participating in it can be found at http://www.ched-ccce.org/confchem/index.html.

CONTINUINING EDUCATION SEMINARS

The Continuing Education and Professional Relations Committees are again starting the series of short courses on Saturday mornings, 9:00 to 12:00, at Loyola University, 6525 N. Sheridan Rd., Cudahy Science Building (building with the green dome), room 202.

The program on **November 16, 2002** will be a continuation of last year's course on combinatorial chemistry which was on solid phase combinatorial chemistry. **Dr. Irini Zanze** of Abbott Laboratories will discuss The History of the Solution Phase Combinatorial Chemistry.

The cost for the course is $10 (free for students and unemployed chemists). The course carries three hours of CPDU credit for teachers. A parking garage is available on the Loyola campus (free parking) and it is also easily reachable by public transportation.

For further details or to register call the section office, 847-647-8405 or **Fred Turner**, 847-619-8686.

The registration deadline is Monday, November 11.

2003 PRESIDENTIAL GREEN CHEMISTRY CHALLENGE AWARDS

The U.S. Environmental Protection Agency (EPA) is currently seeking nominations for its 2003 Presidential Green Chemistry Challenge Awards. These Presidential-rank awards recognize outstanding new chemical technologies that incorporate the principles of green chemistry into chemical design, manufacture, and use, and that have been or can be utilized by industry in achieving their pollution prevention goals.

Any individual, group, or organization, both nonprofit and for profit, including academia, government, and industry, may nominate a green chemistry technology. Self-nominations are welcome. Each nominated technology must have reached a significant milestone within the past five years in the United States. Nominations **must be postmarked by December 31, 2002**. For information on how to enter the competition, visit the Presidential Green Chemistry Challenge home page at http://www.epa.gov/greenchemistry/presgcc.html.

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

WALTER C. MCCRONE, JR.

A pioneer in the science of chemical microscopy died in Chicago on July 10 of this year. Walter C. McCrone (1916 - 2002), the father of Modern Microscopy, revolutionized the use of and understanding of the light microscope for materials analysis, trained thousands of students worldwide in the use of microscopy, wrote hundreds of articles and books, gave thousands of presentations and lectures on microscopy, and developed numerous accessories, techniques, and methodologies to push the state-of-the-art in microscopy. He is better known to the general public for his analytical work on the Shroud of Turin, the Vinland Map and various other famous works of art and antiquities.

McCrone was, at the same time, an extraordinary humanitarian. He served on the Board of Directors of Ada S. McKinley Community Services, Inc. since 1951 and as Board President from 1964 to 1995. This not-for-profit human services organization has 40 program locations, a staff of 560, an annual budget of $40 million, and serves more than 15,000 clients annually throughout Chicago. In recognition of his many years of dedicated service to the organization, in 1997 they dedicated their new facility in honor of Dr. McCrone, the Walter C. McCrone Industries facility. The facility houses 120 clients in its sheltered workshop program and provides intake, evaluation, and job placement for more than 1,000 program participants annually. He also served on the boards of VanderCook College of Music, Chicago and The Campbell Center for Historic Preservation Studies in Mt. Carroll, IL.

McCrone was born in Wilmington, Delaware on June 9, 1916. He grew up mainly in New York State and attended Cornell University where he completed his undergraduate degree in Chemistry in 1938 and was graduated with a Ph.D. in Organic Chemistry in 1942.

After two post-doc years at Cornell University, McCrone accepted a position as a chemist (microscopist and materials scientist) at Armour Research Foundation (now, IITRI) 1944-1956 where he rose to become Assistant Chairman of the Chemistry and Chemical Engineering Department. In 1956, McCrone left the structured world of the university to become an independent consultant. On April 1, 1956 he founded McCrone Associates, Inc., Chicago (now located in Westmont, IL), an analytical consulting firm that grew from a one man/one microscope consulting service to a world renowned materials science facility dedicated to microscopy, crystallography, and ultramicroanalysis, now serving more than 2000 clients each year.

In 1960, McCrone founded McCrone Research Institute, Chicago, a not-for-profit organization devoted to the teaching and research of light and electron microscopy. In its 42 years, the Institute has taught over 20,000 students in all facets of microscopy. The Institute remains a leading educational facility within the world of microscopy. As Director of the Chicago Institute, he expanded its activities to include McCrone Scientific, the sister organization in London, England.

Dr. McCrone was also the editor and publisher of The Microscope, an international journal started by Arthur Barron in 1937 and dedicated to the advancement of all forms of microscopy for the biologist, mineralogist, metallographer, and chemist. The Microscope publishes original, previously unpublished, works from the microscopical community and serves as the proceedings of the INTER/MICRO microscopy symposia held in Chicago each year.

During his 60-year career as a chemical microscopist, McCrone published more than 600 technical papers and 16 books and chapters. The Particle Atlas, his best known publication, written with other McCrone Associates staff members, appeared as a single volume in 1970 and as a six-volume second edition in 1973. Today, it is available on CD-ROM and is still recognized as one of the best handbooks available for solving materials analysis problems.

McCrone received worldwide attention and acclaim for his work with the Shroud of Turin Research Project in 1978. McCrone's contentious conclusion that the Turin Shroud is a medieval painting was subsequently vindicated by carbon-14 dating in 1988. In 2000 he received the ACS National Award in Analytical Chemistry for his work on the Turin Shroud and for his tireless patience in the defense of his work for nearly 20 years.

Throughout his remarkable and outstanding career as a pioneer in microscopy and microscopical techniques, McCrone received many other honors and awards.

Walter McCrone is survived by his wife, Lucy, who is also an accomplished microscopist and has shared Walter's love of microscopy, working along side her husband for over 40 years.

Contributions can be made in his name to the Walter C. McCrone Scholarship Fund for Advanced Microscopy Studies, c/o McCrone Research Institute, 2820 S. Michigan Avenue, Chicago, IL 60616.

-From McCrone Research Institute (www.mccrone.org)

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 2002

The University of Chicago and the Chicago Section of the American Chemical Society are pleased to present the Stieglitz Lecturer for 2002, Dr. Patrick Gruber, vice president and chief technology officer of Cargill Dow LLC. As leader of Cargill's Renewable Bioplastics project, Dr. Gruber was instrumental in the development and marketing of a lactic acid polymer, which is now known as NatureWorks™ PLA, and is the basis upon which Cargill Dow LLC is built today.

The Julius Stieglitz Lectures, named for the former chair of the Chemistry Department at the University of Chicago and former chair of the Chicago Section were established in 1939 with donations from friends, colleagues and local corporations. The lecture is given annually by an eminent chemist usually in the field of organic chemistry, the major interest of Julius Stieglitz. The first lecture was given in 1940 and subsequent ones have occurred annually with the exception of a few years. The University of Chicago and the Chicago Section select the lecturer and present the lecture in alternate years.

REGISTER TO ATTEND MONTHLY SECTION MEETINGS

ON LINE

at

http://membership.acs.org/C/Chicago

STIEGLITZ LECTURERS

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

THE CHICAGO SECTION AMERICAN CHEMICAL SOCIETY
PROFIT & LOSS BUDGET VS. ACTUAL
JULY 2001 THROUGH JUNE 2002

	Jul '01 - Jun 02	Budget	$ Over Budget	% of Budget
Income				
301 • Local Section dues	42,055.77	47,500.00	-5,444.23	88.54%
302 • National ACS allotments	24,724.00	24,100.00	624.00	102.59%
303 • Transfer from investments	64,000.00	41,000.00	23,000.00	156.1%
304 • Miscellaneous income	1,205.00		1,205.00	100.0%
305a • Chemical Bulletin Advertisements	25,947.66	23,000.00	2,947.66	112.82%
305b • Chemical Bulletin Subscriptions	242.00	215.00	27.00	112.56%
305c • Chemical Bulletin Miscellaneous	-8.13		-8.13	100.0%
307 • Councilor Travel Reimbursement - National	3,115.33	12,500.00	-9,384.67	24.92%
320 • Scholarship Donations	5,580.00	13,600.00	-8,020.00	41.03%
325 • Other public support	1,700.00	3,400.00	-1,700.00	50.0%
330 • Meeting Registrations	15,754.00	20,000.00	-4,246.00	78.77%
331 • Gibbs Registrations	2,351.00	3,500.00	-1,149.00	67.17%
332 • College Ed	780.00		780.00	100.0%
333 • Continuing Ed.	97.55		97.55	100.0%
370 • Dividend income	303.40		303.40	100.0%
373 • Returned Check Charges	9.00		9.00	100.0%
378 • Ordinary income	3.95		3.95	100.0%
Total Income	**187,860.53**	**188,815.00**	**-954.47**	**99.49%**
Expenses				
General				
401 • Office Services	61,085.87	62,210.00	-1,124.13	98.19%
402 • Rent	5,400.00	5,400.00	0.00	100.0%
404 • Office	1,419.37	3,500.00	-2,080.63	40.55%
405 • Telephone	907.30	900.00	7.30	100.81%
407 • Travel	18,270.52	12,900.00	5,370.52	141.63%
408 • Scholarship	5,400.00	14,800.00	-9,400.00	36.49%
449 • Dinner Meetings	15,877.64		15,877.64	100.0%
Officers				
421 • Chair & Chair-elect	1,643.26	1,000.00	643.26	164.33%
422 • Secretary	4,796.57	4,500.00	296.57	106.59%
423 • Treasurer	2,180.18	1,500.00	680.18	145.35%
Committees				
430 • Chemistry week	512.23	800.00	-287.77	64.03%
432 • Awards	698.45	2,600.00	-1,901.55	26.86%
433 • Subsidized dinners	1,571.45	3,600.00	-2,028.55	43.65%
434 • H.S. Education	-30.34	2,000.00	-2,030.34	-1.52%
435 • Employment	0.00	250.00	-250.00	0.0%
436 • Endowment	84.29	100.00	-15.71	84.29%
437 • Hospitality	1,009.35	900.00	109.35	112.15%
438 • House	1,953.45	2,200.00	-246.55	88.79%
439 • Membership	0.00	700.00	-700.00	0.0%
440 • Public relations	42.55	250.00	-207.45	17.02%
441 • Program	2,736.12	6,200.00	-3,463.88	44.13%
442 • Public Affairs	272.00	1,000.00	-728.00	27.2%
443 • Project SEED	3,500.00	1,700.00	1,800.00	205.88%
444 • Safety committee	0.00	150.00	-150.00	0.0%
445 • Kids & chemistry	3.95	2,000.00	-1,996.05	0.2%
446 • Minority affairs	1,219.05	2,000.00	-780.95	60.95%
448 • National Meeting	472.32	1,200.00	-727.68	39.36%
451 • Gibbs Arrangements	1,170.20	7,000.00	-5,829.80	16.72%

(continued on page 9)

(continued from page 8)

	Jul '01 - Jun 02	Budget	$ Over Budget	% of Budget
455 • Continuing Education	0.00	200.00	-200.00	0.0%
457 • Great Lakes Regional Meeting	300.00	300.00	0.00	100.0%
458 • Younger Chemists Committee	0.00	1,000.00	-1,000.00	0.0%
460 • Professional Relations	0.00	100.00	-100.00	0.0%
461 • College Education	2,634.17	2,200.00	434.17	119.74%
462 • Chicago. School Brd. Liaison	0.00	100.00	-100.00	0.0%
464 • Board Apptd./Adhoc Comm.	472.94	1,000.00	-527.06	47.29%
6999 • Uncategorized Expenses	303.40		303.40	100.0%
Chemical Bulletin				
452a • Chemical Bulletin Printing	41,138.79	25,520.00	15,618.79	161.2%
452b • Chemical Bulletin Postage	7,651.06	11,000.00	-3,348.94	69.56%
452c • Office	278.57	1,000.00	-721.43	27.86%
Total Expense	135,906.29	146,260.00	-10,353.71	92.92%
Net Income	51,954.24	42,555.00		

THE CHICAGO SECTION AMERICAN CHEMICAL SOCIETY
BALANCE SHEET
AS OF JUNE 30, 2002

	JUN 30, 02
ASSETS	
101 Cash-Northern Trust	16,454.69
102 Petty cash	400.00
110 Accounts Receivable	1,417.85
121 Medals inventory	4,911.00
130 Investments-money market	90,882.70
131 Stocks & bonds	496,227.00
135 Investment in LTD PTP	530,600.00
TOTAL ASSETS	**1,140,893.24**
LIABILITIES & EQUITY	
Liabilities	
212 Accounts payable	-2,420.44
215 Scholarship payable	39,000.00
Total Liabilities	**36,579.56**
Equity	
249 Investments	929,079.56
256 Scholarship fund	154,153.98
258 Young Chemist Committee	-368.98
3900 Retained Earnings	18,563.30
Net Income	2,885.82
Total Equity	**1,104,313.68**
TOTAL LIABILITIES & EQUITY	**1,140,893.24**

CONTINUING EDUCATION COMMITTEE

The task of the Continuing Education Committee is to present programs that keep the practicing chemist informed of recent developments in the various fields of chemistry. The format has varied from a series of lectures over a number of weeks on a single theme, such as analytical instrumentation, to full day or half day programs. The committee has also worked with the national ACS Continuing Education Division in giving short courses and with the topical group and program committees of our section.

Some of the topics presented over the past few years were Solid Phase Combinatorial Chemistry, Statistics for Chemists, Employment Searching, Finding Chemical Information on the Internet, 2D NMR, Chromatographic Separation of Enantiomers, Drugs from the Tropical Rain Forests.

The Continuing Education Committee needs the help of the section members to suggest various topics and/or speakers. We would also like to know what formats would be preferable. **Please send your suggestions to Fred Turner, (fturner@roosevelt.edu) or call the section office, 847-647-8405.**

CHICAGO SECTION MEETING CALENDAR 2002-2003

December 13, 2002
Section meeting
Dr. Mark Ratner
Northwestern University
"Wine, Beer, Scotch and Chemistry"

January 24, 2003
Section meeting
Dr. Daniel W. Armstrong
Iowa State University
"Separating Microbes in the Manner of Molecules"

February 21, 2003
Section meeting
Mr. Gary Kitmacher
NASA, Johnson Space Center
"Views from Space"

March 14, 2003
Section meeting
Public Affairs program

April 25, 2003
Section meeting
Dr. Michael Pellin
Argonne National Laboratory
"Analytical Chemistry of Stardust"

May 30, 2003
Section meeting
Willard Gibbs Medal Award
TBA

May 31-June 2, 2003
Great Lakes Regional Meeting
Loyola University, Chicago.

June 20, 2003
Section meeting
Scholarship awards presented
Dr. Tejal A. Desari
Boston University, Boston, MA
"Micro-therapeutic Constructs: Opportunities in Implantable and Oral Based Drug Delivery"

CAREER FAIR

ACS members are invited to participate free of charge in the Nov. 3-4 Engineers & Scientists Career Fair in Indianapolis organized by the American Institute of Chemical Engineers (AIChE). ACS is partnering with AIChE and other scientific and engineering societies to help attract as many employers to the event as possible.

This year's AIChE's job fair will be held at the Indiana Convention Center, 100 S. Capital Ave. in conjunction with the group's annual meeting. The fair will be open 8:30 — 5:00 p.m. on Nov. 3 (orientation begins at 8:30 a.m.) and 9:00 — 3:00 p.m. Nov. 4. An informal coffee hour will be held 8:00 — 9:00 a.m. on Monday Nov. 4. A reception for Career Fair participants will be held 5:00 — 6:00 p.m. on Nov. 3.

The career fair features onsite interviewing, informal networking, and practical job search workshops. Attendees will be invited to submit their resume electronically and to apply for available jobs and have an opportunity for on-site interviews.

ACS members are welcome to place their credentials at no cost in AIChE's Career Fair Resume Book, an online database made available to employers before the event and for several months after it. Participating employers are expected to use the database to select engineers for onsite interviews.

Also, participants will have the opportunity to chat informally with company representatives and other engineers; obtain free literature on AIChE; and attend free career development workshops.

The scheduled career workshops are:

SUNDAY

Job Search Strategies, 9:30-10:30 AM
Interviewing Tips, 10:45-11:45 AM
Strategic Networking, 1:00-2:00 PM
Researching Your Options, 2:15-3:15 PM

MONDAY

Writing the Right Letter 9:30-10:30 AM
Corporate Lifecycles: Implications for Career Management 10:45-11:45 AM
Profiling Your Work Style with the MBTI**, Mon., 1:00-2:00 PM
** Myers-Briggs Type Indicator

Attendees are also invited to browse career and job search material at the registration area. These materials include:

- Landing A Great Job: AIChE's Job Search Manual
- 2002 Salary & Employment Survey
- Popular Career Management Book

For a Career Fair registration form and other further information, contact http://www.aiche.org/careerservices/jobs/carfair.html.

ACS members who are interested in participating but are unable to attend may introduce themselves to employers online by posting their resume (at no charge) in the career fair resume book.

SATURDAY SCIENCE CLUBS

The Museum of Science and Industry offers Saturday Science Clubs for students in grades 6-9. Students collaboratively engage in hands-on activities to investigate scientific issues and develop problem-solving skills. Topics include chemistry, physics, flight, electric circuitry and forensics. The clubs run throughout the school year beginning Oct. 12.

Space is limited. Morning Clubs run from 9:30 am to 12 noon; afternoon clubs from 1:30 to 4 p.m. The Fall Module, "Magnets to Motors," is offered Nov. 9 & 23, and Dec. 27, at MSI, 57th Street and Lake Shore Drive.

Contact Nina Nolan, Education Coordinator, 773-684-9844 ext. 2273, nina.nolan@msichicago.org. Also go to website http://www.msichicago.org.

SCHOLARSHIPS

The Illinois Chemical Education Foundation Scholarship Program provides $2,000 Undergraduate Scholarship Awards for qualified Illinois residents enrolled in chemistry, biochemistry or chemical/environmental engineering at post-secondary educational institutions located in Illinois. For more information contact the Chemical Industry Council of Illinois at 847-823-4020. http://www.cicil.net.

ALMA E-NEWS

GAS MIXTURE QUALITY

A couple of years ago, there was a serious safety incident in the Houston area that involved two fatalities due to breathing air packs that were improperly mixed and contained insufficient oxygen to support life. There were also several other incidents involving incorrect gases in cylinders that were told to me by other lab managers and suggested that we might need to be more demanding on the quality of these chemicals. I recently learned of another incident where an apparent instrument problem was traced to a bank of Zero Grade air cylinders that were analyzed to have only about 8% oxygen content. The vendor claimed that the gases were put in the cylinders in the correct proportions but were not homogenized so that the nitrogen and oxygen layered. Considering the possible catastrophic consequences that could be caused by these types of problems, I would like to reiterate the need to take steps to insure the quality of gases used in critical applications. Some gases such as hydrogen, pure air, and nitrogen are economical to generate on site especially if the safety and quality advantages are considered. However, there are other gases that we must purchase and may not have the capability to analyze ourselves. For these gases, lab managers should personally review their vendors quality system and, if necessary, deal only with vendors who can supply analytical verification of product quality with each shipment.

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

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

WAYNE COLLINS
wayne.collins@bpsolvaype.com

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 will win one.

Congratulations to T-shirt winner Mary Roberts (September meeting).

FRAN KAREN KRAVITZ
HOSPITALITY COMMITTEE CHAIR

Advertising Index

CALENDAR

November 1-2, 2002: "Green Chemistry Lecture and Workshop," by Dr. Dennis Hjeresen, Director of the Green Chemistry Institute. The lecture for teachers and local businesses will be at 7:30 p.m. Nov. 1. On Nov. 2, Hjeresen and Mary Kirchhoff will present a workshop for secondary science and social studies teacher teams from DuPage County and neighboring schools from 8:30 a.m. to 3 p.m. Continuing Teacher Education Credits will be available for the workshop. Both events are at ONDEO-Nalco in Naperville. Contact Kay McKeen at the Solid Waste Education Center, (630) 545-9710, swedcenter@dupageco.org, or Anita Knight at ONDEO-Nalco, (630) 305-1080, aknight@ondeo-nalco.com.

November 2, 2002: Chemical Industry Council of Illinois Science Teacher Workshop will be held for secondary chemistry and science teachers. The workshop will be from 8 a.m. to 1 p.m. at Carus Chemical, Peru, IL. Continuing Teacher Credits are available. Topics include lab safety, lessons learned from a career in chemistry, "green science", alternative fuel technologies, and teaching science resources. To register, contact Brian Fischer at (847) 823-4020. Also go to http://www.cicil.net/.

November 3-4, 2002: The American Institute of Chemical Engineers will have an Engineers & Scientists Career Fair in Indianapolis, IN. at the Indiana Convention Center, 100 S. Capital Ave. in conjunction with the group's annual meeting. For a Career Fair registration form and other further information, contact http://www.aiche.org/careerservices/jobs/carfair.html.

November 7-8, 2002: Human Error Prevention Seminar, Washington, DC. For further information, call Ben Marguglio at (845) 265-0123 or e-mail at b.marguglio@att.net.

November 8-10, 2002: A free ACS Mentoring Workshop will be held at the Washington Terrace Hotel in Washington, D.C. Call 1-800-227-5558, ext. 16243 or send email to lsmentoring@acs.org for further information.

November 9, 2002: The Museum of Science and Industry (MSI) offers Saturday Science Clubs for students in grades 6-9. Morning Clubs run from 9:30 am to 12 noon; afternoon clubs from 1:30 to 4 pm. Contact Nina Nolan, Education Coordinator, (773) 684-9844 ext. 2273, nina.nolan@msichicago.org. Also go to website http://www.msichicago.org.

November 13, 2002: The Chicago Chemist Club's next meeting is at the Parthenon Restaurant, 312 S. Halsted. The speaker will be Dr. Quintin Young, WBEZ Public Affairs program host, a leader in medical and social justice issues. His talk is "Why are Prescription Drug Prices So High?" Call Judy Reuter at (847) 679-2444 for reservations by 11/2.

November 16, 2002: A Continuing Education short course on combinatorial chemistry will be a continuation of last year's course. Dr. Irini Zanze of Abbott Labs will discuss "The History of the Solution Phase Combinatorial Chemistry". The course will be held at Loyola University, 6525 N. Sheridan Rd., Cudahy Science Building (building with the green dome), room 202 from 9:00 a.m. to 12:00 p.m. See article in this issue.

November 18-21, 2002: 2002 Eastern Analytical Symposium in Somerset, NJ. Contact the Executive Secretary at (610) 485-4633, easinfo@aol.com, or go to the website www.eas.org.

December 13, 2002: The Chicago Section's Holiday Party/Dinner Meeting at Monastero's. The speaker will be Dr. Mark Ratner, Northwestern University, who will speak on "Wine, Beer, Scotch and Chemistry".

CHICAGO SECTION, AMERICAN CHEMICAL SOCIETY
THE CHEMICAL BULLETIN
7173 NORTH AUSTIN
NILES, ILLINOIS 60714

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