Monthly Meeting
Henry A. Hill Award to Doris I. Lewis; S. Yesair on: “Creating a Biomolecular Enterprise “

National Chemistry Week Events
Brauner Memorial Lecture; What’s New in the Air Symposium

ACS Election
Candidates’ statements

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Cover: Dr. David Yesair, BioMolecular Products

Deadlines: December 2003 issue: October 16
January 2004 issue: November 13

The Nucleus is distributed to the members of the Northeastern Section of the American Chemical Society, to the secretaries of the Local Sections, and to editors of all local A.C.S. Section publications. Forms close for advertising on the 1st of the month of the preceding issue. Text must be received by the editor six weeks before the date of issue.

The Nucleus

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The Nucleus October 2003 3
Henry Aaron Hill

Who was Henry A. Hill?

Henry Hill was Chairman of our Section in 1963. He was very active in the national ACS, and after being a member of, and chairman, of several of its committees, especially notably his service on the Professional Relations Committee, where, as member of a subcommittee, he was involved with drafting The Chemists’ Creed (1965), a forerunner of the Professional Employment Guidelines. He was Director of the ACS in 1971–1975 and was elected President Elect and became President in 1976. In these two latter positions he continued his strong interest in the professional aspects of chemistry.

Born in St. Joseph, Missouri, he obtained a bachelor’s degree from Johnson C. Smith University, then a segregated university for “colored” students, as they were then called. Because of his excellent record he was accepted at M.I.T., to study organic chemistry, and obtained the Ph.D. in 1942 working under Prof. Robert C. Hockett. While at M.I.T. he became acquainted with Prof. James Flack Norris of whom he said:

He was the first big man I met who was more interested in my ability to learn chemistry than in the identity of my grandparents.

Not being able to obtain a position from companies to which he had applied, with the intercession of one of his professors and some fellow students, he received three offers and accepted a position at National Atlantic Research in Newtonville, MA. In 1946 he joined Dewey & Almy Co. as Research Supervisor and in 1952 he became Vice President of National Polychemicals which was active in polymer chemistry. He obtained patents for blowing agents.

In 1961 he established his own research and consulting business, “Riverside Laboratories” to be able to pursue his research interests and to allow him to participate in ACS activities.

After his untimely death in 1979, friends and colleagues in the Northeastern Section established the Henry A. Hill Award for Outstanding Service to the Northeastern Section and to the Profession of Chemistry. The first award was made posthumously to Henry A. Hill in 1980, his son Anthony C. Hill, then a reporter for WGBH, accepting the award. Since then, 28 members of this section have been thus honored and thereby honored the memory of Henry A. Hill.

From an appreciation of Henry A. Hill delivered by Arno Heyn at the 1991 Hill Award meeting and based on notes of the late Larry Powell, revised 8/2003.
Abstract

My daughter had a college roommate who was diagnosed with Cystic Fibrosis (CF) and died at 25. This CF patient had difficulty digesting and absorbing fat, malabsorbed polyunsaturated fatty acids and fat soluble vitamins. Because of her problems one of the first objectives for BioMolecular Products, Inc. was the creation of a readily absorbable fat product.

After 3 months of searching two references provided the basis for creating a readily absorbable fat product. Large quantities of phosphatidylcholine (PC) are normally secreted in bile and are enzymatically processed by a pancreatic enzyme (PLA2) to lysophosphatidylcholine (LPC). LPC inhibits the absorption of enzymatically hydrolyzed triglycerides, whereas LPC enhances the absorption of the hydrolytic products. Studies have shown that CF patients minimally secrete pancreatic PLA2 and minimally process PC to LPC.

Research demonstrated that LPC interacts with monoglycerides and fatty acids to yield a biologically

Biography

David W. Yesair obtained his primary education at Governor Dummer Academy and graduated from the University of Massachusetts (Amherst) with a B.S. in chemistry and mathematics in 1954. He received a Ph.D. at Cornell University in biochemistry under Dr. James B. Sumner. Professor Sumner was a Nobel Laureate who taught his students that knowledge is gratifying and that innovative thinking often is not readily accepted by one’s peers. Dr. Yesair was employed by Lederle Laboratories and then received a National Science Foundation post-doctoral fellowship to continue research in England. In 1962 he joined Arthur D. Little, Inc. (ADL), at that time the premier consulting company. During his 22 years at ADL he advanced to the position of vice president. At ADL, Dr. Yesair put to use James B. Sumner’s approach to intellectual philosophy and innovative thinking when resolving the client’s problem by forming case teams from different fields in clinical medicine, pharmacokinetics, toxicology, chemistry, etc. While at ADL he discovered a new class of ubiquitous macromolecular lipids within the nucleus and mitochondria of cells and explored the chemistry of these lipids during a sabbatical in Dr. Edgar Lederer’s laboratories in Paris, France. The molecular organization of these lipids differed between tissues and bound varying mole ratios of polyamines, anti-cancer drugs and hormones. He proposed a provocative molecular function for these lipids in the transcription of nucleic acids (see Yesair in Experimental and Clinical Progress in Cancer Chemistry, F.M. Muggias ed., Martinus Nijhoff Publishers, 1985 pps 13-60). He left Arthur D. Little, Inc. in 1984 and started his business, BioMolecular Products, Inc. His presentation “Creating a New Biomedical Enterprise” will describe the science, business and the provocative aspects of creating this business. During forty years of probing forefront technologies he has been selected for membership into many societies (11 total); e.g. ASPET, SOT, AACR, ACS (46 years) and received many honors: Sigma Xi, NIH and NSF fellowships, and Chairman of Gordon Research Drug Metabolism Conference (1983). He has listings in Who’s Who in Frontiers of Science and Technology, Who’s Who of American Inventors, and Who’s Who in the World. He was a charter member of GRC drug metabolism, ISSX (International Soc. Study Xenobiotics) and ILPS (International Lecithin & Phospholipid Soc.).

Dr. Yesair has over 100 publications and many US and world patents.
Doris I. Lewis

2004 Henry A. Hill Awardee

Doris Lewis has been selected as the 2004 Henry A. Hill Awardee for her outstanding service to the Northeastern Section.

Doris received a B.S. from Duke University, and a Ph.D. from Tufts University. She was an Assistant Professor at the Newton College of the Sacred Heart from 1970-75, then moved through the ranks at the chemistry department of Suffolk University. Since 1986 she has been a Professor, and since 1995 has been the Chair of the department. She also is Chair of the Suffolk University Biochemistry-Forensic Science Advisory Board.

In the Northeastern Section, she has been on the Board of Directors since 1991, and Chair-Elect, Chair and Immediate Past Chair from 1999-2001. She has been an Alternate Councilor for the Section 1991-94 and a Councilor since 1994. She chairs the Phyllis A. Brauner Memorial Lecture Committee since 2001 and has been instrumental in coordinating its lectures with the local National Chemistry Week activities by continuing the work of Phyllis A. Brauner in obtaining noted educators for the popular demonstration lectures at the Boston Museum of Science, in recent years the nationally known Prof. Bassam Shakhashiri.

She has been instrumental in establishing the Phyllis A. Brauner Memorial Lecture Fund by putting it on a permanent basis with funds from the Northeastern Section and contributions from members.

Other NESACS activities include being Chair of the Legislative Activities Committee in 2002, organizing the 2002 Salute to Excellence Award, being a member of its Board of Publications 1995-98 and its Chair 1996-98, being a member of the NESACS web page startup task force, National Meeting Committee in 1990 and 1998, being the Student Affiliate Coordinator 1978-90, and a member of the Continuing Education Committee 1979-81.

For the national ACS she has been a member of the National Science Funding Network since 1993, and an Associate of the Committee on Chemistry and Public Affairs in 2001 and 2002. She also participated in the CS Legislative Summit in 2002.

From the above it is obvious that she is, indeed, a worthy recipient of the 2003 Henry A. Hill Award.

◆◆

50-Year Members

To be honored at the October 9, 2003 NESACS Meeting at Wellesley College

Mr. Donald B. Albert
Dr. Henry Bader (posthumous)
Mrs. Maureen F. Bonanno
Mr. Paul J. DeMeo
Dr. Melvin W. First
Mr. George N. Fountas
Dr. Edgar B. Gutoff
Mr. Robert C. Hong
Dr. Robert E. Huffman
Mr. William Bolis Kaupin
Dr. Boris Levy
Mr. Richard S. Lindstrom
Dr. Maurice Liss
Mr. Henry A. Mariani
Mr. John J. McHugh
Mr. Joseph M. Mendelsohn
Mr. Ronald E. Moses
Dr. John F. Paulson
Dr. Maurice M. Pechet
Mr. John O. H. Peterson
Dr. Donald H. Powers
Dr. Farida M. Saad
Dr. Hilton A. Salhanick
Dr. D. Rao Sanadi
Dr. Robert D. Stolow
Dr. Geza Szonyi
Dr. Anthony F. Wilde
Mr. William S. Youngquist

The following are 52-year members and were erroneously omitted in 2001

Mr. Arthur P. Alexander
Dr. Edward B. Carton
Dr. John Figueras
Mr. Edmund J. Freeman
Mr. Frederick S. Holahan
Dr. H. E. Knipmeyer
Mr. George C. Krusen II
Mr. Victor M. Kumin
Mr. Thomas R. Moore, Jr.
Mr. Donald E. Paul
Dr. George Rendina
Dr. Elizabeth J. Rock
Dr. Hans W. Ruelius
Dr. Elizabeth R. Simons
Dr. Alfred Viola

Our best wishes to these 50- and 52-year members.
stable, organized lipid matrix (OLM) which is quantitatively absorbed in CF patients in the absence of enzyme supplements. A one year, double blind feeding of OLM versus triglycerides in CF children provided novel clinical results; e.g. an increase in height and pulmonary function (The Journal of Pediatrics 141 (2) 178-185, 2002 and ibid. p.157-159). Also, OLM structurally can include drugs and vitamins which results in multiple fold greater bioavailability. This novel and useful technology is described in 7 US and >100 world patents. Several limited liability companies (LLC) have been formed using this platform technology; specifically, LYM-MED Nutritional Products, LYM-DRUG Products, LYM-DERM Products and LYM-SPORTS Products.

Central to the success of exploiting this technology has been the quantitative metabolism of PC to LPC and cost reductions. Minimizing the taste problems associated with the commercial phospholipids has been a major problem. Demonstrating the compatibility, stability and bioavailability of drugs in the organized lipid matrix provided the most opportunities to characterize many useful physical chemical parameters of the matrix; e.g. DSC (eutectic organization), MS (lamellar and inverse hexagonal structures), CMC (critical micelle concentration), Viscosity, etc. In addition, the practical aspects of scaling up production, filling gelatin capsules, developing solid dose forms, stability of OLM and drug, etc. have had to be addressed.

Dr. Yesair will address his experiences with science, business and the provocative aspects of the creation of this business.

The Northeastern Section of the American Chemical Society (NESACS) will provide Grants-in-Aid of $250 to each of four undergraduates to enable them to attend the 227th ACS National Meeting in Anaheim, California and present a paper at the Undergraduate Research Poster Session in the Division of Chemical Education. The institutions of the successful applicants are expected to match the award.

Application: Application forms are available from departmental offices and the NESACS office. In addition, application forms may be obtained from the NESACS Web site at http://www.nesacs.org. The deadline for receipt of completed applications by Professor Ruth Tanner, the Chair of the Selection Committee, is November 3, 2003. Completed applications are to be sent to: Professor Ruth Tanner University of Massachusetts Lowell Department of Chemistry, Olney Hall 265 Riverside Street, Room 520 Lowell, MA 01854-5047 Phone: (978) 934-3662; Fax: (978) 934-3013 e-mail: Ruth_Tanner@uml.edu Notification: Applicants will be notified of the results by e-mail on November 10, 2004. The deadline for electronic submission of abstracts to the American Chemical Society in Washington, D.C. is November 25, 2003.

Anyone who needs special/handicap services or transportation, please call Marilou Cashman a few days in advance so that suitable arrangements can be made.
Preliminary Announcement

**ACS Northeast Regional Undergraduate Day**

*Saturday, November 1, 2003*

The Twelfth Annual ACS Northeast Regional Undergraduate Day will be held in celebration of National Chemistry Week (October 19-25) on **Saturday, November 1**, in the Metcalf Science Center at Boston University (590 Commonwealth Avenue).

The keynote speaker will be **Professor Thomas Pochapsky** (Brandeis University), who will talk about his research on NMR structures of proteins.

The program will also feature technical talks by eminent researchers; a workshop on hands-on chemistry with children; seminars on graduate school preparation, industrial careers, and alternative careers; a graduate and industry fair, resume review, information about ACS career services; and a workshop on student affiliates chapter activities. There will be a $5 registration fee to cover partially the cost of lunch, which will be provided, and workshop materials.

*The event is sponsored by NESACS and is hosted by the Department of Chemistry and Chemia, the ACS Student Affiliates Chapter at B.U.*

*For more information, contact Kevin Burgoyne at 617-353-2503; fax: 617-353-6466; burgoyne@chem.bu.edu*

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**Call for Papers**

**Undergraduate Research Poster Session**

**227th National Meeting of the American Chemical Society**

**Anaheim, California**

**March 28 – April 1, 2004**

The ACS invites undergraduate students to submit abstracts of their research papers for presentation at the Undergraduate Research Poster Session (URPS), which will be part of the extensive programming for undergraduates at this national meeting. Submit your abstract electronically by **November 25, 2003** to [www.acs.org/meetings](http://www.acs.org/meetings). Click on the CHED division and then select the URPS site that is appropriate to the subject of your paper. Please follow the directions carefully.

**For further information, contact:**

LaTrece Garrison
ACS Student Affiliates Program
1155 Sixteenth Street, NW
Washington, DC  20036
Tel: (800) 227-5558, ext. 6166
e-mail: SAprogram@acs.org

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**Food Chemistry Conference**

*Integrating Food Chemistry, Health Science, and Technology into the Chemistry Curriculum*

**November 14-15, 2003**

**Middlesex Community College, Lowell, MA**

*Sponsored by New England Assoc. of Chemistry Teachers; Science Teachers Area Resources Swap; Two-year College Chemistry Consortium; UMass Lowell; and the Northeastern Section, ACS*

Many concurrent sessions throughout Friday and Saturday, Exhibit, Work-
ACS SHORT COURSE
Designed to improve the skills and marketability of practicing B.S., M.S., and Ph.D. chemists.
The NESACS Committee on Continuing Education is pleased to sponsor this newly updated National ACS Two-Day Short Course, at a registration fee less than half of that charged at National ACS Meetings.

Statistical Analysis of Laboratory Data

This Short Course is designed for scientists, engineers, technicians, laboratory managers, R&D managers, manufacturing and production managers and others who need to understand traditional and modern methods of data analysis. This course assumes no previous knowledge of statistics and is aimed at both beginning and experienced workers. Participants should bring a hand-held calculator to the course.

DATES and TIME:    Thursday, Nov. 20, 2003;   8:00 a.m. – 4:00 p.m.
and Friday, Nov. 21, 2003;   8:30 a.m. – 5:00 p.m.
PLACE:  450 Dodge Hall, Northeastern University, 360 Huntington Ave., Boston, MA

PROGRAM AGENDA:
- Describing Variability with the Standard Deviation
- Characteristics of Measurement Uncertainty
- Uncertainties of Parameter Estimates
- Pooling Estimates of Variability
- Confidence Intervals on the Population Mean
- Confidence Intervals on the Population Standard Deviation
- Introduction to Statistical Inference
- An Overview of t-Tests
- Specification Testing
- The F-Test
- Understanding Statistical Hypothesis Tests
- One-Way Analysis of Variance (ANOVA)
- Detecting and Rejecting Outliers
- Sensitivity, Selectivity, and Limit of Detection
- Nonparametric Statistical Methods
- Least Squares for Model Fitting
- Diagnostic Tests for Judging the Adequacy of a Model
- Evaluating Measurement Processes with Control Charts
- Detecting Instability of a Measurement Process
- Methods of Transfer and Validation – Youden Plots, Ruggedness Testing

INSTRUCTORS:
Stanley N. Deming, Professor Emeritus of Analytical Chemistry at the University of Houston and the President of Statistical Designs.
Stephen L. Morgan, Professor of Analytical Chemistry at the University of South Carolina. Drs. Morgan and Deming have combined to teach more than 400 highly-rated short courses in experimental design, optimization, statistical methods of data treatment, and analytical chemical methods development.

PRE-REGISTRATION REQUIRED – Registration Fees:
ACS Members if received before Nov. 4 ……… $500.00; after Nov. 4 ……. $575.00
Non-ACS Members if received before Nov. 4 ……. $600.00; after Nov. 4 ……. $675.00
There will be a limited number of scholarships for unemployed ACS Members on a space-available basis.
Parking Fee: about $14.00/day
University cafeterias will be available for lunches.

For further information contact: Prof. Alfred Viola at (617) 373 2809

Registration form for Short Course: Statistical Analysis of Laboratory Data. Nov. 20 – 21, 2003

Name: _____________________________ Business Affiliation: _________________________
Mailing Address: __________________________ Telephone: __________________________
Mail with remittance to: ____________________________________________________________________________
(Provisional membership to NESACS is required for all applicants. If you are not a member, you may apply and pay the membership fee with your registration.)

Mail with remittance to: Prof. Alfred Viola, Chair
NESACS Committee on Cont. Ed.
Department of Chemistry
Northeastern University
Boston, MA 02115
National Chemistry Week
Phyllis A. Brauner Memorial Lecture by Dr. Bassam Shakhashiri, Earth’s Atmosphere and Beyond!!

Sunday, October 19, 2003, 11 am – 12 noon
repeated from 2 pm – 3 pm
Wellesley College, Science Center, Room 277

Dr. Bassam Shakhashiri is a Professor of Chemistry at the University of Wisconsin-Madison and is the William T. Evjue Distinguished Chair for the Wisconsin Idea. Professor Shakhashiri has captivated audiences with his scientific demonstrations at a variety of locations including Boston’s Museum of Science, the National Academy of Sciences and the Smithsonian’s National Air and Space Museum in Washington.

The Sunday presentations are free and open to the public. Tickets are available on a first come, first serve basis though reservations are recommended. To reserve tickets, please contact Marilou Cashman either via email mcash0953@aol.com (preferred) or by phone 1-800-872-2054. Tickets will be available for pick-up outside of the Science Center on the 19th.

Free Parking. For directions to Wellesley College, see p. 4. Visit the arboretum and greenhouses. Information: http://www.wellesley.edu/FOH/greenhouse.html.

Kicking off National Chemistry Week 2003 festivities
Join us in a variety of hands-on activities including making UV and humidity testers as well as demonstrations regarding the Earth’s atmosphere. 10 am – 4pm on October 19, 2003 outside of the Wellesley Science Center. In case of rain, indoors.

For more information, visit www.nesacs.org.

What’s New In The Air?
Atmospheric Chemistry In The 21st Century
A Symposium On the theme “Earth’s Atmosphere and Beyond” Sponsored by The Northeastern Section, ACS (NESACS) and the Massachusetts Institute of Technology (MIT)

Thursday, October 23, 2003, 7:00 pm
Eastman Lecture Hall, Room 6-120, MIT

7:00 NESACS Welcome, Doris I. Lewis (Suffolk University)
7:05 MIT Welcome, Luisa T. Molina (MIT)
7:10 Introduction, Charles E. Kolb (Aerodyne Research)
7:15 Mario J. Molina (MIT)
    Improving Air Quality in Megacities: Mexico City Case Study
7:45 Daniel J. Jacob (Harvard University)
    Air Pollution and Climate Change
8:15 Break
8:45 James G. Anderson (Harvard University)
    Spectroscopy and Climate Change: Benchmark Observations and Forecast Testing
9:15 Panel to Answer Questions on the Changing Atmosphere

Continued on page 11

ACS Candidates

The two candidates for President-Elect for 2004 and the three candidates for District I Director have submitted the following statements, listed in alphabetical order for each office.

Be sure to vote in the ACS election
Ballots will be mailed in early October.

President-Elect in 2004
William F. Carroll, Jr.

What the President Can Do, and Why You Should Care

It is a pleasure and an honor to be invited to write directly to ACS members in the Northeastern Section.

Over the course of the summer I surveyed and received responses from hundreds of members ranging from those celebrating their 50th anniversary to grad students. Diverse issues are important to different groups, but for the Society in total, the public perception of chemistry is overwhelmingly the most important issue, especially for long term members.

As activist-in-chief for the Society, the ACS President has the best opportunity to speak out for chemistry and the people who practice it.

If elected ACS President I will work to be the most visible face and credible voice for chemists and chemistry.

Visiting Local Sections and listening to members is important; however, these trips can be much more if they include opportunities to meet the public and discuss the benefits of chemistry. Presidential outreach can make a difference.

The ability to do research—both graduate and undergraduate—depends on government funding. Younger members and faculty at primarily undergraduate institutions tell me they are concerned about preserving and augmenting it. New funds have been promised for NSF but they have not yet been delivered. Additionally, some
ACS Candidates
Continued from page 10

societies are driving forces of the Society. Increased financial support is coming, but money isn’t everything. We must be more creative in helping them engage members, whether through programs devised at the national level, or through Section and Division mutual aid.

This means thinking beyond traditional models and experimenting with new activities that fit with members’ interests and lifestyles. Some groups, most notably the Younger Chemists Committee, have led the way in promoting a public service model of involvement. Showcasing chemistry in service to society provides the opportunity to discuss its benefits with the public. Local Sections are the ideal launching pad for this dialogue.

• Our center of gravity is changing. Many respondents commented on the blurring of traditional lines among the fields of biology, chemistry and physics. Our fastest growing division is Biochemical Technology. The companies with the most members are pharmaceutical companies, not “traditional” chemical companies.

We must pay greater attention to the growing number of chemists working at the interface of these fields. Our ability to improve the human condition and to demonstrate chemistry’s value to the public is enhanced by the innovation of our colleagues in this sector.

• Employment Issues Have Become Critical. Unemployment for chemists in industry is at record levels. Careers in chemistry—economic engines for nearly a million families in the US—are at risk. We must understand the changing nature of chemical employment, find the opportunities and work to mitigate the impacts to our current and future members. Our knowledge and employment tools need to evolve quickly to better protect and nourish those careers.

• We welcome excellence. Diversity matters to us; we are diminished when perspectives are absent. Talent and desire should see no barrier to entry or advancement in chemistry.

• Well-crafted Alliances Help Us Do More. The entire chemical enterprise is focused on the need to improve the public image of chemistry. Partnerships can make sense.

When we work together we mobilize more human energy in the service of chemistry. I chaired a Presidential task force that boosted involvement of American Chemistry Council members in National Chemistry Week—many had never participated before last year. International Activities Committee, which I also chair, allies with our global counterparts to advance chemical communication and education worldwide. Alliances succeed if they are based on common goals, people of goodwill and mutual respect.

• The Next Generation Can Be More Chemically Literate if We Invest. Pointedly, 60 percent of high school students enroll in chemistry classes, but many chemistry classes are taught by dedicated teachers from another field; few high school students take the course from a degree chemist.

We can equip capable chemical professionals—early retirees are a good example—with the pedagogical tools they need to take their technical expertise into the classroom. Also, some colleges offer summer enrichment courses wherein non-chemist teachers gain new methodology and recharged enthusiasm. ACS can perform a service by cataloguing and publicizing these courses, compiling curricula, communicating best practices, and helping teachers identify potential tuition aid sources.

Non-chemist teachers may not be our members, but they have been entrusted with the preparation of our incoming undergraduates and ultimately our Society’s next generation. We benefit when they all are the best they can be.

Difficult times like these hold challenge and opportunity. Typically, over 85 percent of ACS members throw their ballots away. This year can be different. We create the future when we confront the challenges, embrace the opportunities and make them our own.

In a spirit of resolve, respectfully but directly, I am asking for your vote. In return I offer enthusiasm, energy and my personal commitment to work with you to realize the potential of what the ACS President can do.

Michael E. Strem

Not since Henry Hill served as President of the ACS in the late 1970’s has there been a candidate from the Northeastern Section (NESACS). Not only am I an active NESACS member but, like Dr. Hill, I am a small businessman. This is at a time when many of our members are transitioning into small businesses of less than 500

Continued on page 12
employees due to job cuts among the larger firms (data from the ACS Career Services Dept.).

My professional career has been primarily involved with small business but I have interacted consistently with chemists in larger businesses as well as in academia. Upon receiving my Ph.D. I founded a company and headed straight for the ACS in order to network with other chemical professionals. At that time the ACS was the primary organization for the chemical profession and it still is.

As my company matured I became interested in ACS governance. I have been Chair of the Division of Small Chemical Businesses, and Chair of our Northeastern Section, as well as a councilor for 15 years. I have served on several ACS governance committees and on the ACS Board of Directors from 1997 to 2000. Because of this experience I feel I know the ACS well and have made many long-lasting acquaintances with both members and staff.

In a company, a president must set the direction and see to it that the objectives are reached. In the ACS, the President only serves for one year so he or she can set directions but accomplishing results will most likely be the domain of others. I have several directions that I would like to set as my priorities.

The first will be to step up efforts to communicate to our public officials the value of increased funding for basic and applied research as well as chemical education. I am on a first-name basis with Congressman John Tierney in the Sixth District of Massachusetts and will inspire other ACS members to do the same in their areas. That personal relationship can be most effective in getting our “value of science and chemistry” message across.

Another focus of mine will be to increase programs to aid member job-transitioning and career development. A good example of career development is the international student exchange program initiated by our section successfully with the German Chemical Society. I have chaired our Steering Committee for these particular exchanges which are now in their fourth year. The students travel abroad and give oral or poster presentations about their work to an ever-growing young chemist audience. Symposia on subjects such as careers and educational standards, visits to companies, and ample networking time are included. This program fits the ACS strategic thrusts of internationalism and student involvement and is in line with the ongoing globalization of the chemical profession and chemical industry. The student feedback has been highly positive.

To raise outside funds for various ACS services and programs is another important priority of mine. We all know that the recent economic situation has dented the value of ACS investments and curtailed new projects. Fundraising is pursued at the ACS in a decentralized way. We have a matching gifts program but it is less broad than it used to be. I will work to accelerate the pace and centralization of our fundraising efforts. There is tremendous value in ACS programs and services and I’m sure that corporations and funding agencies will support them financially on an on-going basis.

My last priority is to promote the principles of Responsible Care®. There’s a slogan that has become popular at the ACS, namely, “we’re all in this together”. The togetherness here is the chemical enterprise which is adopting the principles of Responsible Care in the U.S. and globally at a vigorous rate. We, at the ACS, have endorsed the principles of the Responsible Care Program which deal with continuous improvement of environmental, health, and product management. Responsible Care was launched 14 years ago with the idea of improving the quality of life as well as the public’s perception and confidence in the chemical enterprise. With the ACS’s strength in chemical education, we should explore programs with colleges and universities to ensure that students emerging from our education system understand and practice the principles of Responsible Care. This educational program, along with National Chemistry Week and our emphasis on Green Chemistry, should
help to improve the public’s perception of chemistry.

The ACS has a strong tradition and a solid infrastructure, but like any organization, it cannot sit still. It needs new ideas and inspired volunteer workers to continue its success. The President of the ACS should be able to inspire fellow members and ought to represent the diverse richness of the Society. Since small business is one of these diverse elements, I urge you to vote for a small businessman – me! – to be your next President, and recapture the days of Henry Hill which made us all at NESACS proud.

For additional statements by Mike Strem please visit www.strem.com.

Director for District I

Ronald D. Archer

My experience in chemistry research, in chemistry education, and as department head in a major university—along with extensive service to the American Chemical Society at local, divisional, and national levels—provides me with the background necessary for fulfilling the role of Director of District I. I will faithfully represent the members of the District to the Board of Directors, ACS President, and ACS Staff.

Although my career has been largely in the academic realm, I have also consulted for corporations large and small, and several of my former students work in industry and in government laboratories. The feedback I receive from them and the members of the various ACS committees I have served is very helpful in providing me with a balanced perspective of the ACS. My service on the Committee on Economic and Professional Activities and the Society Committee on Education (both of which I have chaired) along with service on the Nominations and Elections Committee, the Council Policy Committee, the Committee on Committees (ConC), and the Science Committee have provided me with interactions with excellent chemists from industry, government laboratories, non-profit organizations, and academia. My candidacy is based on the urging of a number of these individuals.

Issues I intend to stress include improving communication with our members, the general public, and Congress; enhancing the role of the Society to the broad diversity of scientists who use chemistry; keeping Society meetings and publications affordable; and improving the Society’s financial status through fiscal restraint. These are all essential for the future of the discipline and the Society.

I would emphasize keeping the Society, its publications, and its meetings attractive and affordable for students, teachers, technicians, and interdisciplinary chemical scientists. True diversity in the Society requires incorporation of all of these groups as well as women, underrepresented minorities and persons with disabilities.

The ACS needs better financial restraint. My background for the fiscal concerns include three years as ConC liaison to the Committee on Budget and Finance, seven years as a Department Head in a major university handling complex budget operations in both good and bad funding situations, and forty years balancing budgets for research programs.

However, we must not jeopardize the excellent publications, our first rate education activities, our premier employment and other outstanding member services, and our prime public relations activities. These society thrusts require careful monitoring by both the Council and the Board. On the other hand, the ACS staff professionals, who are first rate, must be allowed to pursue their work in these areas without excessive interference from the Board. I would work diligently to help ensure the appropriate balance is provided.

Finally let me note that I have been involved in a number of chemical education activities, both within the Society and elsewhere (cf. http://k12s.phast.umass.edu/stem/archer.html) and a more detailed candidate statement and short bio will appear in Chemical and Engineering News in September. My regular website is http://www.chem.umass.edu/Archer/archer.html.

Continued on page 14
Anne T. O’Brien

Friends of the Northeastern Section, please read my statement in a September issue of C&EN. Here, I would like to speak more directly with you. I ask you to vote for me to continue representing you as your District I Director.

I ask for your vote because:

• I know your Section, your strengths, and many of you.

• Continuity on the Board is important this year. With a new Executive Director and a new Strategic Plan, experience in and knowledge of the Society’s recent history will be useful.

Work, experience, and ideas:

Work: I have represented you earnestly during my first term — as Chair of the Board’s Committee on Professional and Member Relations, on the Committees on Budget and Finance, Public Affairs and Public Relations, and Grants and Awards, by soliciting Congress for science education and research funding.

Experience: Fifteen years in education (Marymount College and University of Waterloo); 26 years in chemical information (American Cyanamid/Lederle/Wyeth); 30+ years elected positions in ACS; 3 years on the Board.

Ideas: Alternatives to physical meetings; more learning and support at your desktop; Webcasts, electronic mail; focus on your participation, and on young and diverse members — the Society’s future.

I much enjoyed my visit to Henderson House, Northeastern University, and the ceremony honoring your 50 year members. I was privileged to attend your Board Meeting, to congratulate Mike Ahearn on his award, and to give a scientific information talk. John Neumeyer, Arno Heyn, and all, were most gracious.

During MARM, I was impressed by John Warner’s talk on Green Chemistry. At NERM, I learned about Peer Led Team Learning (PLTL) from enthusiastic practitioners, led by Mort Hoffman! Obviously the Northeastern Section is vigorous, a light among large Local Sections.

As a member of the Medicinal Chemistry and Chemical Information Divisions, I am keenly aware of the density of biomedical, biotechnological, information and software R&D activity in your section — not to mention the excellence of your educational institutions. My nephew is currently attending an old and famous university in Cambridge. I don’t dare start naming great universities, lest I omit one!

I know of your student exchange program with Germany, your career workshops, and your Education Committee’s active work with high school teachers. The dignity of high school chemistry teaching is, in my opinion, a crucial concern for us all. Few careers have such potential for positive impact on the nation’s well-being. We need to encourage young people to teach!

I want to hear what you see as the most important issues for ACS. I’ve written to your councilors and Northeastern Section Officers, but I want to ask you what you wish the ACS would do or undertake. Please write, or e-mail! My ideas are in C&EN.

I am honored to have been asked to run again for District I Director. I enjoy working on the Board, I work hard, and I ask for your vote.

Together, we will ensure the vitality and relevance of the ACS!

Anne T. O’Brien
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Dorothy J. Phillips

My vision is for a more dynamic, global American Chemical Society. I foresee an organization that is improved by stronger leadership programs, greater exposure to the scientific community, more recognition and awards, superior member benefits and enhanced networking opportunities.

I have had the fortune of a successful corporate career. It has provided me with a unique combination of scientific insight, executive contacts,
Annual Nucleus Buyers Guide 2003

Your Buyers Guide Listing is free! If you are not listed in this year’s Guide, please contact Vince Gale at: Phone 781-837-0424, Fax 781-837-8792, e-mail: vincgale@tiac.net

The purpose of the Guide is to provide a ready reference of companies providing products and services that are of interest to our American Chemical Society members. Our members will use this guide as a way of finding vendors who can service their needs when they are trying to solve a problem, need equipment, restock inventory, or require consultant services, they will keep this reference until the next one is published.

This directory will be given to our 7,500 members for their use. This issue has excellent advertising value because it is kept and referenced for the full year.

If you wish to be in next year’s Guide, please contact Vince Gale as noted above.

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ACS Candidates
Continued from page 14

global exposure, marketing experience and powerful organizational skills. The positions that I have held at Dow Chemical and Waters Corporation have given me the business and technical insight required to address goals for both academic and industrial scientists. I believe that this background has prepared me to achieve the change that I am most passionate about for ACS. This passion begins in District I.

I would like to concentrate on the following points to strengthen our local sections during my service as Director of District I.

• Over the past two years I have advised the Young Chemist Committee in developing seminars for leadership and meeting planning as well as social activities. I will work with the Society to ensure that young scientists are supported and respected with career development programs and social activities. This is particularly important in District I where we have a large number of young chemists in either graduate school or new corporate positions.

• As Chairman and Councilor of the Northeastern Section of the ACS, I have seen the burden of resources (financial and personnel) fall on the academic community. I will partner with corporations to increase their support at the local, regional and national level for programs, member benefits and job searches.

• In my current position as Director, New Business Development, it is imperative that I am on the cutting edge of global technology. I regularly visit and have contact with leading scientists in Europe and Asia; these contacts can benefit ACS. I will use this exposure to bring the top speakers to the local sections and regional meetings.

• My years in Marketing have shown me a potent opportunity for member acquisition. The exhibit halls at Regional Meetings are filled with scientists in Marketing and field staff positions. Many of these people are not ACS members. They need ACS and ACS needs them. I will put a program in place to capture these potential new members.

• Smaller scientific organizations have found ways to meet the diverse needs of chemists and chemical engineers. ACS can combine their specialty focus with our unique infrastructure to broaden the relevance of our organization. Joint meetings, and other collaborative activities will strengthen and diversify ACS. I look forward to broadening this list of specialty organizations that reach out to the many important groups that ACS needs to involve.

I am running for Director because I am sure that a more dynamic global American Chemical Society will have a positive impact on meeting the rising challenges of our world both now and in the future. This change will begin in District I. ◊
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117
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65
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87
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54
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24
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146
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109
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28
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178
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179B
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97
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180
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22, 23, 24, 151
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20 The Nucleus October 2003
COMPANY DIRECTORY

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Pfaltz & Bauer, Inc.
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SGS U.S. Testing Company Inc.
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65A

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27

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135

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  - First Ten Angstroms
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  - Impact Analytical, Div. of M.M.I
  - Metuchen Laboratories Inc.
  - Quantitative Technologies Inc.
- **24-Trace element analysis**
  - Northern Analytical Laboratory
  - VHG Labs

### CHROMATOGRAPHY
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  - Aura Industries Inc.
- **42A-Chromatography**
  - Alpha Omega Technologies Inc.
  - Chiral Technologies, Inc.
  - Pharm-Eco, A Johnson Matthey Co
  - Thar Technologies, Inc

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  - Strem Chemicals, Inc.
- **28-Custom synthesis**
  - Dannier Chemical, Inc.
  - Front Run Organx, Inc.
  - Organomed Corporation
  - SARChem Laboratories, Inc.
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  - Alconox Inc.
- **30-Dyes and stains**
  - Rowley Biochemical, Inc.
- **33-Inorganic chemicals**
  - CERAC, Inc.
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- **49-Coating facilities**
  - Yasui Seiki Co.

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  - BIOSIS
  - Heterodata, Inc.
  - National Institute Stds & Tech
- **56-Software**
  - Acquisition Solutions
  - CambridgeSoft Corporation
  - Molecular Knowledge Systems
  - TAL Technologies Inc.
  - Zumatrix, Inc.

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- **57B-Investment Management**
  - Repex & Co. Inc.
  - Repex Investment Management Co
- **59-Patents**
  - Jacqueline M. Arendt, Esq.
- **60-Research**
  - ICF Consulting

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  - MVS Solutions, Inc.
  - Polymer Processing Institute
  - XenoBiotic Laboratories, Inc.
- **65A-Contract testing laboratory**
  - Activated Carbon Services Inc.
  - Eurofins Scientific, Inc.
  - Gateway Chemical Technology
  - Integrated Analytical Labs, LLC
  - Prevalere Life Sciences, Inc.
  - SGS U.S. Testing Company Inc.
- **70-Language translation**
  - J.S.T
<table>
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<th>CONSULTING, MANAGEMENT continued</th>
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<td>GOW-MAC Instrument Co.</td>
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<td>ENVIRONMENTAL ANALYSIS</td>
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<td>Micron Inc.</td>
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<td>Kewaunee Scientific Corp.</td>
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<td>Gilson Company, Inc.</td>
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<td>Heidolph Instruments</td>
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<td>Organization Associates, Inc.</td>
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<td>Avery Filter Co.</td>
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<td>Controltron Corp</td>
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<td>BioPro International Inc.</td>
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<td>VirTis, an SP Industries Co.</td>
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<td>114-General laboratory equipment</td>
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<td>American Instrument Exchange</td>
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<td>Dawn Scientific Inc.</td>
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<td>Banner &amp; Witcoff, Ltd.</td>
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<td>United Electric Controls Co.</td>
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<td>Fluid Metering, Inc.</td>
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<td>132-Solvent purification systems</td>
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<td>M. BRAUN, Inc.</td>
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<td>Solv-Tek Inc.</td>
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<td>135-Ultra-pure water system</td>
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<td>Aqua Solutions, Inc.</td>
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<td>Structure Probe, Inc.</td>
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<td>137-Vacuum equipment</td>
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<td>Eastern Scientific Co.</td>
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<td>Mass Vac, Inc.</td>
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<td>138A-Vibration isolation equipment</td>
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<td>Kinetic Systems</td>
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<td>LASER SYSTEMS</td>
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<td>CeramOptec Industries Inc.</td>
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<td>MICROSCOPES &amp; SERVICES</td>
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<td>144-Microscope accessories</td>
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<td>Cargille Laboratories</td>
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<td>Thermo Spectra-Tech Inc.</td>
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<td>ORGANIC MICROANALYSIS</td>
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<td>Huffman Laboratories, Inc.</td>
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<td>ORGANIC SYNTHESIS</td>
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**Buyers’ Guide Listing are FREE!**

If you are not listed in this year’s Guide, please contact Vince Gale:
Phone: 781-837-0424, Fax: 781-837-8792, e-mail: vincegale@adelphia.net
**CONNECTIONS TO CHEMISTRY 2003**

*Wednesday, October 8, 2003*

3:30 – 8pm Burlington High School

This program will help connect high school teachers with the ACS resources that will help students with their questions and their learning of chemistry. Workshops:

- Performing Effective Chemical Demonstrations.
- Liability in the Laboratory and Classroom.
- Will a Match Burn in the Absence of Gravity?
- Exploring Quantum Concepts in Chemistry.

6:15 Dinner and Address *Around the World on 37 Cents!* Sally Mitchell, East Syracuse-Minoa Central High School, East Syracuse, NY

Certificate for 3 hours of Prof. Dev., and a years subscription to *ChemMatters* will be given to all participants.

*For additional information, contact Dr. Ruth Tanner: 978/934-3662 or Ruth_Tanner@uml.edu*

The deadline for registration is Friday, October 3rd.

*The registration form may be obtained from the NESACS Web site [http://www.nesacs.org](http://www.nesacs.org) under Connections to Chemistry 2003.*

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Calendar

Check the NESACS Homepage for late additions:
http://www.NESACS.org

Note also the Chemistry Department web pages for travel directions and updates. For example:
http://web.mit.edu/chemistry/
http://www.chem.harvard.edu/events/
http://www.umassd.edu
http://www.dartmouth.edu/~chem/

Oct 1
Prof. Graham Jones (Northeastern Univ.)
“Organic Synthesis in the Chemical Biology Interface”
Northeastern Univ., 11:45-1:20 pm, 320 Shillman Hall

Oct 2
Prof. Rosina Georgiadis (Boston Univ.)
Physical Chemistry
Harvard Univ., Pfizer Lecture Hall, Mallinckrodt Lab, 5:00 pm

Oct 7
Prof. Donna Blackmond (Univ. of Hull, UK)
“Origin of Asymmetric Amplification in the Soai Autocatalytic Alkylation of Pyrimidyl Aldehydes”
Harvard Univ., Pfizer Lecture Hall, 4:15 pm to 6:15 pm

Oct 8
Prof. Patricia A. Mabrouk (Northeastern Univ.)
“From Protein Electrochemistry to Supercritical Materials”
Northeastern Univ., 320 Shillman Hall, 11:45 am-1:20 pm

Oct 9
Prof. Brian C. Benicewicz (Rensselaer Polytechnic Institute)
“Polybenzimidazole Polymers for High Temperature PEM Fuel Cells”
Univ. Mass. Lowell, Olney 218, 3:30 pm
Dr. Carl Selavka (Mass. State Police Crime Lab.)
“Why Forensic Science is Sexy; and Why You Shouldn’t Trust CSI”
[Hosted by Undergraduate Chapter of the ACS at Tufts Chemistry]
Tufts Univ., Pearson Chemistry Building, 62 Talbot Ave., Medford, Room P-106, 4:30 pm

Oct 14
Prof. Patrick Walsh (Univ. of Pennsylvania)
“Asymmetric C=C bond forming reactions”
Brandeis Univ., Edison Lecks Building, Gerstenzang 122, 3:45 pm

Oct 15
Prof. Stephen R. Leone (Univ. of Cal., Berkeley)
“Coherent Control in Molecules”
Boston College, Merkert 127, 4 pm
Prof. Patrick Walsh (Univ. of Pennsylvania)
“New C=C Bond Forming Reactions”
Harvard/MIT Inorganic Chemistry Seminar
MIT, Room 6-120, 4:00 pm
Prof. F. Sherwood Rowland (Univ. of Cal., Irvine)
“Stratospheric Ozone Depletion, Global Warming and Climate Change”
UNH, Iddles Auditorium Room L101, 4:10 pm

Oct 16
Prof. Stephen R. Leone (Univ. of Cal., Berkeley)
“Ultrafast Soft X-Rays: Watching Molecules Transform”
Boston College, Merkert 127, 4 pm
Prof. F. Sherwood Rowland (Univ. of Cal., Irvine)
“Some Regional Hydrocarbon Chemistry”
UNH, Iddles Auditorium Room L103, 11:10 am

Oct 17
Prof. Stephen R. Leone (Univ. of Cal., Berkeley)
“Probing the Nanoscale: Quantum Dot Growth and Lithography”
Boston College, Merkert 127, 4 pm

Oct 20
Prof. Alan Goldman (Rutgers Univ.)
“Dehydrogenation of Alkanes Catalyzed by Pincer-Ligated Iridium Complexes”
Brandeis University, Edison Lecks Building, Gerstenzang 122, 3:45 pm
Prof. Susan Lindquist (MIT Dept. of Biology)
Biochemistry Seminar Series
MIT, Room 6-120, 4:00 pm

Oct 21
Prof. David A. Weitz (Harvard Univ.)
“Jamming and the Glass Transition”
MIT, Rm. 4-237, 4 pm
Prof. Nadrian Seeman (New York Univ.)
“Structural DNA Nanotechnology”
Tufts Univ., Pearson Chemistry Building, 62 Talbot Ave., Medford, Room P-106, 4:30 pm

Oct 22
Prof. Roy Periana (Univ. of Southern California)
“Chemistry and Mechanism of New Alkane CH Activation and Functionalization Catalysts”
MIT, Room 6-120, 4:00 pm

Oct 23
Prof. Mario Molina (MIT); Dr. Luisa Molina (MIT); Prof. Daniel Jacob (Harvard Univ.); Prof. James Anderson (Harvard Univ.)
Symposium for ACS National Chemistry Week 2003,
“Earth’s Atmosphere and Beyond”
MIT, Room 6-120 Eastman Lecture Hall, 7:00–10:00 pm
Prof. Kristie Boering (Univ. of Cal., Berkeley)
Physical Chemistry
Harvard Univ, Pfizer Lecture Hall, Mallinckrodt Lab, 5:00 pm
Prof. Lewis Rothberg (Univ. of Rochester)
“Bimodal Inhomogeneity in Conjugated Polymer Spectroscopy and Photophysics”
Univ. Mass. Lowell, Olney 218, 3:30 pm

Oct 27
Prof. William D. Jones (Univ. of Rochester)
“Strong C-X Bond Cleavage Reactions Using Homogeneous Transition Metal Complexes”
Brandeis University, Edison Lecks Building, Gerstenzang 122, 3:45 pm

Oct 28
Prof. William D. Jones (Univ. of Rochester)
“Strong C-X Bond Cleavage Reactions using Homogeneous Transition Metal Complexes”
Tufts Univ., Pearson Chemistry Building, 62 Talbot Ave., Medford, Room P-106, 4:30 pm

Oct 29
Prof. Karsten Meyer (Univ. of Cal. San Diego)
Inorganic Chemistry
MIT, Room 6-120, 4:00 pm

Oct 30
Prof. John Fenn, (Virginia Cmlh. Univ.)
Physical Chemistry
Harvard Univ, Pfizer Lecture Hall, Mallinckrodt Lab, 5:00 pm to 6:00 pm

Notices for the Nucleus Calendar should be sent to:
Dr. Donald O. Rickter, 88 Hemlock St., Arlington, MA 02474-2157
e-mail: rickter@rcn.com

Food Conference
Continued from page 8
shops, Banquet Friday night.

Housing available at the Doubletree Hotel, Lowell, MA

For Directions, registration forms contact
Colleen Cox, Middlesex Community College, 15 Kearney Square, Lowell, MA 01852

Or: www.middlesex.cc.ma.us/2YC3

The complete program and registration form is on the NESACS website: www.NESACS.org