

OCTOBER 1986

# the nucleus



VOL. LXV, No. 1

OF THE NORTHEASTERN SECTION OF THE AMERICAN CHEMICAL SOCIETY



**MARY ALICE VOGT**  
**Needham High School**

**First prize in 1986 Ashdown Exam (p. 8)**

***OCTOBER MEETING JOINT WITH  
THE ANALYTICAL GROUP (p. 5)***

***Esselen Award  
Nominations (p.13)***

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Program

9:00 a.m. to 12:30 p.m.

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*Vice President and General Manager, Bremen Operations*

*Reinhold Pesch, Ph. D., Research and Engineering Manager, Organic MS, Bremen*

*Gerd Dielmann, Ph. D., Product Manager, Magnetic Organic Products, San Jose*

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**the nucleus**

Dedicated to the Memory of James Flack Norris

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**NOVEMBER ISSUE DEADLINE:  
 SEPTEMBER 20**

**NESACS Election Results**

The following is the result of the balloting for the 1987 ACS officers of the Northeastern Section. There were a total of 798 ballots counted (848 last year, 690 in 1984). The \* indicated the winner(s) in each category.

<b>CHAIRMAN-ELECT</b>		<b>COUNCILOR/ALTERNATE COUNCILOR</b>
James A. Kaufman	318	(* = Councilor; * = Alternate Councilor)
*Thomas R. Gilbert	451	*E. Joseph Billo 367
<b>TRUSTEE</b>		**Phyllis A. Brauner
Vlasios Georgian	129	Patricia L. Samuel 331
*Walter J. Gensler	591	Beth Duston 277
<b>TREASURER</b>		*Robert D. Stolow 370
*James U. Piper	630	Michaeline F. Chen 329
<b>NOMINATING COMMITTEE</b>		Myron S. Simon 301
*Peter C. Meltzer	437	Thomas R. Gilbert 350
*Lawrence B. Friedman	397	**Wallace J. Gleekman 406
Charles Zapsalis	128	Kathleen E. Thrun 287
Carolyn G. Spodick	368	Paul Vourous 306
<b>NORRIS AWARD COMMITTEE</b>		**Adrienne S. Dey 455
Frank L. Pilar	275	*Truman S. Light 403
*Mary Jane Shultz	494	*Esther B. Garber 366
Dudley R. Herschbach	153	**Mary T. Burgess 418
*James B. Hendrickson	486	



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**WEDNESDAY, OCTOBER 8 4:00 PM**

"New Chemistry of Osmium Ammines:  
An Interface Between Traditional  
Coordination Chemistry and  
Organometallic Chemistry"

**Thursday, October 9 8:00 PM**

"Electron Transfer in Oxidation-Reduction  
Reactions: Historical Background"

**Friday, October 10 4:00 PM**

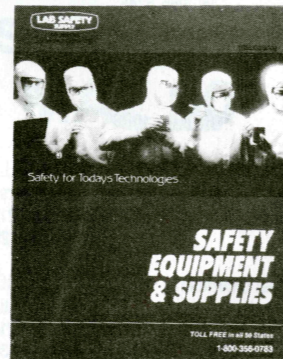
"Mixed-Valence Molecules"

Lectures will be in Higgins Hall, Room 307, preceded by coffee



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## DR. MORTEZA JANGHORBANI, Ph.D. Biography

Dr. Janghorbani was born on September 29, 1943 in Isfahan, Iran. Following completion of high school, he was one of some twenty students chosen by the Agency for International Development to study agricultural sciences at the American University of Beirut. Having graduated first in his class, he was awarded both the Penrose Award (highest award to a graduating senior) and the Edgcomb Award (graduating senior with the highest academic record). He then received a research assistantship to pursue graduate work at Oregon State University, leading to M.Sc. and Ph.D. (Analytical Chemistry) degrees.

Following graduation, he spent two years at the University of Kentucky (Lexington, KY) as postdoctoral associate and visiting assistant professor of chemistry. He worked on development and application of neutron activation analysis for major/minor elemental analysis of lunar samples returned by the Apollo Program. He then spent two years at the Institute of Nuclear Chemistry at the University of Marburg (Marburg/L, Fed. Rep. of Germany) supervising graduate research in the group of the Institute Director, Professor Kurt Starke. His studies concerned development and applications of gamma spectrometry, x-ray fluorescence analysis, and ESCA for quantitative elemental analysis of various materials. Following the stay in Germany, he was appointed the Group Leader for the Nuclear Analysis Group of the Environmental Trace Substances Research Center of the University of Missouri (Columbia, MO). After two years, he was recruited by the Nuclear Reactor Laboratory of M.I.T. to initiate a research program in the general area of radiochemistry, where he stayed for seven years. During this time, he initiated development and application of stable isotopes as tracers for metabolic studies of trace elements. In 1984, he was appointed Associate Professor of Pathology (nutrition) in the Department of Pathology, Boston University School of Medicine, where he has developed the School's first program in the application of stable isotope tracers in biomedical research.

Dr. Janghorbani's research interests center around the development and applications of stable isotopes as tracers in human metabolic studies. He has authored over seventy five manuscripts in refereed journals, including some dozen chapters in textbooks and monographs. He has served as member of *ad hoc* study sections for the National Institutes of Health, and as reviewer for National Science Foundation and United States Department of Agriculture's research program for Human Nutrition. He is currently a member of the American Chemical Society, American Institute of Nutrition, American Society for Clinical Nutrition, American College of Sports Medicine, and New York Academy of Science.

## THE SIX HUNDRED AND NINETY FOURTH MEETING OF THE NORTHEASTERN SECTION OF THE AMERICAN CHEMICAL SOCIETY

Thursday, October 16, 1986

Northeastern University, Huntington Avenue, Boston

5:30 pm Social Hour: Faculty Center, Kerr Hall, 96 The Fenway

6:30 pm Dinner: Faculty Center

7:30 pm Lecture: 97 Cargill Hall

### PROFESSOR MORTEZA JANGHORBANI

(Boston University Medical Center)

"Stable Isotopes as Tracers in Human Metabolic Studies"

PARKING: Forsythe Street parking lot (see map on page 6).

DINNER RESERVATIONS: No later than October 9, 1986. Please call Mrs. Fineman at 965-5245. Reservations not cancelled at least 24 hours in advance will be billed for the dinner price.

### Abstract Stable Isotopes as Tracers in Human Metabolic Studies

Stable isotopes have been employed extensively in studies of metabolism with human subjects. However, the major focus of these investigations has been with a small number of stable isotopes (those of H, C, N, and O). In contrast, only recently attention has been directed to the numerous other chemical elements of significance to human health and disease (e.g. Ca, Li, Fe).

The reasons for this neglect relate to a number of important issues, including the lack of

appropriate measurement techniques. With the recent availability of new, and potentially powerful isotopic measurement tools such as inductively coupled plasma mass spectrometry (ICP/MS), a major limiting step will be eliminated. Thus, this important area of research will likely receive considerably greater attention.

In this presentation, the history and recent trends will be examined. The state of measurement technology will be analyzed in reference to the requirements for human studies. And examples of research being conducted to better address some vexing medical and metabolic problems directly in human subjects will be discussed.

November  
Meeting  
Presentation of the  
James Flack  
Norris Award  
for Excellence in Teaching  
Thursday, November 6  
at Wellesley College

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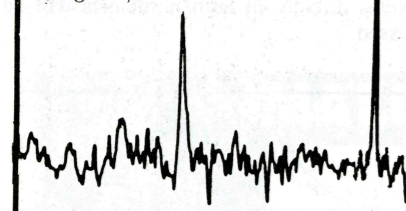
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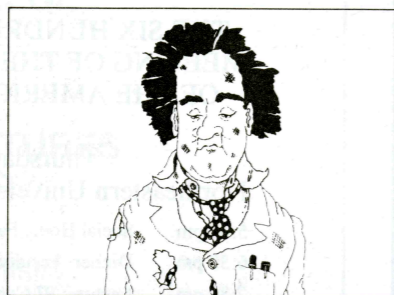
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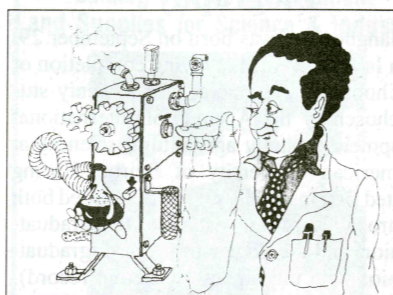


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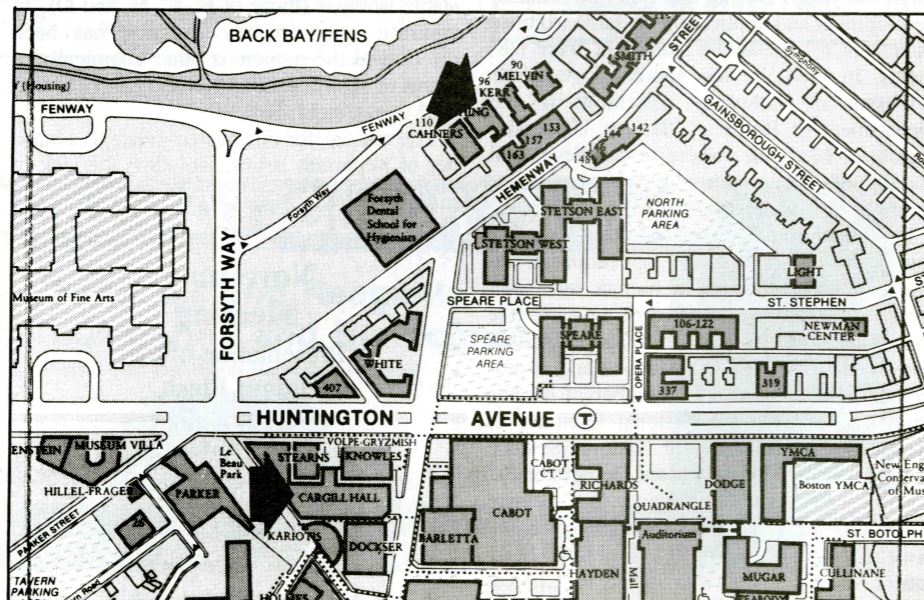
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### MEDICINAL CHEMISTRY GROUP Northeastern Section ACS Officers 1986

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For information on meetings of the Medicinal Chemistry Group call any of the officers of the group listed above.

### MEDICINAL CHEMISTRY GROUP OCTOBER MEETING

Tuesday, October 14, 1986  
 Boston College  
 Higgins Hall, Room 304  
 Chestnut Hill, Massachusetts

**MATTHEW VERDERAME, Ph.D.**  
 Professor of Medicinal Chemistry  
 Head, Department of Chemical and Physical Science  
 Albany College of Pharmacy  
 "Anthelmintic Agents"

- 4:00 pm Coffee and Refreshments
- 4:30 pm Lecture
- 6:00 pm Dinner\* with Dr. Verderame  
 Ming Garden Restaurant

For dinner reservations, please contact:  
 R. Milius at 437-5192 by Tuesday a.m., October 14, 1986.

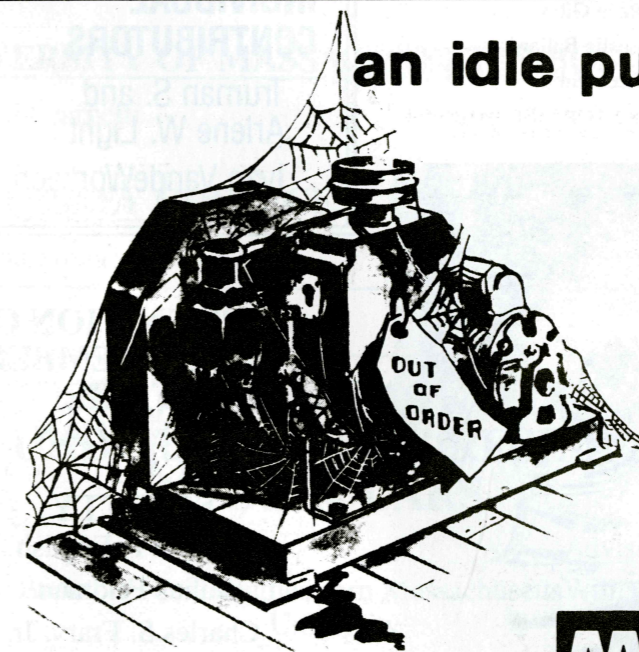
\*Members: \$10.00

\*Students and Retirees: \$6.00

## Abstract Anthelmintic Agents

Helminthiasis is well described throughout tropical and subtropical areas. However, inhabitants of temperate climates are also susceptible to various helminth diseases. Serious, debilitating diseases brought about by species of nematodes, trematodes, and cestodes are on the increase. Factors relating to the spread of helminth diseases will be presented. Other topics for discussion will include: mechanisms of drug action, resistance to drugs, testing methods, uses of the anthelmintic agents, and the SAR of some selective drugs.

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# STATEMENTS OF CANDIDATES FOR ACS PRESIDENT-ELECT

## Robert C. Brasted

It is a privilege and honor to be selected by the Council of our Society as a presidential candidate. I feel especially comfortable communicating via the local Section publications since I have had the honor of serving as a Councilor of the Minnesota Section for 25 years. These years have been a learning process.

Offices held at the Section, Division, and National levels are listed, incorporating a few of my views on possible changes, enrichment, cautions which could make the ACS a more viable professional body.

I. Chair, Minnesota Section—The strength of our Society parallels that of our local Sections. Equitable dues reimbursements to the Sections must be maintained. I would urge strong support for regional meetings but oppose elimination of one of our two national meetings. I would seek Section recommendations in committee appointments.

II. Chair, Division of Chemical Education—Much as the Sections are the heart of the Society, the Divisions are the Society's professional pulse. The reason for our national meetings is largely the associations gained through the attendance of the technical papers. A re-evaluation of the reviewing process may be necessary to slow down the "paper number race" that I perceive existing amongst the Divisions. The expertise of Division members could be utilized to create videotapes to explain chemistry for non-chemists.

III. Society Committee on Publications (Vice-Chair); Chair, Board of Publications, *Journal of Chemical Education*—Our publications are a major reason for the existence of the ACS as a professional organization. I would pledge to support our national and international efforts in these programs.

IV. International Activities Committee; Chair, Education Subcommittee; Chair, Division of Chemical Education's Committee on International Chemical Education—Since nearly ten percent of the total membership comes from outside our 50 states, we have an obligation to concern ourselves with international affairs. Without neglecting the Society's domestic affairs, I am dedicated to fostering and improving our relations with our colleagues abroad.

V. Board of Directors, Region V—In this capacity I have truly been exposed to the governance of the Society. If elected to the Presidency, I should be especially cognizant of problems, and able to seek

continued on p. 13

## Ernest L. Eliel

The 1980's are uncertain but challenging times for chemistry. On the one hand, layoffs and forced early retirements in the chemical industry reflect a fundamental change of emphasis in the field. On the other, new areas, such as specialty polymers, electronics, ceramics, and areas bordering on biotechnology, join such established ones as pharmaceutical and agricultural chemicals as being fields of promise. In the basic research area, tight federal budgeting affects money available for new and continuing projects; concerns about this problem deter young researchers from entering academe. A scientifically ill-informed public frequently confronts technological decisions with hysteria instead of a thoughtful weighing of risks and benefits.

As ACS president, I would support projects that address these challenges. Foremost among my priorities is education, not just because I am an educator, but because education is a cradle-to-grave activity. I support the many Education Division projects—from pre-high school science to Chemistry in the Community—that give our citizens a better understanding of science and chemistry. I also support improvements in the education of chemists proper through the work of the Committee on Professional Training and through promoting adequate federal programs for the support of research. Retirements in the 1990's will provide a favorable academic market; we must attract the best minds into chemistry and encourage them to continue in their education so that these academic openings are filled with first-rate people. My efforts to broaden the ACS-approved Chemistry Curriculum to include a biochemistry option reflect my conviction that the chemists of the 1990's must expand their horizons to encompass new developments. The Pimentel report gives us direction in this respect. We must implement it to get our fair share of funds devoted to basic research, but we must also cooperate with other scientific societies to ensure that the total pool of support for science remains plentiful.

Public attitudes toward Chemistry leave much to be desired. In the long run, I hope that this problem will be solved, or at least ameliorated, through better science education for the non-scientist. In the short run, the only obvious way to improve the picture is through a public relations campaign and I support the Society's current efforts in this regard, provided the credibility of the ACS is not impaired.

ACS' publications, scientific meetings, and Chemical Abstracts are fortunately self-supporting. Nonetheless, these programs need constant attention and nurturing; except in emergencies, their surplus must not be used for

continued on p. 13

## Gordon L. Nelson

Chemistry in America is in a period of profound change:

- Chemical industry is turning rapidly from bulk chemicals to high value specialties.
- Expansion in academia is in areas such as biotechnology and materials.
- Academic chemistry facilities are aging badly with capital funds scarce.
- Oil price instability and mergers have caused dislocation of chemists and unprecedented early retirements.
- Public perception of chemistry continues to decline.

Therefore, as never before the ACS must provide aggressive leadership, positioning the profession to address these challenges. We need:

- to better understand the changing character of the employment of chemists,
- to assist chemists facing early retirement,
- to work vigorously for five year pension vesting,
- to reinstate an effective professional liability insurance program,
- to support in Congress a program to reinvigorate America's chemistry facilities,
- to redirect Presidential Plenary sessions at National Meetings to highlight emerging "Opportunities in Chemistry,"
- to convert the first floor of ACS Headquarters into a Chemical Exhibit Center to highlight the major achievements of chemists to society,
- to develop a major public television program on the critical role of chemists in the world,
- and to seek proper recognition of molecularly trained people (chemists) in the future of industry and academia.

### Experience

I have been an industrial bench chemist and manager, a manager in contract research, and am currently serving as chairman of a vigorous interdisciplinary academic department. I know the diverse needs of chemists firsthand. And I know ACS. I served on the Board for nine years, on the Executive Committee, was Chairman of the Committee on Public Affairs and Public Relations, Chairman of the Committee on Publications, and Chairman of the Committee on Chemical Abstracts. I was a Division Officer and local section committee chairman.

### Record of Achievement

The ACS President provides leadership. In my nine years as Director:

- I initiated the first strategic plan in Public Affairs and Public Relations. Budgets were increased, use of radio expanded, and television spots initiated.

continued on p. 11

# OUR COUNCILORS' VOTING RECORD New York City, April 16, 1986

## Motion

Motion	Council Action	DEY	GARBER	HEYN	KAUFMAN	LIGHT	RICKTER	SOLSTAD
Not to join the National Coalition for Science and Technology	PASSED	N		Y			Y	
Comprehensive redistricting plan (effort on Region I is addition of Rochester section)	PASSED	Y		Y			Y	Y
Motion for recorded vote on dues increase	DEFEATED	Y		N			Y	
Motion to adopt full dues escalator	PASSED	N	N	Y	N	N	N	N
Motion to adopt a dues escalator for student affiliate dues	PASSED	N		Y	N		Y	
Housekeeping amendments on listing of National Affiliates of Divisions and Local Sections	PASSED	Y	Y	Y		Y	Y	Y

Four of our councilors did not submit reports.

## NELSON

continued from p. 10

- I supported increasing our role in Washington to ensure sound science-based regulation.
- I saw to the appearance of the first new ACS journal in more than a decade, *Organometallics*, and the establishment of a new products process which yielded *Langmuir*. I initiated a publications strategic plan, saw to the redirection of existing journals such as *The Journal of Physical Chemistry*, pushed for ACS Journals On-line, and worked for reduction of page charges.
- As CAS chairman I formed a Futures Task Force to chart a leadership course in on-

line delivery and fought hard to include off-line prints as part of the CAS On-Line academic program.

- I fought hard to initiate a new program to get surplus books and journals flowing to needy institutions (Project Bookshare).
- And, I was a founder of the Division of Professional Relations and the Younger Chemists Committee.

### Overall

We as chemists cannot be afraid to innovate, to compete, to market who we are aggressively. It is the President who sets the tone. As President I would welcome your input. I believe I can make a difference!

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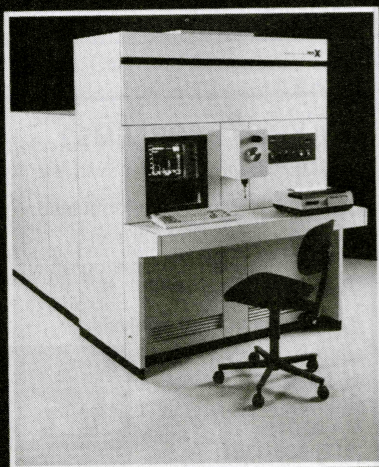
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continued from p. 10  
solutions.

There are many measuring sticks to evaluate other persons or ourselves. Units and subunits within the Society, as well as our total profession, have been most generous to me with their citations, which could be used as an evaluation of accomplishment, such as the following: The ACS Award in Chemical Education; the Chemical Manufacturing Association Award for Excellence in College Teaching; the James Flack Norris Award in Education of the Northeastern Section; the Carol and Harry Mosher Award of the Santa Clara Valley Section for Contributions to Chemistry and the ACS; and the Minnesota Section Award for Contributions to Chemistry. The publication of 19 books, a hundred or more journal articles and films, as well as consultation in industry, government, and education in this country and abroad have given me a perspective which I feel would be useful in our Society's highest elected office.

## ELIEL

continued from p. 10

the benefit of unrelated activities. The ACS must endeavor, through meeting programs, new journals, continuing education courses, to extend itself toward practitioners in borderline areas of chemistry and to enable its present members to fill positions in these areas.

As a current member of the Board of Directors, its Committees on long-range Planning and Grants and Awards, and the Society Committee on Publications and as a consultant to the Committee on Professional Training, I am confident of the support of my colleagues in the governance of the Society toward the pursuit of these aims.

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## The Gustavus John Esselen Award For Chemistry In The Public Interest

The Gustavus John Esselen Award for Chemistry in the Public Interest was established by the Northeastern Section of the American Chemical Society in 1985. The award is a memorial to Dr. Esselen, a former outstanding member of the Section, and was made possible by a major gift from the Esselen Family.

The goal of this award is to perpetuate Dr. Esselen's belief that chemistry is an honorable profession which contributes to the public good. The award will annually recognize and reward a chemist whose scientific and technical work has contributed to the public well-being, and has thereby communicated positive values of the chemical profession. The significance of this work shall have become apparent within the five years preceding nomination, and the awardee shall be a living resident of the United States or Canada at the time of nomination.

The prize will be a suitable plaque and a check for \$5000. Travel expenses incidental to the conferring of this award will be reimbursed. The award will usually be given at the April meeting of the Northeastern Section at a location in or near Cambridge, Massachusetts.

### Solicitation of Candidates

The Esselen Award Committee requests nominations.

The person who nominates a candidate is requested to provide a biography of the candidate, a description of the work which has been recognized within the last five years as contributing to the public good (please include pertinent technical papers and news articles), and the names of three co-sponsors. This information should be sent to **Chairman, Esselen Award Committee, Northeastern Section, American Chemical Society, 42 Janet Road, Newton Centre, MA 02159**, and should be postmarked no later than December 1, 1986.

### The Esselen Award Committee

The committee is made up of seven members, four of whom are elected by members of the Northeastern Section, one is selected by the President of the American Chemical Society, one is selected by the President of the National Academy of Science, and the seventh member is the Editor of Chemical and Engineering News. (Details on the elections and on the award appear in the Constitution and By-laws of the Section.) The Committee will review the nominations and the award recipient will be notified by the first of February. The committee reserves the right to declare that no candidate meets the committee's standards, and that no award will be given.

### The Award Ceremony

The award will usually be given at the April meeting of the Section, the second Thursday in the month. A biographical note on the life of Dr. Esselen and a description of the awardee's life and accomplishments will be presented. The awardee will deliver an address on the subject of the work for which he or she is honored, or on work in progress which is also directed to improving the public well-being.

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# BOARD OF DIRECTORS MEETING

## Northeastern Section ACS

April 3, 1986

The April meeting of the Board of Directors of the Northeastern Section, American Chemical Society, was called to order by Chairman Ciappenelli at 4:37 pm in the Cabot Room, Mallinckrodt Laboratories, Harvard University. The following members of the Board were present: Thomas Bazzone, Mary Burgess, Michaeline Chen, Catherine Costello, Donald Ciappenelli, Adrienne Dey, Lawrence Duffy, William Foye, Esther Garber, Walter Gensler, Wallace Gleekman, G. Richard Handrick, Arno Heyn, Esther Hopkins, David Howell, Truman Light, Janet Perkins, James Piper, Donald Rickter, Myron Simon, MaryAnn Solstad, Robert Stolow, Lloyd Taylor and Valerie Wilcox.

### Treasurer's Report

J. Piper is serving as Treasurer for the IUPAC meeting in Boston in 1987. He will have two accounts which will handle the various expenses and income for that meeting. The accounts will be entirely separate from those of the Northeastern Section.

In looking over the Treasurer's Report, M. Simon suggested that it might be a good idea if we bought some extra medal blanks (Richards Medal) now while the price of gold is more or less stabilized. This recommendation will be forwarded to the Richards' Medal Committee for appropriate action.

L. Taylor made a motion that the Northeastern Section provide a substitute gold medal for the sole awardee who had received a base-metal medal because of the then high price of gold. The motion PASSED.

### Board of Publications

D. Ciappenelli presented a motion from J. Neumeyer, Chair of the Board of Publications. After considerable discussion, the motion as restated by A. Dey, "The Board of Publications be authorized to spend from the Publications Trust Fund an amount not exceeding \$2700 for the upgrading and redesign of the NUCLEUS" was PASSED.

D. Ciappenelli announced that our exclusive use of the title "The NUCLEUS" for our Northeastern Section publication is again under attack. Those using the same title again are the Union for Concerned Scientists. Also mentioned was the fact that Nuclear-Chicago may have had approved use to the title in connection with their business in nuclear equipment. It seems very likely that the Northeastern Section's use of the title predates Nuclear-Chicago also.

### Constitution & By-Laws

T. Light brought forward the amendments to the Constitution and By-Laws which the Long Range Planning Committee under E. Hopkins had submitted. (Proposal was enclosed with the March minutes.) For the purpose of discussion,

the motion was separated into two parts, since the two matters concerned were quite different. Part 1 concerned modification of some of the requirements for amendments to the Constitution, Articles XII-XX. Considerable discussion took place, followed by a motion for a compromise substitute amendment by A. Heyn. This was DEFEATED. A. Heyn pointed out that other sections use different mechanisms for this "due consideration process." After this vote, the main motion was considered again, and it was decided to return it to the C&B Committee for further study. Part 2 of the motion presented by the Long Range Planning Committee concerned the conversion of certain sub-committees and long-standing ad hoc committees into committees established by the By-Laws. This motion was returned to the C&B Committee for resolution of any conflicts.

### Esselen Award

M. Simon announced that the President of the National Academy of Science has nominated Richard Bernstein of UCLA to serve on the Committee.

### Public Affairs

Dr. Phyllis Brauner was declared to be the Chairman of the Public Affairs Committee. There was some discussion about the duties of this committee and the consensus of the Board was that the Committee's duties concerned areas, other than publicity, where chemistry impacts on the outside world.

The meeting was adjourned at 6:25 pm.  
Respectfully submitted,

David M. Howell  
Secretary

May 2, 1986

The May meeting of the Board of Directors of the Northeastern Section, American Chemical Society, was called to order by Chairman Ciappenelli at 4:45 pm in the Hodgkinson Room at the Museum of Science, Boston. The following members of the Board were present: Phyllis Brauner, Betty Bridges, Michaeline Chen, Catherine Costello, Donald Ciappenelli, Adrienne Dey, Beth Duston, Crist Filer, Esther Garber, G. Richard Handrick, Arno Heyn, Esther Hopkins, David Howell, Truman Light, James Piper, Arthur Reis, Donald Rickter, Myron Simon, Lloyd Taylor, Sr. Magdalen Julie Wallace and Valerie Wilcox.

### Chairman's Report

D. Ciappenelli brought up the problem about the conflict in usage of the title NUCLEUS. After some discussion, it was decided not to pursue this conflict any further.

### Awards Committee

P. Brauner presented the changes we had been considering for the Levins Award. It was proposed that this first time for the Section, that the award be presented at the November meeting. It would be presented at the dinner so as not

to interfere with the Norris Award. Starting in 1987, the award would be made in May. (This action has been approved by A. Viola, acting chair of the Norris Award Committee.) The motion was made to accept this plan. It was so VOTED.

### Nominating Committee

M. Simon supervised the election of members of the Nominating Committee from the Board. Crist Filer and Valerie Wilcox were elected.

### Program Committee

L. Taylor announced that there would be no alcoholic drinks served at the Student Night, May 9. A discussion was held about whether or not to serve drinks at meetings where there would be a large number of students present. A. Dey suggested that we find out from National whether local sections are covered by liability insurance.

### Old Business

A. Heyn discussed the function of Councilors at a National meeting and asked for the appointment of a chief councilor to organize the reports of the various councilors and to remind them of pertinent meetings.

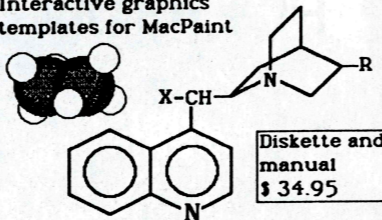
The meeting was adjourned at 5:15 pm.  
Respectfully submitted,

David M. Howell  
Secretary

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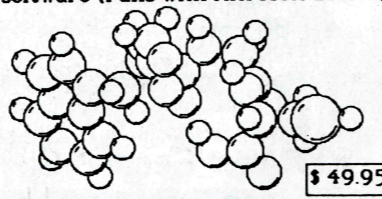
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# HISTORICAL NOTES

Our column this month is devoted to short biographies of chemists and chemical engineers whose deaths during the past two years have not been reported here previously.

**Charles Lester Bickel**, Harlan Page Amen Professor, Emeritus, at Exeter Academy, Exeter, N.H., died October 23, 1984 at age 77. He was born and raised on a farm in Missouri and graduated at the top of his class in 1927 from William Jewell College. Having come under the influence of a Harvard alumnus who taught chemistry at Jewell, Charlie chose Harvard for graduate work. He was one of the last students of Elmer P. Kohler and received the Ph.D. in 1932. After three years as a post-doc at Harvard, Charlie joined the faculty at Lafayette College, but continued to teach organic chemistry in the Harvard summer sessions in 1935 and 1938. One of his students in 1935 was Jack Hogg, who was the first chairman of the Exeter science department. Jack persuaded Charlie to join the Exeter faculty in 1936. Charlie succeeded Jack as chairman in 1958 and retired from the Exeter faculty in 1972.

While at Exeter Bickel published 15 papers in the *Journal of the American Chemical Society* in collaboration with his honors students. He sent many students on to careers in chemistry. With Hogg and others he wrote more than thirty texts which received national and international adoption. He served as a consultant to the National Science Foundation, to the Department of State (in Brazil), and to the ACS. He was active in the establishment of the advanced placement program in chemistry. For these and other services he was awarded the Section's James Flack Norris Award in 1971, being the first secondary school teacher so honored.

Charlie is also remembered at Exeter for his years of dormitory duty, student advising, and activity in the athletic programs of the school.

**Louis Harris**, Associate Professor of Chemistry, Emeritus, at the Massachusetts Institute of Technology, died on May 28, 1985 at Weston, Mass., at age 88. His undergraduate degree at M.I.T. in 1920 was in Electrochemical Engineering and he subsequently received the M.S. and Ph.D. degrees in chemical engineering at the Institute. He was a N.R.C. fellow at Zurich and Berlin before joining the M.I.T. faculty, where he taught for 38 years before retiring in 1964. His fields of expertise were optics, spectroscopy, and thin metal films. He was the author of "A Short Introduction to Astronomy," published in 1984.

A tragic helicopter crash on April 14, 1986 took the lives of **Adrian R. Reti**, **Vincent I. Masticola, Jr.**, and **John G. Mulvany**. All were employed by the Millipore Corporation of Bedford, Mass. and were returning from a visit to the Millipore subsidiary Waters Associates, Inc., in Holliston, Mass.

**Adrian R. Reti**, 48, was a senior vice-president in charge of science and technology as well as president of a subsidiary company, Millicorp. He was a member of the class of 1959 at M.I.T. and had subsequently received the M.S. and Sc.D. degrees in chemical engineering from the Institute. Prior to joining Millipore in 1971 he had been technical director of Dynatech Corporation of Cambridge, and a vice-president and cofounder of ERCON, Inc. of Cambridge. In his years at Millipore he had served previously as manager of international marketing, director of the research laboratory in Bedford, technical director of marketing, and vice-president and director of the Millipore Laboratories.

**Vincent I. Masticola**, 33, received the B.S. in chemical engineering from the University of Massachusetts, Amherst (1975) and the M.S. in chemistry from UMass-Boston. He then served as an assistant chemist for the state racing commission and in 1981-1983 was a mass spectroscopist at GTE Laboratories. He joined Millipore in 1983 as the manager of the analytical laboratory in the Millipore Products division.

**John G. Mulvany**, 47, was president and CEO at Millipore. He did his undergraduate (1963) and graduate work in chemistry and physics at the University of London, then joined Millipore and became managing director of the subsidiary in the United Kingdom. He came to the Bedford headquarters in 1970 and subsequently occupied a number of executive positions. He was also a director of the Adams Russell Co., Inc. and of several hospitals in the Boston area.

**Stanley R. Shimer**, 89, emeritus professor of biochemical and agricultural chemistry at the University of New Hampshire, died on March 30, 1986. Stan was a native of Bethlehem, Pa. After receiving the B.S. from Muhlenberg College in 1918, he taught general science at high schools and state normal schools in Pennsylvania and New Jersey. He received the M.S. in physiological chemistry from Penn State in 1922, then did additional graduate work at the University of Illinois. He came to U.N.H. in Durham in 1924 and spent most of his professional career in the department of Agricultural and Biological Chemistry before retiring in 1966. He also served as a chemist in the Agricultural Experiment Station at U.N.H.

An Account of Stan's activities in the Durham community and on the U.N.H. faculty would fill a book. He was active in church affairs, fraternity affairs, and professional society affairs and he received considerable recognition for his services. He was particularly proud of his 50-year membership in ACS and wore his emeritus pin to the grave. Stan was my landlord for 10 of my 13 years in Durham and I consider

it a privilege to say nice things about him. He taught me a lesson years ago that I shall never regret. At the annual dinner meeting of the U.N.H. Graduate Science Society it was customary to have as speaker a non-science type. The year I presided over the affair the speaker was the U.N.H. football coach, a gung-ho type from the midwest just finishing his first year of recruiting on the rubber chicken circuit. He laced his talk with foul jokes, as was his custom when addressing high school banquets. The next morning the U.N.H. athletic director heard about this and brought the coach to my office to offer apologies to the Society. Stan Shimer later told me, "Ed, when this ever happens to you again just give the guy a good kick under the table." All presiding officers should know this.

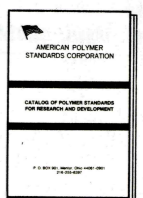
**Norman P. Smith**, 75, died in Lynn, Mass. on January 16, 1986. A native of Cambridge, he grew up in Quincy and graduated from Northeastern University. He was chief chemist for Dee's Adhesive and Chemical Co. in Lynn for 26 years and for the American Finish and Chemical Co. in Chelsea for the past 20 years.

**Ralph Chillingworth Young**, 95, died on October 5, 1985 in Phoenix, N.Y., where he had made his home since retiring as associate professor emeritus at M.I.T. in 1956. Ralph taught inorganic and general chemistry from 1920 until receiving the Ph.D. degree in 1929, at which time he became a research associate in the Research Laboratory of Inorganic Chemistry. He was made assistant professor in 1934 and associate professor in 1940. He served as the principal assistant to Walter C. Schumb during the 1930s, when inorganic chemists at M.I.T. were a minority group. Ralph was a very retiring person, but was always ready to talk chemistry with undergraduate students as well as with those doing research in his laboratory. He was a Fellow of the American Academy of Arts and Sciences.

Edward R. Atkinson  
Amherst, Mass.

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# CALENDAR

## WEDNESDAY, OCTOBER 1

Dr. Gerald Diebold (Brown University)  
"Applications of the Optoacoustic Effect to Chemistry"  
Worcester Polytechnic Institute  
Goddard Hall Room 227 at 4:00 P.M.  
Coffee at 3:45 P.M.

## TUESDAY, OCTOBER 7

Professor Craig L. Hill (Emory University)  
"New Methods For the Homogeneous Catalytic Functionalization of Hydrocarbons"  
Tufts University  
Pearson Hall Room 104 at 4:30 P.M.  
Refreshments at 4:00 P.M.  
Call (617)381-3441 for more information

## WEDNESDAY, OCTOBER 8

Professor Henry Taube (Stanford University)  
"New Chemistry of Osmium Ammines: An Interface Between Traditional Coordination Chemistry and Organometallic Chemistry"  
Boston College  
Higgins 305 at 4:00 P.M.  
Call (617)552-3605 for more information

Cynthia E. Palmer (Purdue University)  
"Temperature Depending Quenching of some Copper (I) Complexes"  
Worcester Polytechnic Institute  
Goddard Hall Room 227 at 4:00 P.M.  
Coffee at 3:45 P.M.

Dr. Walter Zajac (Cillanova University)  
"A Potpourri of Aliphatic Nitro Chemistry"  
University of Connecticut  
CEW Room 100 at 4:00 P.M.  
Refreshments in CEW Room 131 at 3:30 P.M.  
Call (203)486-4627/2012 for more information

## THURSDAY, OCTOBER 9

Professor Henry Taube (Stanford University)  
"Electron Transfer in Oxidation-Reduction Reactions: A Historical Background"  
Boston College  
Higgins 305 at 8:00 P.M.  
Call (617)552-3605 for more information

## FRIDAY, OCTOBER 10

Professor Henry Taube (Stanford University)  
"Mixed Valence Molecules"  
Boston College  
Higgins 305 at 4:00 P.M.  
Call (617)552-3605 for more information

## TUESDAY, OCTOBER 14

Dr. A. Levine (Princeton University)  
"Expression of SV-40 Early Region Genes in Transgenic Mice"  
Tufts University Health Science Campus  
Sackler A at 4:00 P.M.  
Call (617)956-6884 for more information

## WEDNESDAY, OCTOBER 15

Dr. David M. Lemal (Dartmouth College)  
"Flailing and Floundering Among the Fluorocarbons"  
Worcester Polytechnic Institute  
Goddard Hall Room 227 at 4:00 P.M.  
Coffee at 3:45 P.M.

Dr. W. Rudolf Seitz (University of New Hampshire)  
"New Chemical Indicators for Fiber Optic Sensors"  
University of Connecticut  
CEW Room 100 at 4:00 P.M.  
Refreshments in CEW Room 131 at 3:30 P.M.  
Call (203)486-4627/2012 for more information

## THURSDAY, OCTOBER 16

Professor Marshall Fixman (Colorado State University)  
Title to be announced  
Boston College  
Gasson 305 at 4:00 P.M.  
Call (617)552-3605 for more information

## MONDAY, OCTOBER 20

Professor Daniel E. Koshland, Jr. (Harvard University)  
"Chemistry of Information Processing in Biology"  
Harvard University  
Mallinckrodt MB-23 at 2:00-4:00 P.M.  
Call (617)495-4070 for more information

## TUESDAY, OCTOBER 21

Dr. W. Rudolf Seitz (University of New Hampshire)  
"Approaches to Ionophore-Based Optical Sensors"  
Northeastern University  
Hurtig Hall Room 129 at 4:30 P.M.  
Reception in Hurtig Hall Room 124 at 4:00  
Call (617)437-2822 for more information

## WEDNESDAY, OCTOBER 22

Professor Daniel E. Koshland, Jr. (Harvard University)  
"Chemistry of Information Processing in Biology"  
Harvard University  
Mallinckrodt MB-23 at 2:00-4:00 P.M.  
Call (617)495-4070 for more information

Dr. Daniel Scola (United Technology)  
"Chemistry of Composites"  
University of Connecticut  
CEW Room 100 at 4:00 P.M.  
Refreshments in CEW Room 131 at 3:30 P.M.  
Call (203)486-4627/2012 for more information

## THURSDAY, OCTOBER 23

Professor Benjamin Widom (Cornell University)  
"The Microemulsion Story"  
Boston College  
Gasson 305 at 4:00 P.M.  
Call (617)552-3605 for more information

## FRIDAY, OCTOBER 24

Professor Daniel E. Koshland, Jr. (Harvard University)  
"Chemistry of Information Processing in Biology"  
Harvard University  
Mallinckrodt MB-23 at 2:00-4:00 P.M.  
Call (617)495-4070 for more information

## TUESDAY, OCTOBER 28

Dr. R.H. Abeles (Brandeis University)  
"Enzyme Inhibitors and Inactivators"  
Tufts University Health Science Campus  
Sackler A at 4:00 P.M.  
Call (617) 956-6884 for more information

## WEDNESDAY, OCTOBER 29

Dr. Mark P. Wentland (Sterling-Winthrop Research Institute)  
"Structure-Activity Relationships of Quinolone Antibacterial Agents"  
Worcester Polytechnic Institute  
Goddard Hall Room 227 at 4:00 P.M.  
Coffee at 3:45 P.M.

Dr. Les Ebdon (Plymouth Polytechnic, England)  
Title to be announced  
University of Connecticut  
CEW Room 100 at 4:00 P.M.  
Refreshments in CEW Room 131 at 3:30 P.M.  
Call (203)486-4627/2012 for more information

## THURSDAY, OCTOBER 30

Professor Ronald M. Milburn (Boston University)  
Metal Ion Promoted Hydrolysis of Polyphosphates  
Boston College  
Gasson 305 at 4:00 P.M.  
Call (617)552-3605 for more information

Notices for the NUCLEUS Calendar should be sent to:

Marilyn J. Schneider  
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Wellesley, MA 02181  
Phone: 235-0320, ext 3031

NOTE: Material should be sent so that it arrives by the first of the month prior to the month for which the event is scheduled.

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