

THE NUCLEUS

October 1989

Of the Northeastern Section of the American Chemical Society

Vol. LXVIII, No. 1

Monthly Meeting:

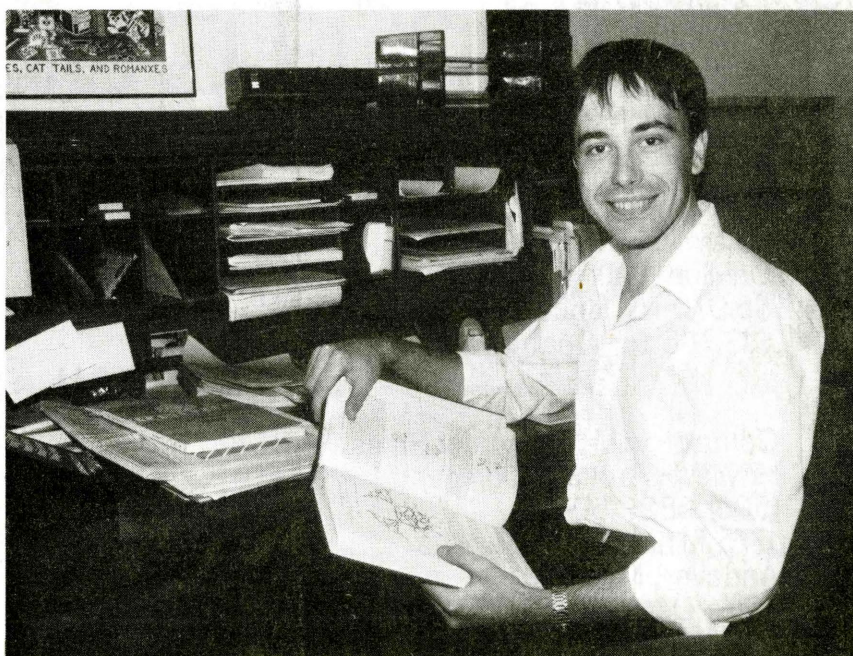
Consulting; Presentation of 1989 Henry A. Hill Award to Wallace J. Gleekman

Esselen Award Address

Prof. Carl Djerassi speaks on "The Bitter Pill"

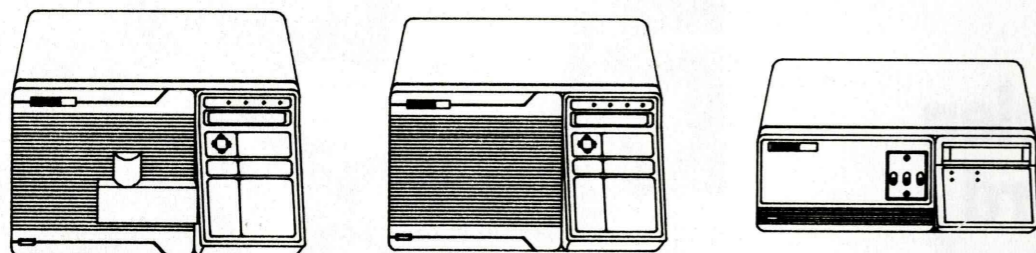
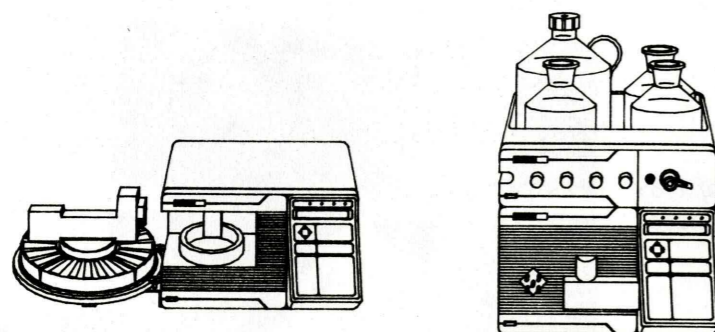
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Send address changes to Mrs. Karen Piper, 19 Mill Rd., Harvard, MA 01451

THE NUCLEUS

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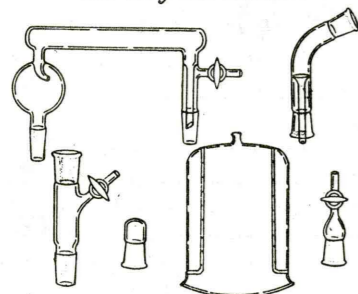
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Editor's Corner

As you saw in the election results in the August issue, Adrienne Dey has been elected as a Trustee of the Northeastern Section. She has chosen to give up the position as Editor of the NUCLEUS which she has held since 1979. Under her guidance the NUCLEUS has grown in quality and attractiveness. Advertisers have recognized that this publication is a good place for their ads.

I have agreed to take over as editor
continued on page 10

Wallace J. Gleekman

The 1989 recipient of the Henry A. Hill Award for Service to the Northeastern Section has, indeed, been active for many years on behalf of the Section. He is a chemistry teacher at Brookline High School. He graduated from Bridgewater State College and did graduate work at Boston University, Union College and Walden University and received a Ph.D. from Harvard University.

He has served on several committees of the Northeastern Section, most notably the Committee on Chemistry Education which he has chaired for many years. In that capacity he has coordinated the Avery A. Ashdown High School Chemistry Examination Contest for much of its existence. In 1981 he served as Chairman of the Section. He has represented the Northeastern Section at the Council of the ACS for several terms and has just been reelected for the 1990-1992 term.

He has received several awards: The Lyman C. Newell Award of the Northeastern Section, the John A. Timm Award of the New England Association of Chemistry Teachers and the James Bryant Conant National award in High School Teaching and the Northeast United States High School Teaching Award, both by the American Chemical Society. ◇

October Meeting

*The 718th Meeting of the Northeastern Section
of the American Chemical Society*

Thursday, October 12, 1989

Henderson House, Weston, MA
(See directions below; Notify Mrs. Piper if you need transportation.)

5:30 p.m. Social Hour

6:15 p.m. Dinner

7:30 p.m. *Presentation of the Henry A. Hill Award to Wallace Gleekman*
The Henry A. Hill Awards — William O. Foye
Henry A. Hill, Reminiscences — Esther A. H. Hopkins
Introduction of the Award Recipient — Phyllis A. Brauner
Presentation of the Award — Michael Strem

8:00 p.m. *Consulting, An Aspect of a Chemist's Career*
A Program Sponsored by the Committee on Professional Relations
Introduction — M.S. Simon, Chmn. Professional Relations Comm.

Consulting for the young academic chemist: "Everything You Wanted To Know About Consulting . . . But Were Afraid To Ask!" — Andrew R. Barron, Harvard University

Consulting for the industrial chemist: "Chemical Consulting 101: An Introduction To Consulting For The Experienced Professional" — Donald J. Berets, The Chemists Group

Questions and Answers — A. Barron; D. Berets; M. Simon, Moderator

Refreshments will be served after the program.

Dinner reservations must be made no later than October 6, 1989. Please call Mrs. Piper at (800) 872-2054 or (508) 456-8227. The price of reservations not cancelled at least 24 hours in advance must be paid. Members: \$18; Non-members: \$21; Students and Retired Chemists: \$8. THE PUBLIC IS INVITED.

Directions to Henderson House

Henderson House is located in Weston, Massachusetts, just north of the Weston-Wellesley line. It is west of Route 128 and south of the Massachusetts Turnpike, between Routes 9 and 30.

Going West on Route 30. At the top of the hill, a little over a mile west of the intersection of Routes 128 and 30 and the Massachusetts Turnpike, take the hairpin left onto Oak Street. The street sign at the intersection says "Oak Street to Cliff Road." Follow the road one mile to a stop sign. Go straight through the intersection and 200 yards further on take the first right, onto Westcliff Road. Follow Westcliff up the

hill. Henderson House is on the right at the top.

Going west on Route 9. West of Route 128, immediately after Route 9 passes under Route 16, there is a GULF station on the right. Just past the GULF station on the right. Just past the GULF station, take a sharp right to Cliff Road, bearing right at the bottom of the exit ramp. Proceed about 1.2 miles and just past the Weston-Wellesley town line turn left next to the small pond onto Scotch Pine Road. Bear right on the curves and follow the signs to Henderson House which is on Westcliff Road on the left at the top of the hill. ◇

Abstracts, Biographies

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Dr. Andrew R. Barron is Assistant Professor of Inorganic Chemistry at Harvard University. He received his education at Imperial College of Science and Technology, London, obtaining the B.S.C. (hons) and A.R.C.S. in 1983 and the Ph.D. and D.I.C. in 1986. His thesis was carried out under the direction of Professor Sir Geoffrey Wilkinson, F.R.S. He was a post-doctoral research associate under Professor Alan H. Cowley at the University of Texas, Austin before coming to Harvard. His research interests include the organometallic chemistry of Group III elements and the synthesis of interfaces between metals and ceramics. He has published widely in his field of research.

Chemical Consulting 101, An introduction to consulting for experienced professionals.

Prerequisites: >20 Years of industrial experience plus modest independent income and/or a spartan lifestyle.

Effectively utilizing professional skills and experience is a major challenge at any age. Additional obstacles are added when a mid- or late-career chemist or chemical engineer seeks to change career style from regular

continued on page 16

ACS Short Courses

(Just a few listings, complete list at the ACS office, see p. 17)

At FACSS Meeting, Chicago, IL, October 6-7, 1989: HPLC Method Development (Lloyd Snyder and J. Kirkland), Troubleshooting Chromatographic System (M.P.T. Bradley), Analytical Laboratory Management (J.H. Taylor, Jr. and M. Routson), Quality Assurance (John K. Taylor), Capillary GC. (Stuart Cram and Milos Novotny)

About 30 sessions will be conducted at the Pittsburgh Conference in New York City, March 3-4, 1990 in the above topics and many more, from Electronics for the Laboratory (H. Malmstadt and William Purves) to Laboratory Applications of Lotus 1-2-3 (Glenn Ouchi).

There are also sessions at Virginia Tech, Blacksburg, VA, at the University of Akron (Polymer Chemistry), University of North Carolina (Molecular Modeling), Michigan State University (Mass Spectrometry) and other locations.

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Medicinal Chemistry Group

Medicinal Chemistry Group Meeting co-sponsored by Boston University School of Medicine Department of Biochemistry

Monday, October 16, 1989

At the School of Medicine
80 East Concord St.
Boston, Massachusetts

3:30 p.m. Coffee in the Dept. of Biochemistry Office (K225)

4:00 p.m. Lecture in Hiebert Lounge (14th floor, Instructional Building)

Richard A. Lerner, M.D.

Director
Research Institute of Scripps Clinic

will speak on

SPECIFIC PEPTIDE CLEAVAGE CATALYZED BY AN ANTIBODY

5:15 p.m. "Tote Bag" Dinner by S&S Deli in Hiebert Lounge

For dinner reservations please call NEACS office, Mrs. Piper by
October 11, 1989, in 617 area 1-800-872-2054; all other areas
(508) 456-8227.

Non-Students \$10.00 Students: \$5.00

Next Speaker:

Tuesday, November 14, 1989; Janis Upeslakis, Ph.D.; Lederle
Laboratories: Chemical Modification of Antibodies for Cancer
Chemotherapy. Held at Boston College.

Abstract

Specific Peptide Cleavage Catalyzed by an Antibody

Monoclonal antibodies have been produced which catalyze the specific hydrolysis of a Gly-Phe bond at neutral pH in the presence of a metal cofactor. The catalytic antibodies were induced by immunization of mice with a kinetically inert Co(III)triethylenetetramine(trien)-peptide hapten. Various labile metal (trien) complexes were observed to bind in the combining site of these antibodies. Of six peptides investigated as possible substrates, two were

specifically cleaved in the presence of several of the antibodies with a variety of metal (trien) complexes. No cleavage was observed in the absence of added metal (trien). A turnover number of 6×10^4 per second was observed when Zn (trien) was used as the metal complex cofactor. These results illustrate the potential for using metal cofactors to accelerate difficult chemical transformations in an antibody binding site. ◇

Call for Nominations

The Northeastern Section is seeking nominations for its Esselen Award for Chemistry in the Public Interest.

The Award has previously been made to F. Sherwood Rowland and Mario J. Molina, Alfred P. Wolf and Joanna S. Fowler and Carl Djerassi.

Recipients are to have contributed to the positive values of chemistry to the public. Section members are urged to give serious thought to proposing a can-

didate for this Award. Open to those in any field of chemistry as long as the scientific work has clearly contributed to the public well-being and the value of the work has become apparent within the past five years.

Send 7 cards to Dr. William O. Foye, c/o Northeastern Section, 19 Mill Rd., Harvard MA 01451.

Hazardous Substances in the Home ... how safe is your house?

A Symposium sponsored by:

The Northeastern Section, ACS — The Department of Environmental Management, and the Department of Public Health, Community Right to Know Division, Commonwealth of Massachusetts — Massachusetts Audubon Society

October 28, 1989

Minuteman Technical Vocational High School, Lexington, MA

Time: 8:30 Registration, 9:00 Program.

Cost: \$20 incl. lunch and handouts.

PROGRAM

9:00 a.m. *Opening Remarks*, Dr. Mary Beth Smuts, moderator, *Director of the Community Right to Know Division of the Massachusetts Department of Public Health*

9:15 a.m. *Household Chemical Hazards*, Dr. James Kaufman, *Chairman of the Safety Committee of the Northeastern Section, ACS, and past Chairman of the Safety Committee of the American Chemical Society.*

9:45 a.m. *Safe Storage of Hazardous Substances*, Ray Sullivan, *Chief, Springfield Massachusetts Fire Department.*

10:15 a.m. *Clinical Toxicity of Household Chemicals*, Dr. Alan Woolf, M.D., MPH, *Director of the Massachusetts Poison Control System*

10:45 a.m. *Break*

11:00 a.m. *Is Your Home Making You Sick? Sources of Pollution — Nitrogen*

Dioxide, Carbon Monoxide, Formaldehyde, Asbestos, Radon..., Ann Marie Krol, *Health Education Director, American Lung Association of Middlesex County*

11:45 a.m. *Lunch. Luncheon Address: Consumer Responsibility and Choices in Dealing with Chemical Hazards in the Home*, Cassandra Goldwater, *Manager, Household Hazardous Waste Program, Massachusetts Department of Environmental Management*

1:15 p.m. *Alternatives to Hazardous Substances*, Margie Alt, *MASSPIRG (Massachusetts Public Interest Research Group)*

1:45 p.m. *Recycling and Disposal of Hazardous Chemicals from the Home*, Dana Duxbury, *Private Consultant*

2:45 p.m. *Panel Discussion*, All members of the symposium plus Don Hickman, *Water Pollution Specialist, Massachusetts Audubon Society*

Biography

Richard A. Lerner

Richard A. Lerner, M.D. was graduated from Northwestern University and Stanford Medical School where he studied chemistry as well as medicine. He interned at Palo Alto Stanford Hospital, and received postdoctoral training at Scripps Clinic and Research Foundation in experimental pathology. Since 1970, Dr. Lerner has held staff appointments at Wistar Institute in Philadelphia and at the Research Institute of Scripps Clinic in La Jolla. He served as Chairman of the Department of Molecular Biology, RISC, from 1982-1986, and presently is Director of the Research Institute.

He served as Chairman of international symposia, many boards and committees in the field of molecular biology. He received the Parke Davis Award in 1978. He is a member of several scientific societies, including the ACS, the New York Academy of Sciences and the Royal Swedish Academy of Sciences.

Dr. Lerner pioneered the development of the method for developing site-specific antibodies and catalytic antibodies. He has authored over 200 scientific publications as well as several book chapters and a number of abstracts. ◇

To register for the Symposium, Hazardous Substances in the Home, please fill out the form below and send with check payable to NESACS-Hazardous Substances Symposium to Karen Piper, 19 Mill Rd., Harvard, MA 01451 before October 18, 1989.

Name _____

Affiliation _____

Address _____

Telephone: _____

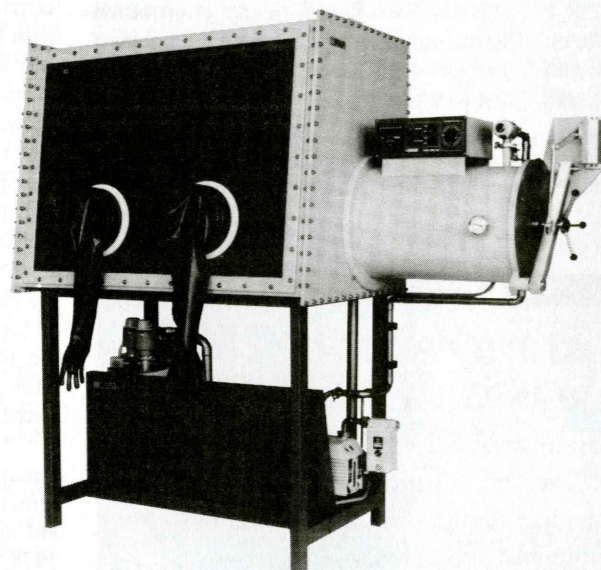
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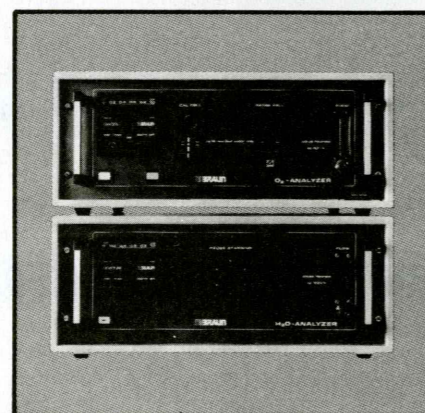
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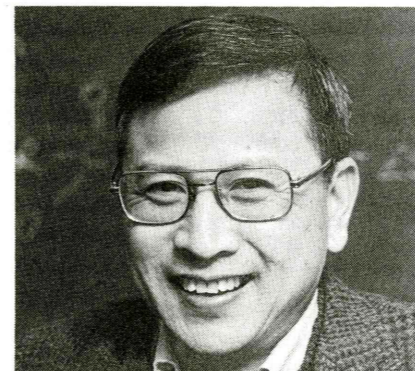


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**Jeong-long Lin
1935–1989**



In June Professor Jeong-long Lin drowned while fishing on Sabattus Pond in Maine where he and his wife had a summer cottage. Professor Lin was a physical chemist and chairman of the chemistry department at Boston College. He was liked and admired not only by the students and faculty of his department, but also by faculty and administration throughout the university.

A native of Taiwan, Lin received both bachelor's and master's degrees from National Taiwan University in 1958 and 1961, respectively. He earned a doctorate from Queen's University in Canada in 1964, then came to the Institute for the Study of Metals in Chicago as a postdoctoral fellow. He joined the Boston College Chemistry Department as an assistant professor in 1966.

At B.C. he quickly established himself as an excellent teacher and an exceptional scientist. His research over the years has been in both theoretical and experimental aspects of solutions of electrolytes. He was promoted to associate professor in 1969 and to full professor in 1974. He was the author or co-author of numerous publications and received a number of research grants from the National Science Foundation and other agencies. He was a member of both the American Chemical Society and the American Physical Society.

In addition to his academic life at B.C., Lin traveled widely as a visiting scholar. He spent a semester at the Max-Planck Institute für Chemie in Mainz, Science and Technology at Keio Univer-

*National Chemistry Week Event
Science Teaching on the Cutting Edge II
November 4, 1989
Framingham State College*

Program

8:30 a.m. **Registration** — Coffee and Doughnuts

9:00 a.m. **Opening Remarks** — An Overview of Science Teaching: Dr. Jerry Bell, *Department of Chemistry, Simmons College; Director of the Institute for Chemical Education, University of Wisconsin, Madison*

9:20 a.m. **Morning Keynote Address** Dr. John King, *Department of Physics, Massachusetts Institute of Technology*

10:20 a.m. **Break** — Coffee and Pastries

10:45 a.m. **Workshops**

A. High School Teachers — Three Separate Sessions

1. Biology: Dr. Betsy Dyer, *Department of Biology, Wheaton College*

2. Chemistry: Dr. Leonard Soltzberg, *Department of Chemistry, Simmons College*

3. Physics: Dr. John King, *Department*

of Physics, Massachusetts Institute of Technology

B. Elementary & Middle School Teachers — Two Separate Sessions

1. Life Sciences: Dr. Judith Fischer, *Science Education, Boston University, Member, Jamaica Plain High School - Simmons College 636 Collaborative*

2. Physical Sciences: Dr. Jerry Bell, *Simmons College*
Mr. Mark Ryan, *Medford High School*

12:30 p.m. **Lunch - Buffet**

1:45 p.m. **Keynote Lecture** Dr. Dudley Herschbach *Nobel Laureate, The Frank B. Baird, Jr. Professor of Science, Harvard University*

2:45 p.m. **Break** — Refreshments

3:00 p.m. **Demonstrations** "Fun with Science" Dr. Tom Greenbowe and Dr. Toby Dills, *Department of Chemistry, Southeastern Massachusetts University*

Support provided by: W.R. Grace & Co. — Organic Chemistry Division; Ciba Corning Diagnostics Corporation; IBM Corporation; American Chemical Society, National Office.

sity, Tokyo, at Cambridge University and at National Taiwan University.

During his three terms as chairman the Department has experienced continued growth by the addition of new faculty members and the acquisition of grants.

He also served on the Promotions Committee of the College of Arts and Sciences, the University Budget Committee and also on the prestigious committee for the Goals of the Nineties.

Lin pursued his recreational interests as thoroughly and as conscientiously as his work. He was an accomplished violinist and a charter member of the Boston College Symphony Orchestra. He enjoyed gardening and fishing.

He leaves his wife, Su and a son and two daughters. ◇

Registration by October 23 with \$12.00 to:

Dr. Carol Russell
Dept. of Chemistry and Food Science
Framingham State College
Framingham, MA 01701

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Please circle workshop desired:

A 1 2 3

B 1 2

Number of additional Participants: _____

Afternoon Session: _____

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Editor's Corner

continued from page 4

and hope to continue the tradition of the NUCLEUS as an interesting, useful and attractive publication.

A new feature is starting this month: There will be a "Services Directory" on the inside back-cover page in each issue with listings of career opportunities and a consultants directory.

Since the mailing date is usually

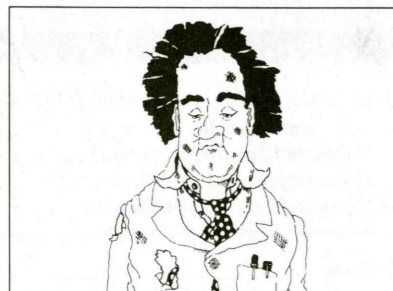
between the 15th and 20th of the preceding month, wouldn't it be great if all post offices could deliver the copies within a week or ten days? If your copy is late, see your local post office. The NUCLEUS was probably sitting right there with junk mail, waiting for overburdened letter carriers to put it in their pouch. ◇

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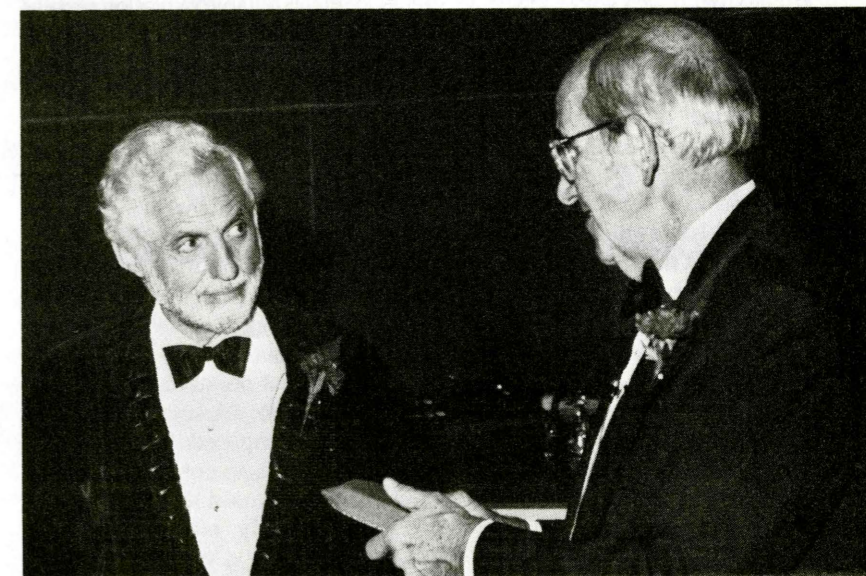
Member News

Compiled by Katie Stygall

Tom Greenbowe and Jim Golen (Southeastern Massachusetts University) are the proud authors of a new chemistry study guide, one to accompany "Chemistry — An Experimental Science," by George Bodner and Harry Pardue. The study guide is being published by John Wiley. **Tom Greenbowe and Cliff Schrader** of Dover High School in Iowa have just received a grant from the NSF to run two "Summer Teachers' Institutes" for middle school teachers. One of these institutes will be held at SMU July 9th to July 28th. Those attending the institute will receive a stipend, travel allowance and college credit. (Further information may be obtained from Marilyn Dewal of the National Science Teachers Association in Washington — phone: 202-328-5800 x52). **Katie Stygall** (Southeastern Massachusetts University) will be at Bradford College from September onwards, glad to be nearing the end of her years as an "Academic Kelly Girl". **Valerie Wilcox** (Boston Museum of Science) has just returned from a trip to the British Virgin Islands where she was whale watching and was lucky enough to see many baby whales. **Art Obermayer** (our Board of Trustees) has recently returned from a trip to Egypt and Israel. He and his wife, who is a member of the Board of the National Jewish Council were there to discuss the possibilities of future peace with leaders of both nations. Art tells me that it was a strange experience — sometimes very depressing and sometimes hopeful. He says he would be happy to talk more with members about his impressions. And we leave the most exciting news until last. **Mrs. Rene Gibb** of Brookline High School has been informed that she has won the Northeastern Regional Award for High School Teaching. (There are eight ACS regions in the US). For the next three years, Rene will be a candidate for the national award for best chemistry teacher. Congratulations



William von E. Doering (left) receives the certificate for the James Flack Norris Award in Physical Organic Chemistry from Michael Strem, Chairman of the Northeastern Section on the occasion of the Award Meeting, April 10, 1989, Dallas, TX.



Carl Djerassi receives the Gustavus John Esselen Award certificate from Gustavus J. Esselen III on the occasion of the 716th Meeting of the Northeastern Section on April 6, 1989.

Rene! Ernest I. Becker (Phmy '41, Grad. Chem '46) was elected Vice-President of the Carleton W. Roberts Memorial Fund of Clemson, South Carolina. The Fund, provides awards for excellence to graduating seniors pursuing careers in science at D.W. Dan-

iel High School in Central, South Carolina. It also provides assistance to teachers to improve skills and to schools for equipment. If you have any news for this column, please call Katie Stygall on (508) 999-8254. ◇

Carl Djerassi's Esselen Award Address

by Julie Schofield

"America is the only country other than Iran in which the birth-control clock has been set backward in the last decade," said biochemist Carl Djerassi as he accepted the Gustavus John Esselen Award for Chemistry in the Public Interest on April 6, 1989.

Djerassi said that there was a real possibility that contraceptive choices at the turn of the century would be even more limited than they are today. Already, American women have fewer birth-control options than they had ten years ago.

Djerassi is best known for synthesizing norethisterone, an artificial hormone that was one of the active ingredients of the first birth-control pills and is still in use today. He has an active interest in population control and has expressed his views on the topic via books, articles, radio, and television.

His acceptance speech was titled "The Bitter Pill." In 1951, when he and his research group were in Mexico synthesizing the first oral contraceptive, that country had a population of 28 million. In 1989, Mexico has 85 million inhabitants, and Djerassi said that its explosive growth is not unique.

"Yet this is not the bitter pill of my title," he said. Djerassi's bitter pill is the fact that for Americans the quality of birth control will not change significantly by the year 2000, that there is a fair chance that contraceptive choices will be even more limited at the turn of the century than they are now, and that it is therefore unlikely that the country's 1.5 million annual abortions will decrease.

Djerassi blamed the lack of birth-control options in the US on the shortsightedness of the women's movement, people's fear of chemicals, the large number of lawsuits brought against companies manufacturing birth-control pills and devices, and the expensive and time-consuming animal testing of new methods that is required by the Food and Drug Administration. Due to these factors, it's not financially worthwhile for a company to develop and market new

birth-control methods. Djerassi stated that in 1970, nine major American pharmaceutical companies conducted R and D in contraception; but by 1987, that number had dropped to one.

Djerassi suggested that the federal government pass laws to make contraception research more attractive to drug companies, saying that this research is too important to be left to the marketplace. His list of research priorities includes a spermicide with antiviral properties, which would help prevent the spread of the AIDS virus; a birth-control pill to be taken once a month; a reliable ovulation predictor for natural family planning; an easily reversible method of male sterilization; a male birth-control pill; and a reversible male or female fertility vaccine.

Of these six, only the antiviral spermicide and the reliable ovulation predictor would require the conventional incentives of the marketplace. The other four have certain handicaps whose elimination would require major legislative and social changes. Among the handicaps Djerassi mentioned were the fact that contraceptives are used by "healthy" people and that society therefore tolerates very little risk; these new contraceptives would probably require 20-year development times and, thus, large investments of time and money; and the very real possibility of liability suits once they are marketed.

Djerassi proposed legislation to clear these hurdles to contraceptive process: Specifically a no-fault insurance program, loosely modeled on the "National Childhood Vaccine Injury Act of 1986," to compensate those harmed by contraceptives while protecting pharmaceutical companies from huge liability suits.

When asked how the availability of birth control and birth-control research would be affected if the Supreme Court were to overturn Roe-vs-Wade, Djerassi said that although he hopes it is not overturned, the situation might force some changes for the good. "The national objective cannot be to make abortion

illegal," he said, "it must be to make abortion unnecessary. There's a big difference. And the way to make abortion unnecessary is to make contraception, sex education, and responsible sex more prevalent."

Djerassi, however, does not believe that any changes will occur soon. "When another decade or two of piddling improvements of existing methods, or even of diminished contraceptive choices has passed, and the number of abortions, legal or illegal, has not dropped significantly, when this bitter pill is tasted by the next generation, then the time may be ripe for substantive changes. But given the ever-increasingly long periods required for accomplishing major innovations in contraception, America's current inactivity is a cowardly legacy to leave to later generations. ♦

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Call for Nominations *The Professional Relations Column*

The Theodore William Richards Medal Award Committee of the Northeastern Section of the American Chemical Society invites nominations from the Section membership of candidates for the Richards Medal Award. This medal is given every other year for "conspicuous achievement in chemistry" and it will next be awarded in 1990.

Nominations should be addressed to:

Professor Dietmar Seyferth
Chairman, Richards Medal Award Committee
Department of Chemistry, 4-382
Massachusetts Institute of Technology
Cambridge, MA 02139

The nomination documents should include a *brief* curriculum vitae of the person nominated and a *clear and concise* statement outlining the "conspicuous achievements in chemistry" on which the nomination is based. Nominations are due in the Chairman's office by November 15, 1989.

by Myron S. Simon Chairman, NEACS Professional Relations Committee

The ACS publishes salary surveys to inform the membership of what chemists earn in their profession. These appeared in the July 4, 1988 C&E News for the greatest circulation, but ACS also publishes a book showing the basis for the C&E News report. Thanks to Mrs. Michaeline Chen I have a copy of

Salaries, 1988, Analysis of the American Chemical Society's 1988 Survey of Salaries and Employment in hand, and would like to share with you a few items. The first is a table showing the progress of chemists' median salaries in this decade. The numbers are in thousands of dollars.

Degree	1980	1981	1982	1983	1984	1985	1986	1987	1988
B.S.	25.0	27.5	28.5	30.0	30.9	32.0	33.0	33.5	35.4
M.S.	26.0	30.0	31.6	33.0	34.0	36.0	37.9	39.0	41.0
Ph.D.	31.2	35.0	37.5	40.0	42.0	44.0	47.8	47.7	50.0
All	28.9	32.0	34.7	36.0	38.0	40.0	42.5	42.5	45.0

The other table I thought interesting was that for unemployment rates:

%	0.9	1.1	1.5	2.2	1.7	1.4	1.7	1.1	1.0

The C&E News article gives more detailed information, by geographical location, type of job, type of chemistry, male/female, years of service, all based on the tables in this book which is available from the Distribution Office, ACS.

Send in your suggestions for topics you would like us to cover in this column or submit your own columns. We will publish your contributions if they are considered appropriate. Until next time... ♦

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A Note to Parents and Teachers of Elementary School Children

Did you know about "Wonderscience Magazine"? Published by the American Chemical Society, "Wonderscience" is designed for elementary school children for use with their parents or teacher. The magazines are colorful, highly imaginative, easy to understand and lots of fun! The latest issue for example, is devoted to exploring the idea of capillary action — there are experiments designed to test how well different materials soak up water, how rapidly a colored solution is taken up by celery stalks and how capillary action can be used to filter clear water from muddy water. To start your subscription, you can fill out the form below and mail to:

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Historical Notes

by Edward R. Atkinson

As has been our custom these past years, we devote the October issue of the Notes to short biographies of chemists and chemical engineers whose deaths have not been recorded previously here. The Northeastern Section receives periodically from ACS headquarters notices of members' deaths. Our Administrative Secretary, Karen Piper, then solicits biographical information for use in this column but the yield from such is less than fifty percent. Please support the archival activity of the Section by sending copies of obituary notices to Mrs. Piper, especially when they appear in lesser known newspapers or in company and school publications. Personal recollections of the deceased, which are usually not found in formal obituaries, are also of great value to us.

Donald C. Bankston, 50, died on October 28, 1988. He was a B.S. graduate of Brown University and also obtained the M.S. from Bridgewater State College. After serving as an officer in the U.S. Navy and as a laboratory technician at the Cape Cod Hospital, he joined the staff of the Woods Hole Oceanographic Institution in 1966 and remained there until his death. He applied an interest in mathematics to the analysis of large amounts of data produced by the direct-reading emission spectrometer and to a variety of other analytical problems in biogeochemistry and geochemistry. He also taught a course on "Introduction to Math for People of Science." He was active in community affairs and served the Northeastern Section as a member of the James Flack Norris speakers bureau.

Robert J. Dorey, 82, died on March 4, 1989. He was a Boston native and the recipient of the S.B. degree in electrical engineering from M.I.T. in 1927. His entire professional career was in the area of laboratory supply sales. After employment with Howe and French Co. he worked for Tamworth Associates in Needham and then in 1939

founded his own company known as the Industrial and Scientific Instrument Co. of Wayland. He was active in town affairs and served as registrar of voters in Wayland.

Carl Joseph Frenning, 76, died on December 31, 1988. He was a Boston native and received the B.S. in chemical engineering from Northeastern University in 1938. He was a member of the technical staff at the U.S. Army Natick Laboratories for 30 years prior to retirement in 1987. After moving to Dedham in 1963 he became active in Swedish-American and Norwegian singing groups. Another hobby was the repair and tuning of pipe organs.

Dennis E. Johnson, 62, a chemical engineer who spent most of his professional years at Arthur D. Little, Inc., died on February 3, 1989 from heart disease, an affliction he had battled all his life. He was a native Texan who graduated from Rice University in 1947 and then worked for duPont as a process engineer in petrochemical manufacturing. In 1956 he obtained the M.S. degree in chemical engineering from M.I.T. and then joined the ADL staff where he remained until founding his own company, Process Analysis International, in 1984.

His many contributions at ADL included a 1974-1977 period during which he advised ADL clients in Algiers in food, oil, gas, and mining industries. I recall that at that time he established a home for his family in France and frequently flew back and forth across the Mediterranean. One day in 1960 Harry Pars and I were returning from lunch in the ADL cafeteria and noticed Dennis on the floor of his office examining a large chart of structural formulas. He told us that the Army Chemical Center was soliciting a contract to advise the Army on the feasibility of synthesizing the compounds on a large scale. We took a quick look at the chart and told him that what he had was a collection of synthesis routes to just one compound — tetrahydrocannabinol (THC). Dennis hired Harry as a consultant on the spot! One thing led to another: Dennis got the contract; later fellow chemical engineers and chemists were responsible for the large-scale production of all the pure

synthetic THC used in pharmacological research by several government agencies; Harry Pars established contact with the Army Chemical Center and during the next six years directed a team of about 20 chemists in the synthesis of complex organic compounds, some of which are today finding exotic uses in medicine.

Andrew H. Landini, 84, died on October 19, 1986. He was a native of Somerville. After graduating from the Massachusetts College of Pharmacy in

1924 he was employed as a chemist with Skinner and Sherman Laboratories for the next 25 years. He then served as chemist and general manager with the New England Apple Products in Littleton, Mass. and as a chemist with the National Research Corporation in Cambridge (1956-1965). During his retirement years he was employed as a pharmacist in Littleton and Westford. He was a member of the Littleton finance committee and board of health. ◇

Health & Safety on My Mind

Second Thoughts on SARA III

by M.A. Solstad

For the last couple of months the media have been filled with horrifying reports of what our manufacturing concerns are spewing into our atmosphere, and environment generally. Their information has come from computerized data-banks, developed by the EPA from forms filed the last two years in June under SARA Title III, Section 313, commonly called the Community Right to Know section. I've been at first amused, and later disturbed and flabbergasted by the interpretation put on these reports by the lay media, and also by the EPA.

Let me explain for those of you whose work does not involve lengthy government filings: I'm both a chemist and industrial hygienist consulting for small, < 100 workers, companies. Wearing the latter hat I have helped some clients with the provisions of SARA III. Section 304, covers emergency notification of leaks, spills and other releases of extremely hazardous substances. Section 311, due October, 1987, was straightforward: Submission of all MSDS's (Material Safety Data Sheets, prescribed under OSHA) for all MSDS substances to local and state officials. Alternatively and preferably a list of these MSDS substances could be submitted. Many budget strapped state governments, without budgeted Federal

funds to help them, are still reeling under this initial onslaught.

Due each March is a filing for Section 312, designed basically to give local officials information on what, and how much of hazardous substances are stored where. First, all the MSDS substances are assigned to hazard categories by the filler. This requires some basic knowledge of chemistry and toxicology. The categories are FIRE, SUDDEN RELEASE OF PRESSURE, REACTIVE, ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD. Then the number of pounds of substances in each hazard is added up, the numbers are reduced to code form, and it is all placed on a form with an indication of where substances with these hazards are stored. There are some nuances to the calculations, such as maximum on site during year, average on site; you get the picture — lots of detailed inventory work. The joker is there is no provision in the form for assessing the severity of the hazard, and substances having more than one hazard counted 2 or 3 times. For instance, gasoline is a fire, acute health and chronic health hazard, and possibly explosive too, depending on the person doing the assessment; therefore it would be counted 3 or 4 times on the

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Health & Safety

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form. Acute and chronic health hazards are differentiated by a time factor, rather than severity. Thus sulfuric acid (skin burns), ethanol (central nervous system effects), and gasoline (eye irritation, among others), carbon monoxide (cessation of respiration) would be listed as acute hazards. Substances causing cancer, mild dermatitis and liver or kidney damage, would all be counted as chronic health hazards. I'm not sure how much useful information the local fire chief gets from the form as it is presently constituted.

The form causing all the fuss, Section 313, "Community Right to Know," due each June, is often confused with OSHA's Hazard Communication Standard, often called the "Worker Right to Know." This section seeks to determine how much of which priority pollutants are discharged to the environment, and how. A noble cause; I believe in it. But for many companies the form for each chemical represents 30 to 40 hours professional work, and yields about 30 minutes worth of information, sometimes misleading.

First, the inventory list must be broken down into compounds composing the substances dealt with before (that is substances with an MSDS). E.g. lacquer thinner may contain ethyl acetate, butyl acetate, isopropanol, toluene, xylene, glycol ethers, etc. Then the number of pounds of each compound (from a list of over 300) used during the year is summed. This year if it was under 50,000# manufactured, processed or imported, or 10,000# otherwise used, no report is due. (The pounds limits are subject to change downward in future years, perhaps to zero). A mass balance must be performed for each compound. That is, if number of pounds of compound X entering the facility per year is greater than number of pounds leaving as products, then the difference must be entering the environment. You must make an educated guess as to how: air, land or water.

How does this all work out in practice? First the extremely hazardous substances by definition are those on a

certain list. Take a real life example of a large machine shop where they spray-painted the final product. For toluene, should we combine it with xylene, as the effects are very similar? No; not allowed. How do we determine how much toluene is in this paint based on MSDS which gives a range of 20-40%? Take the mean, or 30%. After summing #'s of toluene (from gallons of paint, and tubes of adhesive, etc.) the sum is 9,600# per year. Do *not* file this form for toluene. But keep the figures in case EPA comes knocking. Another example: Chromium and nickel. Where do these dangerous metals occur? In stainless steel, which goes out to the environment as stainless steel scrap. But they are elements in solution. Never mind that hexavalent chrome is the toxic form; the chromium in the steel gets listed. Of course, lots of steel would be used in a machine shop, and even a modest amount of alloying material would add up.

So what's the net result of Section 313? A few thousand dollars income and lots of aggravation for me, and for my client's purchasing agent. What about Community Right to Know? No information on toluene and other aromatics which were discharged to the environment and misleading information on chrome and nickel, which is almost worse than none. There is a different list of chemicals for each of the above Sections. The lists have been compiled from inappropriate sources, so that more often than not they make little sense in this context.

I've just been appointed to an ACS committee which will attempt to review some of these lists. I am eager to plunge in, but I must be prepared to be disappointed if nothing happens as a result of our deliberations.

How did we get into this morass? Lawyers and scientists don't mix. Lawyers, i.e. legislators and regulators, propose. Chemists are left with the job of ploughing through the Federal Register and then disposing (of the forms). Is the only solution to have more scientists run for Congress? ◇

Abstracts, Biographies

continued from page 5

employment to consulting or contract employment. Practical problems involved in such a transition, along with suggestions for solutions, will be presented in this talk. Among other aspects, marketing, compensation, and professional liability will be covered. Some examples from recent experiences in The Chemists Group, Inc. will be provided.

Dr. Donald J. Berets is president of The Chemists Group, Inc. He was educated at Harvard, receiving the A.B., M.A. and Ph.D. degrees. His doctorate in physical chemistry was under the direction of Prof. George B. Kistiakowsky. After a brief stint as a post-doctoral research associate at MIT he joined the Chemical Research Division of the American Cyanamid Company. His 37 year career there in research and development, notably in the areas of heterogeneous catalysts and solid state materials research, concluded in 1985; for 13 years he managed the Catalyst Research Department. In 1986 he founded The Chemists Group to aid experienced chemists and chemical engineers seeking consulting and temporary employment opportunities. ◇

Safety

We have been waiting for a storm of comments on one of the pictures in the August issue: On page 10 we showed a picture of a laboratory demonstration in which one of the young onlookers has pushed her safety glasses up over her forehead. It is only too easy, for an instructor, to be wrapped up in the details of the demonstration, but safety concerns should always be on the demonstrator's mind.

We did receive one comment, but that was all.

The Safety Ombudsman in the Industrial Laboratory

by Dr. Myron S. Simon
Image-Ination Associates

Frequently we hear statements such as, "The Safety Department is made up of people who don't understand what lab work is all about," or "They don't pay any attention to me when I bring them a safety problem." All too often such attitudes reduce the value of even the most conscientiously planned safety program. A we-versus-them malaise prevents the complete cooperation necessary to get the most out of the effort.

A most valuable adjunct to the formal safety program is the Safety Ombudsman. He or she is the person who receives the complaints of laboratory personnel about safety matters. (I'll stay with the masculine form throughout this paper, but is quite obvious that what I write could equally well be applied to a woman as to a man.) He is not a member of the Safety Department; in fact, he has full time laboratory responsibilities for research and development or laboratory administration. He is the person to turn to when the laboratory workers have safety related problems or worries. He gets the complaints about the mercaptan odor or the loose floor tiles, or the need for a safety shower, et cetera ad infinitum.

The role of the Safety Ombudsman in receiving and investigating complaints and seeing to their resolution is a highly visible one, and can be most effective in lubricating the interface between laboratory worker and the Safety Department's program.

Let us examine the criteria for the proper choice of Safety Ombudsman.

First of all, he should be at a sufficiently high level of laboratory management so that laboratory workers know that he can do something about their complaints, and so that he has the freedom to spend his time as he judges necessary in investigating safety complaints.

The management position also gives him a role in budget planning.

Many safety related problems need money to cure. He should be able to get the money approved or have enough discretionary funds to cover the expense. There may be no stronger boost to a safety program than for a problem to be recognized by employees, reported to management by them, and then to have them see that the money is spent to remove the problem, to the satisfaction of all.

He should have the willingness to listen to anyone with a safety related problem. This open door policy is very important for the safety program to win credibility. In addition, it results in catching potential hazards at an early stage and retarding their development. It is an early warning system.

Often a co-worker's safety problem turns out to be the need to talk to a sympathetic person about whatever may be bothersome. This suggests, correctly, that sensitivity to personal relationships is a necessary criterion.

He should have the means to communicate on safety matters with the entire work force. This means access to bulletin boards, to agenda for employees' meetings, to electronic communications, and to the channels for circulating memoranda.

He should have the time, energy and willingness to personally investigate accidents or near accidents. He should be able to summon a member of the highest level of management to the scene of an accident, if appropriate.

He should be a scientist. It is very difficult for an outsider to get a safety message across to scientists in the laboratory. A well trained scientist with a record of accomplishment, which goes hand in hand with his position in laboratory management, is able to command the attention and, frequently, respect of the laboratory scientists to whom the safety message is directed.

In summary, the Safety Ombudsman has a management position which underlines the fact that management cares about the safety of the laboratory worker and is rational about its safety

program. His involvement lets the employees know that they have a channel to get something done about safety problems, but that they have an obligation to use that channel. The expense of the Safety Ombudsman may be one of the best safety investments a company can make. ◇

Reminder

The Northeastern Section owns a number of tapes of the ACS Audio Courses which are available for a modest fee on a loan basis to members of the Section.

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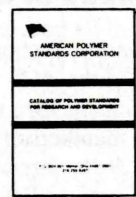
Truman Light, member of the Council Committee on Membership affairs transmits the following notes to us:

Retired Chemists Group. Each local Section is urged to form such a group. The Northeastern Section had such a group under the chairmanship of Walter Gensler, but after his death no one else has come forward to continue the effort. Call Ted Light (862-3048) for information.

Career Consultant Group. There is such a group in the ACS office which offers counseling to ACS members who seek a change in mid-career or on retirement. Contact Dr. Bruce W. Davis, c/o Career and Employment Services, American Chemical Society, 1155 Sixteenth St., NW, Washington, D.C. 20036. Tel.: (202) 872-4432.

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Surveys of Women on College and University Chemistry Faculties

by Kathleen M. Trahanovsky and
Doris C. Lorz

In the academic year 1986-87, 217 of 4453, or 4.9% of tenured or tenure track faculty positions in Ph.D.-granting chemistry departments were held by women. In college departments granting only B.S. or M.S. degrees, 530 of 4740, or 11.2%, of faculty positions listed in 1986 were held by women. These figures were compiled by the Women Chemists Committee from information supplied by chemistry departments to the ACS publications *Directory of Graduate Research (DGR) 1987* and *College Chemistry Faculties* (7th edition, 1986).

For the Ph.D.-granting institutions, the percentage of women faculty has increased steadily from 1.5% in 1970 to 4.9% in 1986 (see Table 1). During that same time period, the percentage of chemistry Ph.D.'s granted to women increased from 9.9% in 1972 to 21.3% in 1986. The number of Ph.D.-granting schools with no women faculty decreased from 41% in 1984 to 35% in 1986. In 1970, 76% of these schools had no women faculty. Several large schools with no women faculty in 1986 are listed in Table 2.

Tables 3 and 4 show the distribution of women at the Ph.D. institutions by rank and area of research. The numbers of professors and associate professors have increased continuously since 1970, but the number of assistant professors was lower in 1984 and 1986 than in 1982. Positions designated as adjunct, emeritus, or research were not included in this survey. The largest numbers of women chemistry faculty at all ranks are in physical chemistry. The numbers given for biochemistry are only those who are members of chemistry departments. The DGR has separate listings of faculty in departments of biochemistry. In 1983, 220 of 2580 (8.5%) of these were women. The 1985 and 1987 DGR biochemistry faculty listings have not yet been tabulated. The available data

Table 1
Doctoral Faculties in Chemistry

Total Tenure-track Faculty	1970-1	1976-7	1982-3	1984-5	1986-7
Total Tenure-track Faculty	4091	4125	4455	4327	4453
Number of Women Faculty	61	110	185	189	217
% of Women Faculty	1.5	2.7	4.1	4.3	4.9

Table 2
Large University Chemistry Faculties
With No Women in September 1986

School	Total Chemistry Faculty
Arizona State University	34
Georgia Institute of Technology	28
University of Georgia	26
Northwestern University	30
Notre Dame University	28
Oregon State University	25
San Diego State University	27
University of South Carolina	26
University of Utah	30
Virginia Polytechnic Institute & University	29
University of Virginia	25
University of Wisconsin, Madison	37

Table 3
Doctoral Women Faculty by Rank

	1970-1	1976-7	1982-3	1984-5	1986-7
Professor	15	27	46	54	66
Associate Professor	23	28	49	59	73
Assistant Professor	23	55	90	75	78

are less complete, with several large biochemistry departments not providing information for the DGR. The 1987 DGR also has separate listings for departments of Chemical Engineering, Pharmaceutical/Medicinal Chemistry, Clinical Chemistry, and Polymer Science. Members of these departments are not included in the present survey.

It is often suggested that pressures to publish and raise research funds discourage women from aspiring to faculty positions in large universities. However,

women are also underrepresented on the chemistry faculties of departments that grant only B.S. or B.S. and M.S. degrees. For these chemistry departments the percent of women faculty in 1986 was lower (11.2%) than in 1965 (12%) (see Table 5). Compared to 1983, the percentage of women barely increased from 11% to 11.2%, but the number of women on these faculties decreased from 546 to 530. Women in these departments were also concen-

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Surveys of Women

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trated at lower ranks: 6.6% of the full professors, 12.1% of associate professors, and 21.6% of the assistant professors (Tables 6 and 7). The percentages of women in Tables 1 and 5 include only those with rank of assistant professor or higher. It is noteworthy, however, that 47.6% of the 191 faculty listed as instructors in 1986 *College Chemistry Faculties* were women. In 1986, 55.3% of the departments still had no women faculty, compared to 63% in 1977 (Table 8). States with no women listed on college chemistry faculties in 1986 include Idaho, Alaska, Montana, Hawaii, and Nevada. States with the highest percentages of women faculty were Massachusetts (20.1%), New Jersey (17.6%), Louisiana (16.1%), Georgia (15.8%), and Virginia (15.5%).

Earlier versions of the survey of Ph.D.-granting institutions were compiled for the WCC by Dr. Agnes Ann Green, and have been continued for

1985 and 1987 by Dr. Kathleen M. Trahanovsky. Data for the B.S./M.S. colleges survey were compiled by Dr. Doris C. Lorz. More information can be

obtained from the ACS Women Chemists Committee, 1155 16th Street, N.W., Washington, DC 20036. ◇

Table 4
Women on the Faculties of Ph.D.-Granting Chemistry Departments in 1987 by Rank and Area of Research

	Professor	Associate Professor	Assistant Professor
Analytical	6	6	13
Biochemistry*	14	21	13
Inorganic	14	8	13
Organic	9	10	11
Physical	21	24	25
Other**	2	4	3
TOTALS	66	73	78

*Includes only those listed as members of Chemistry Departments in DGR.

**Other areas include Education (3), Clinical (2), and Polymer (2). No information was provided about research area for two women.

Table 5
BS/MS Faculties in Chemistry

	1965	1977	1980	1983	1986
Total	2546	4915	4706	4944	4740
Women	305	504	499	546	530
% Women	12	10.3	10.6	11.0	11.2

Table 6
BS/MS Women Faculty by Rank

	1965	1977	1980	1983	1986
Professor	86	144	156	177	166
Associate Professor	87	169	140	158	151
Assistant Professor	132	188	201	211	213

Table 7
% Women on BS/MS Faculties by Rank in 1986

	Men	Women	% Women
Professor	2344	166	6.6
Associate Professor	1094	151	12.1
Assistant Professor	773	213	21.6
Instructor	100	91	47.6

Table 8
BS/MS Institutions with No Women Chemistry Faculty

	1977	1980	1983	1986
Institutions Surveyed	897	838	865	824
Number with no Women	567	499	514	456
% With no Women	63.2	59.5	59.4	55.3

Professional Services

Professionalism, defined broadly, encompasses a wide variety of ACS activities that can be traced to the society's earliest years. However, the society's major professionalism programs sprung from the 1930s depression, when joblessness was widespread and chemists' interest in such matters heightened. At that time, the society embarked on several programs, including an employment clearinghouse, aimed at the economic well-being of the individual member.

ACS also established a committee structure that since has evolved to include the council Committee on Professional Relations (CPR), the joint board-council Committee on Economic Status, the board Committee on Professional & Member Relations, the joint board-council Professional Programs Planning & Coordinating Committee (PROPACC), the Committee on the Handicapped, and the Joint Subcommittee on Employment Services. In addition, a Division of Professional Relations was founded in 1972.

ACS staffers involved in carrying out the major professionalism programs are organized in the Office of Professional Services. The office's activities focus on professional relations, career problem assistance, studies and reports, and career and employment services.

Among its professional relations activities, the office operates several programs related to the Professional Employment Guidelines (PEG) established in the early 1970s by CPR following the economic slowdown of the late 1960s and the accompanying terminations of chemical professionals. The guidelines embody standards for conditions of employment, certain employee benefits, and termination conditions. When multiple terminations of chemical professionals occur, CPR, with the aid of ACS staffers, investigates the conditions of termination and compares the employer's treatment of the terminees with the standards specified in PEG. The findings are published periodically in C&EN. The committee believes that this activity over time has tended to

encourage employers to conform more closely to the ACS guidelines.

Career problem assistance programs, which provide help at career crisis points, include free or reduced-cost employment and member services, dues deferral, and the member assistance program, a direct negotiation service dealing with professional relations problems of ACS members. The member assistance program includes five consultants, all volunteer ACS members, who deal with an average of a dozen cases per year.

One of the most visible employment services is the National Employment Clearing House, which provides a

forum for ACS members seeking jobs to meet with employers offering jobs. (Employers are required to pay a fee to participate in this service.) The clearinghouse is conducted at the national meetings each year as well as at some larger regional meetings. The Professional Data Bank and Confidential Employment Listing, similar in purpose to the clearinghouse, operates year-round at ACS headquarters.

A new activity just starting is the Career Consultant Group, comprised of six ACS volunteer consultants, which aims to help members who are making mid-career job changes.

The office also offers an electronic bulletin board with academic job openings, a print version of which is mailed each month to subscribers. Similarly, the office's newspaper clipping service provides a compilation of classified ads for job openings that require a chemistry background, gathered from 20 or so newspapers and trade journals. Copies of this publication are mailed to subscribers and to each ACS local section.

Among the office's many other activities, its staffers research and publish papers, brochures, and booklets on a number of topics relating to the profession of chemistry, such as early retirement, working with physical disabilities, and ethics in science.

Many other ACS programs contain a strong professionalism component, including local section programs, membership services and insurance, career activities of the Younger Chemists and Women Chemists committees, and continuing education courses. ◇

Reprinted from C and E News.

PRIMARY PURPOSES

- Promote effective development and utilization of nation's chemical professionals
- Promote responsible practice of chemistry through communication of professional and ethical standards
- Assist members when career problems arise
- Inform members of current state of professional, ethical, and employment practices

HOW FUNDED

Mostly from ACS membership dues, 20 to 25% from fees charged companies for employment services; 1988 budget of about \$500,000

STAFF ORGANIZATION

Office of Professional Services, within the Department of Member & Professional Services, a unit of the Membership Division

STAFF PERSONNEL

Nine full-time, and four part-time staffers; manager: Terrence R. Russell (202) 872-4431

RELATED GOVERNANCE

Council Committee on Professional Relations (chairman, Esther A. H. Hopkins), joint board-council Committee on Economic Status (chairman, John S. Connolly), Joint Subcommittee on Employment Services (chairman, Bruce W. Davis)

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Board of Directors

Condensed Minutes of Meetings:

April 6, 1989

Constitution and Bylaws Committee: A. Heyn presented bylaws amendments to support the constitutional amendment of the provisions for the T.W. Richards award. Of two alternate wordings which affect the duties of the Richards Medal Award Committee the Board is to select one option at its May meeting, to be voted at the December 1989 Section meeting.

Board of Publications: J. Vnenchak announced that the Directory will be issued at the end of April. Some work had to be done in the company listings. The May *NUCLEUS* will contain the ballots and supporting material. Ads have increased to six pages in this issue. Any additional ad space will require added text pages in order to stay below the maximum percentage of ad space allowed by the mailing permit.

Award Committee: W. Foye invited additional nominations for the Henry Hill Award. The Levins Award will again be given to a graduate student who is to be selected.

Chemical Education Committee: W. Gleekman reported that the Ashdown Examination is to be given next Saturday at Brookline H.S. The Chemistry Olympiad testing to be April 29 at Simmons under sponsorship by the Polaroid Corp.

Program Committee: J. Billo announced the speaker for the May meeting (education night): David Harpp of McGill University. The October meeting will deal with Professional Relations.

ACS Spring 1990 Meeting in Boston: J. Billo reported on progress in planning for the meeting.

Section Fund Campaign Committee: J. Kaufman has resigned from the chairmanship of this committee. The Directors expressed their thanks for his efforts.

Old Business: Accessibility of computers for Section business was discussed. K. Piper has such access and M. Drury has a hard disk for membership updates.

R. Albery of MIT has been monitoring the state legislature on toxic substance legislation.

New Business: Ballot Counting: Bylaws specify a June 15 deadline for announcing the results of the balloting. The chairman appointed the same tellers for 1989 which completed the 1988 ballot count. NERM: R. O'Malley, who is the Section representative to the NERM committee suggested that Boston offer to host the 1992 NERM meeting. Video Workshop: It was MOVED that budget item 78 be increased by \$500 to include funds for such a workshop, item 21 to be adjusted accordingly. The workshop to be monitored by J. Kaufman to assure conformance to good safety practices. PASSED.

It was proposed to have a summer issue of the *NUCLEUS* subject to approval of necessary funds (about \$3500) by the Trustees. To be taken up again after such approval.

May 11, 1989

The *Minutes* of the April meeting were approved with minor corrections. The *Treasurer's report* was approved.

Chairman Strem announced that *Section dues notices* had been sent to those who are recorded as not having paid these voluntary dues. A brief discussion followed about the requirements for Emeritus Member and retired members.

Awards Committee: Dr. Foye announced that Section member Rene Gibb had received the Regional Chemistry Teacher's Award. The board went on record to send her its heartiest congratulations.

Constitution and By-Laws: A. Heyn presented two options for wording the amendments to the T.W. Richards Medal and Award. The option that left more discretion to the Board of Directors was adopted (language to be in the November *NUCLEUS*) and is to be voted at the December meeting of the Section, the regular Annual Meeting.

Chemical Education: W. Gleekman reported for M. Hearn. Arrangements are complete for the May Awards meet-

ing. He asked the board whether this Section should offer to host the 1992 Olympiad. Five American cities are under consideration including Boston. He will see whether required facilities are available for the olympiad.

Membership: I.C. Hartman, Chair. J. Neumeyer suggested introducing new members at the beginning of Section Meetings. A. Dey suggested publication of these names in the *NUCLEUS*

Professional Relations: K. Stygall reported via the Chairman that Ms. Schofield was interested in improving the image of local chemists.

1990 ACS Spring Meeting in Boston: M. Simon has contacted Christine Pruett in connection with the General Interest Group.

Continuing Education: Dr. A. Viola announced that the conference on Robotics is to be held on May 11. Six people have subscribed so far. Retired Members may attend at the Student Rate.

Public Service: P. Brauner reported that programs are in the planning stage for the fall.

Safety: Dr. Hartman was at a Safety meeting for representatives from colleges and Universities. Dr. Strem has been studying the EPA regulation for laboratories.

Valerie Wilcox indicated that these standards allow NO metals, and organic materials to be below 2.1 ppm. Joseph Billo has information as it applies to the new Boston College Chemistry building.

Old Business: (A) A sum of \$200 was VOTED to support Dr. Samuel's activities on behalf of the Local High School Activity program at the national ACS meeting.

(B) No action was taken on E. Hopkins' proposal of supporting handicapped attendees at National Meetings.

(C) A sum of \$500 for supporting laboratory demonstrations at Framingham State on Sept. 30 was discussed. No action was taken, at present.

Ballot Counting: Dr. Strem will have ballots counted by June 15.

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SENIOR ANALYTICAL CHEMIST --- The Chemist filling this position will evaluate raw materials, finished products, prototypes and competitive products using wet chemical analysis and various instrumentation techniques. A successful candidate would have a Bachelors degree in Chemistry and three to five years experience in personal care, pharmaceutical or food products. Experience with GC, HPLC, GPC, FTIR and various spectrophotometric techniques is required.

CHEMIST --- The Chemist filling this position will, under supervision, carry out assignments required for the development of new products for Lustrasilk, our producer of ethnic hair care and skin care products. A successful candidate should have a Bachelors degree in chemistry and one to three years experience in the formulation of cosmetics, pharmaceuticals or related products. Experience with ethnic hair care and skin care products a plus.

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Board of Directors

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NERM: R. O'Malley MOVED that the Section offer to host a NERM Meeting in the near future, but not in 1989 since the Section hosts the ACS spring meeting. PASSED.

New Business: The National Office has recommended that the James Flack Norris Award in Physical Organic Chemistry which is administered by National, have its award increased from \$3000 to \$5000 per year. The Board of Trustees recommends against increasing the award at this time. The Board of Directors VOTED to maintain the Award at the present level.

Board of Publications: Chairman J. Vnenchak announced the following appointments for 1989-1990 for the *NUCLEUS*: Business Manager: Russ McCann, Advertising Manager: V. Gale. Editor: Adrienne Dey, and a new position: Managing Editor: Arno Heyn.

It was mentioned that more advertising has been obtained recently. This may require more editorial material to satisfy requirements for non-profit mailing. Most issues in the future will be 16 pages. The nominations were APPROVED.

June 22 Board Meeting: M. Simon offered his home for this informal meeting.

David Howell.

Calendar

Tuesday, Oct. 10

Charles Clapp (Bucknell University)
Title to be Announced
Tufts University
Pearson Memorial Laboratory Room 104
at 4:30 pm
Refreshments at 4:00 pm

Dr. William Tomford (Harvard Medical School)
Dr. Brian Conway (Harvard Medical School)
"Aspects of AIDS in the Clinical Setting — Transplants"
University of Lowell — Biochemical Seminar Series
Olney Hall 428 at 3:00 pm

Wednesday, Oct. 11

SMU Alumni Association Seminar Series
Dr. E. Joseph Billo (Boston College)
"Kinetics of Folding and Unfolding of Nickel (II) Macrocyclic Complexes"
Southeastern Massachusetts University
Science & Engineering Building (Group II), room 305 at 4:00 pm

Thursday, Oct. 12

Dr. Ruth Stark (CUNY Staten Island)
"Structure & Dynamics of Intact Plant Cuticular Polyesters: Solid-State NMR Studies"
Boston College
Gasson Hall Room 305 at 4:00 pm
Refreshments at 3:45 pm

Bayer/Mobay Foundation Polymer Science/Plastic Engineering Seminar Series
Mark Druy (Foster Miller Inc.)
Title to be Announced
University of Lowell
Olney Hall 428 at 11:30 am

Harvard/MIT Inorganic Seminar Series
Professor Jack Halpern (University of Chicago)
"Organometallic Chemistry in Biology: The Role of Vitamin B₁₂"
MIT Room 6-120 at 5:00 pm
Refreshments at 4:40 pm in Moore Room, 6-321

Monday, Oct. 16

Dr. Mike Clarke (Boston College)
"Ruthenium Chemistry of Nucleosides and DNA"
University of Lowell — Biochemistry Seminar Series
Olney Hall 428 at 3:00 pm

Wednesday, Oct. 18

SMU Alumni Association Seminar Series
Dr. Paul Lahti (University of Massachusetts)
"Organic Magnetism and its Potential for Information Storage"
Southeastern Massachusetts University
Science & Engineering Building (Group II), room 305 at 4:00 pm

Thursday, Oct. 19

Dr. R. Stratt (Brown University)
"Electronic Structure of Lipids"
Boston College
Gasson Hall Room 305 at 4:00 pm
Refreshments at 3:45 pm

Bayer/Mobay Foundation Polymer Science/Plastic Engineering Seminar Series
David Kaplan (Dept. of Army, Natick R&D Center)
Title to be Announced
University of Lowell
Olney Hall 428 at 11:30 am

Tuesday, Oct. 24

Malcolm Levitt (MIT)
Title to be Announced
Tufts University
Pearson Memorial Laboratory Room 104
at 4:30 pm
Refreshments at 4:00 pm

Wednesday, Oct. 25

SMU Alumni Association Seminar Series
Dr. Edward Cain (Rochester Institute of Technology)
"Teaching Chemistry to the Physically Handicapped"
Southeastern Massachusetts University
Science & Engineering Building (Group II), room 305 at 4:00 pm

Thursday, Oct. 26

Dr. Bill Bachovchin
"Insights into the Mechanism of Serine Proteases from ¹⁵N NMR"
Boston College
Gasson Hall Room 305 at 4:00 pm
Refreshments at 3:45 pm

Monday, Oct. 30

Professor Francois Diederich (University of California at Los Angeles)
"Supermolecular Recognition and Catalysis in Aqueous Solution"
Brandeis University
Gerstenzang 122 at 4:00 pm
Refreshments at 3:30 pm
Dr. Julie Leary (University of California, Berkeley)
"Mass Spectrometry of Metallated Peptides"
University of Lowell-Biochemistry Seminar Series
Olney Hall 428 at 3:00 pm

Thursday, Nov. 2

Dr. Gary Jacobsen (Boston University)
"Structural and Functional Domains of the E. coli Mannitol Permease"
Boston College
Gasson Hall Room 305 at 4:00 pm
Refreshments at 3:45 pm
Bayer/Mobay Foundation Polymer Science/Plastic Engineering Seminar Series
Dr. Venkant (Polygen Corporation)
Title to be Announced
University of Lowell
Olney Hall 428 at 11:30 am

Notices for the NUCLEUS Calendar should be sent to:

Cynthia B. McGowan
Department of Chemistry
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(Note: Deadline: First of the month prior to the month for which the event is scheduled)

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