

THE NUCLEUS

October 1992

Of the Northeastern Section of the American Chemical Society

Vol. LXXI, No. 2

Monthly Meeting

*Ernest Becker honored;
Lester C. Thurow on
Technical Leadership*

Workforce Report

*Chemistry Teachers and
Chemistry Education*

Designing Experiments

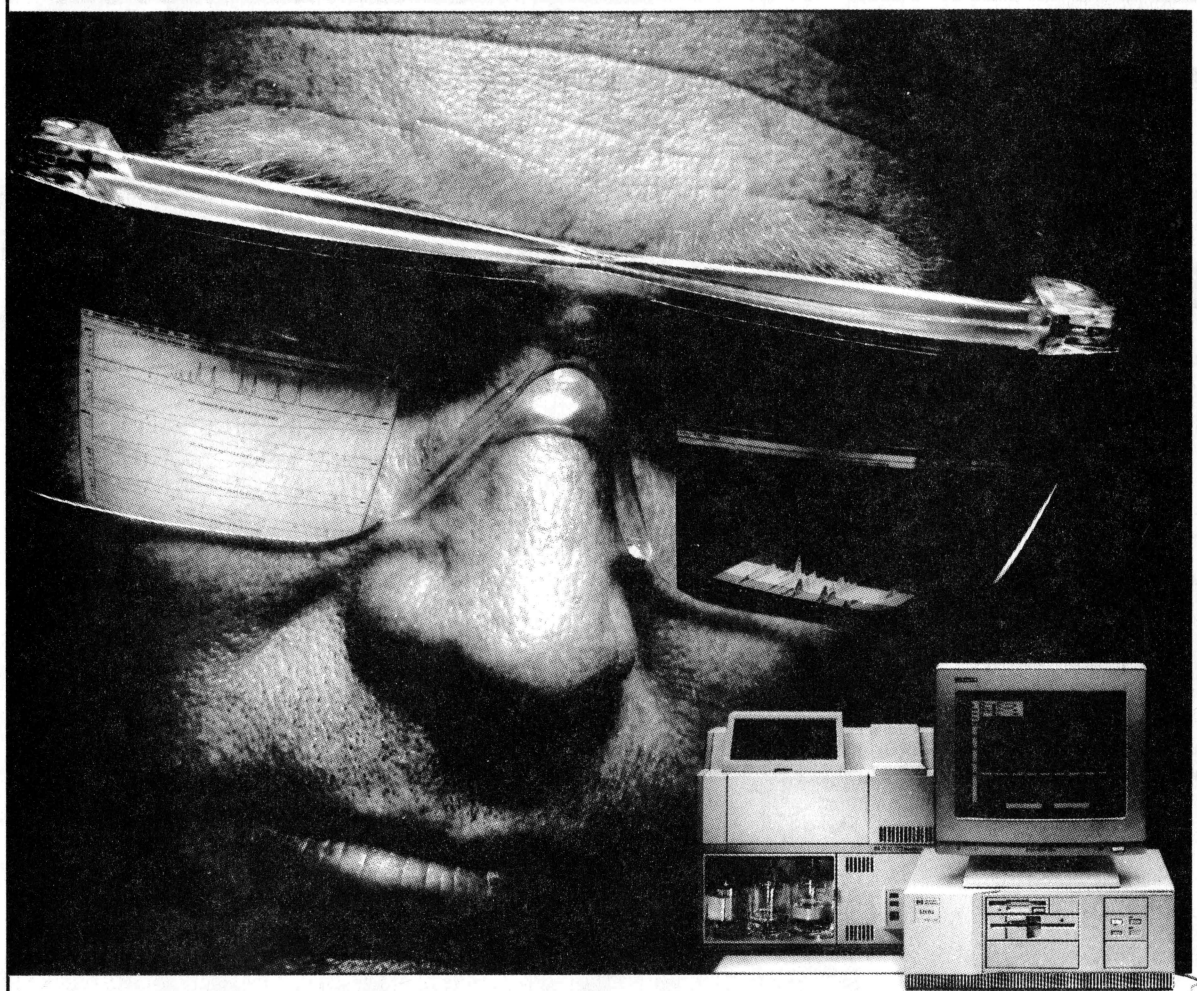
A Continuing Education Program

Historical Notes

*Another set of accounts of recently
deceased chemists of this Section*



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Cover: Dean Lester C. Thurow (Photo by Bradford F. Herzog)

Deadlines: December issue: October 23, 1992;
January 1993 issue: November 20, 1992

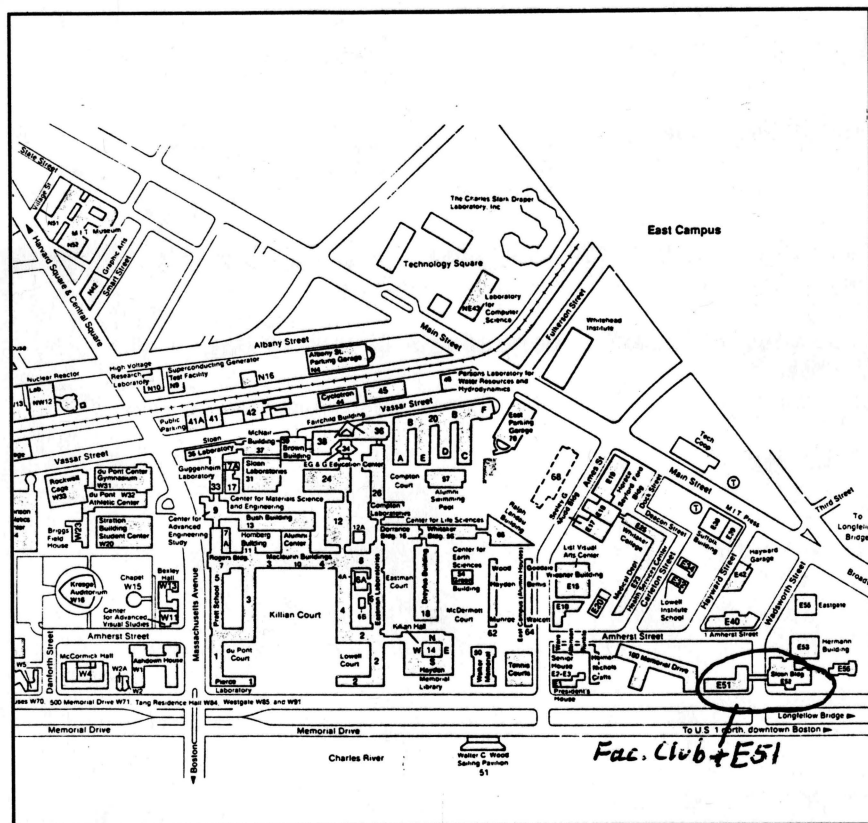
THE
NUCLEUS



Dedicated to the Memory of James Flack Norris
Published monthly from October to May by the Northeastern Section of the American Chemical Society, Inc.

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

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Hill Award

Ernest I. Becker

1992 Henry A. Hill Award Recipient

Henry A. Hill, a well known industrial chemist in this Section was chairman of this Section in 1963. He became active in national ACS affairs, was elected to the Board of Directors in 1971 and became President of the Society in 1976. After his untimely death in 1982 an award was established in his memory, to be given annually to a member of the Northeastern Section who has given distinguished service to the Section. Previous recipients have included Edward Atkinson, G. Richard Handrick, Janet Perkins, Phyllis Brauner, Arno Heyn, Esther Hopkins, Wallace Gleekman, James Piper and Valerie Wilcox. In addition, the award has been bestowed posthumously on Henry Hill, Arnet Powell and Sr. Magdalen Julie Wallace.

At the 1992 October Meeting Ernest I. Becker will join this distinguished group of members. In addition to serving as a long-standing Councilor of the Section, a member of its Board of Directors, Chairman (1972), he was the chairman and driving force of the 1978 Northeast Regional Meeting held in Boston, NERM 8, in June 1978. He has been active in the national ACS, as well, and has been serving as the Councilor of the Division of Chemical Health and Safety for many years. Currently he is the chairman of the Senior Chemists Group of this Section. ◇

Readers:

Please donate your copies of the *NUCLEUS* to your local High School when you no longer need them.

Nominations

Gustavus John Esselen Award

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

The Award, which consists of a bronze medal and a sum of \$ 5,000, recognizes a chemist whose scientific work has contributed to the public well-being and has thereby communicated positive values of the chemical profession. The importance of the Award, dedicated to showing the positive values of chemistry to the public, cannot be overstated when there are so many negative reports in the media dealing with hazards and toxicity of chemicals.

Nomination deadline is **November 1, 1992**. Nominations and inquiries should be directed to Dr. Truman S. Light, Chairman, Esselen Award Committee, 4 Webster Rd., Lexington, MA 02173; (617) 862-3048. ◇

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October Meeting

Professional Relations Meeting

The Henry A. Hill Award

The 746th Meeting of the Northeastern Section of the American Chemical Society

Tuesday, October 13, 1992 (Note the Change in Date)

M.I.T. Faculty Club, 50 Memorial Drive, Cambridge, MA

- 4:30** Corporation Affiliates Information
How to Get Help in Seeking Employment: Committee for Employment Services
- 5:30** Social Hour
- 6:30** Dinner
- 7:30** Presentation of the Henry A. Hill Award to Ernest I. Becker
The Henry A. Hill Awards - William O. Foye, Chairman, Awards Committee
Henry A. Hill Reminiscences - Clarence Tucker
Ernest I. Becker - Martin Idelson
Presentation of the Award - Katie Stygall
- 8:00** Lecture, Bowen Hall, MIT Bldg. E51, Rm. 329 (just west of Fac. Club)
Technological Leadership in the Twenty-First Century - Lester C. Thurow, Dean, MIT Sloan School of Management

Refreshments will be served after the program.

Dinner reservations should be made no later than October 6. Please call Katie Stygall at (508) 372-7161 ext. 311. Reservations not cancelled at least 24 hours in advance must be paid. Members, \$21.00; Non-members, \$23.00; Retirees, \$12.50; Students, \$8.00. **THE PUBLIC IS INVITED.** Anyone who needs special services or transportation, please call Katie Stygall a few days in advance so that suitable arrangements can be made. Free Parking: Sloan Lot off Broadway, after 4 pm.

Biography

Lester Thurow, Dean of the MIT Sloan School of Management since 1987, describes himself as an "economics educator."

A 1960 graduate of Williams College, Thurow received an M.A. from Oxford University as a Rhodes Scholar and a Ph.D. in economics from Harvard University in 1964. He was a staff member of President Lyndon Johnson's Council of Economic Advisers, following which he taught at Harvard. Since 1968 he has been a faculty member at MIT.

In addition to his academic appointment, focusing on public finance, macroeconomics and income distribution, he carries on his educational activities as an articulate spokesman, clarifying and illuminating the discipline of economics for the lay public and providing informed com-

mentary on public policy issues and the state of the economics profession.

Thurow is the author or co-author of several books: *The Zero-Sum Society* (1980), *Dangerous Currents: The State of Economics* (1983), *The Zero-Sum Solution: Building a World-Class American Economy* (1985) and *Head to Head: Coming Economic Battles among Japan, Europe and America* (1992).

Dean Thurow also served on the Editorial Board of *The New York Times* (1979), was a contributing editor for *Newsweek* (1983) and a member of the Time Board of Economists (1983-87). He currently writes for *The Boston Globe* and appears regularly on the PBS TV program *The Nightly Business Report*.

Among other honors, he has received the Gerald Loeb Award for Economic Writing in 1982 and is a Fellow of the American Academy of Arts and Sciences. ◇

About the Lecture

Prof. Thurow, as a prominent economist and Dean of the Sloan School of Management at MIT has a well reasoned view of what science, in particular chemistry, has to contribute to the coming battle for economic leadership among the major industrial nations of the world. What human and monetary investments will this country have to make in order to maintain its role? How can the corporation plan for its future and the student plan for his/hers in the coming technologically driven world? Will the job market even exist for the individual who opts for a career in research and development? Is the present climate of layoffs, early retirements and a disappointing job market indicative of a future downgrading of the scientist? ◇

November Meeting

November 5

at Simmons College,

The Fenway, Boston, MA 02115

The James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry will be presented to Prof. Jerry Bell of AAA S.

- 5:30** Social Hour
6:30 Dinner
8:00 Award Presentation

Because of the early date of the meeting the above information is given now for the benefit of those who may not receive their November *NUCLEUS* in time. ◇

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The Professional Relations Column

by Myron S. Simon

A number of years ago (1975) the ACS published a little booklet, periodically re-edited, PEG, the Professional Employment Guidelines. These booklets defined the rights and responsibilities of chemist and employer primarily in the industrial chemical environment. A similar effort to better define relationships in the academic world was needed.

Such an attempt has now fruited with the publication by the Council Committee on Professional Relations of the little brochure named Academic Professional Guidelines. It should be as welcome as its sister publication in helping chemists in their professional relationships. APG defines "the obligations and reasonable expectations for individuals as they interact in the unique academic employment environment."

There are four categories of obligations described: those of the graduate student and postdoctoral associate, of the professor, of the university administration towards the students and post-docs, and of the university administration towards the professor.

Don't expect anything representing world-shaking change in these short, clearly written paragraphs. Logic and current usage prevail. The value lies chiefly in having current good practices spelled out succinctly and clearly. The chief criticism might be that the effort resulted in a set of guidelines which lack specific details, that the rules are a WIBNI, "wouldn't it be nice if...". This misses the point, that the publication is a first attempt at codifying a mare's nest of different attitudes and procedures found in the chemistry departments of a very large number of academic institutions. The Committee intends to follow up this initial essay with modifications as

experience and response dictate.

Questions, comments, and, presumably, requests for copies of APG should be directed to the ACS Office of Professional Services, 1155 Sixteenth Street, Washington, DC 20036; telephone 202-872-4432. ◇

Employment Services Committee

Members of the Employment Services Committee will be available for consultation with interested members or prospective employers during the social hour of the October 13 Section meeting at the MIT Faculty Club. Individual discussions may be held with committee members concerning employment at the local and national levels. Information available includes:

Resume preparation

Free advertising in the *NUCLEUS*, and *Chemical and Engineering News Directories of Employers* in the Northeastern Section and in the United States

ACS Regional and National Employment Clearing Houses

Chemjobs USA, a weekly publication Professional Data Bank

Career Counseling

Those desiring the services of the Committee may call Leon Rubin, chairman: 332-5785 or Truman/Arlene Light: 862-3048

• Additional volunteer advisors needed. Call Leon Rubin. ◇

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National Chemistry Week

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Oct. 29 Symposium, Boston Museum of Science, for High School Teachers and their students: *Foods for the Twentieth Century*

Oct. 31 First Annual Undergraduate Chemistry Day at Boston University

Nov. 2 Evening of demonstrations at the Harvard University Science Center, Oxford Street, Cambridge

Nov. 3 Open House at academic and industrial laboratories for students and teachers in grades 4 through 12

Nov. 5 Northeastern Section Norris Award Evening, Simmons College

Nov. 7 *Innovations in College Chemistry Teaching*, Bradford College, Bradford, MA. ◇

Member News

Congratulations to **Phyllis Brauner** who received the Distinguished Alumni Award of the Boston University Graduate School in May. Dr. Brauner was honored for "her level of dedication and service to her profession"

Charles Shui Wong of the Parsons Laboratory at MIT has received one of the 1992 Graduate Student Awards given by the ACS Division of Environmental Chemistry.

Frank Westheimer, professor of chemistry at Harvard University, has been named the recipient of the 1992 Repligen Award for Biological Processes.

Morton Hoffman, Professor of Chemistry at Boston University and currently organizing our first annual Undergraduate Day has been elected a Fellow of the American Association for the Advancement of Science.

Buck Warner, graduate student in the chemistry department of MIT, who provided such wonderful demonstra-

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Eastern Analytical Symposium

November 16-20, 1992 the Eastern Analytical Symposium will be held at the Somerset Hilton Hotel and Garden State Convention Center in Somerset, NJ. To register, call (302) 453-0785; FAX (302) 738-5275, or write to: Eastern Analytical Symposium, P.O. Box 633, Montchanin, DE 19710-0633.

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Pearson Memorial Ave., 62 Talbot Ave., Medford, MA

9:00 Registration - Coffee etc

10:00 Research Poster Session

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1:30 Tour of Department

3:00 Informal Discussions

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First Annual Undergraduate Chemistry Day

October 31, 1992

Boston University, Metcalf Science Center, 590 Commonwealth Ave., Boston, MA

9:15 Registration and coffee

9:45 Welcoming remarks - Dr. Katie Stygall, Chairman, NESACS
Keynote address - Dr. Dorothy Phillips, Millipore Corporation

11:00 Workshops: Making a career in chemistry; Choosing a graduate school

12:15 Lunch

1:00 Graduate school industry fair

2:30 Workshops

Writing a resume; Developing interviewing skills

3:45 Tour of Department conducted by members of *Chemia*

For further information, contact Steve Doherty at (617) 353-2503. ◇

ACS News

Workforce Report on Chemistry Teachers and Chemistry Education

(Abstracted from the Workforce Report by A. Heyn)

The ACS Workforce Studies report on Chemistry Teachers and Chemistry Education has presented preliminary findings from a 1989-90 National Survey of High School Physics and Chemistry Teachers. The August 1992 report was prepared by Corinne A. Marasco of the Office of Professional Services.

The 1989-90 survey was conducted jointly by the American Institute of Physics and the ACS. Both physics and chemistry teachers were included in the survey. Although there have been previous surveys of science teachers, this is the first one addressed specifically to chemistry and physics teachers.

The study was based on a stratified national sample of 3,348 high

school science programs that included all states and a representative sample of both public and private school systems. First, principals of the target schools were asked to provide a list of all physical science teachers at their school, then the teachers received a questionnaire including separate sections for chemistry and physics teachers. A combined section requested common information on demographics and general background, teaching experience, responsibilities and characteristics of the school. A total of about 7,000 teachers were surveyed (this includes duplications where the same teacher teaches both chemistry and physics). The response rate was 100% for principals, 63% for chemistry teachers (a total of 3,142 usable responses). The questionnaire was 13 pages in length, which gives an idea of its scope.

Chemistry Enrollment: The total number of chemistry enrollments was 193,000, with an average class size of 21. A break-down by type of course has 75% taking 1st year chemistry, 3%

each taking 2nd year chemistry, ChemCom, and AP Chemistry. 11% are in special classes for gifted and talented students and 5% are non-science students.

Funds Spent on Equipment and Supplies: The range of averages of funds spent per school was from \$750 to \$1150, with suburban schools being the highest. Schools with more than 50% minority students were at the lower end of the range.

Composition of Student Body: There was no significant difference in the number of male vs. female students in the survey group. White and Asian students were about twice as likely to take chemistry compared to African-American and Hispanic students.

Teacher Background: The average teacher was 42 years old and has been teaching chemistry courses for 12 years. Women represented 38% of the teachers, whites 96%, 2% African-American and 1% each Asian and Hispanic. On average, teachers received their first bachelor's degree in

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ACS News

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1970, for which they took 6 chemistry courses for an average of 28 credit hours. 30% of the teachers took their BS in chemistry, 8% in chemistry education, 24% in biology, 14% in general science education. Small percentages took relevant degrees as a second BS. Overall, 44% of the teachers declared chemistry as their college specialization, 36% biology. 74% had full state certification in chemistry, 33% in biology, 15% in mathematics and 55% in broad science education.

Professional Contacts and Upgrading of Teaching Skills: 62% reported some contact with college or university faculty, 33% had contact with industrial scientists, but 18% had no professional contacts. 44% stated that they desired increased contact with industrial chemists, 34% with college and university faculty and 32% wanted increased contact with fellow secondary chemistry teachers.

56% of the teachers reported attending two or more professional or in-service training meetings in 1989; 22% attended only one meeting and 21% went to no professional meetings. About 34% received paid release time or stipends for such activities.

Teacher Attrition and Teaching Problems: Teachers were asked to classify access to resources, administrative support, student interest and student skills as "not a problem, minor problem or serious problem". Public school teachers were more likely to perceive these as serious problems, compared to private school teachers, and the greater the percentage of minority students, the greater was the likelihood that these items were considered serious problems.

Compensation of Teachers: The median salary of the teachers surveyed was \$29,000. Salary was a very important item when teachers were asked whether they intended to stay in the teaching profession. The mean salary for suburban teachers was \$32,855, for urban teachers \$31,260 and \$26,860 for rural teachers. Urban teachers' salaries in schools with more than 50%

minority students were 22% higher than those in schools with more than 50% white students. Teachers in public schools received salaries averaging \$32,337, in private non-religious school \$25,599, in Catholic schools, \$22,066, and in other religious affiliated schools \$18,825. Of the teachers who stated that they wanted to leave the teaching profession, 34% said they did so because of low salaries, 30% because they were bored or dissatisfied with teaching. Problems with students

accounted for 7% of those deciding to leave teaching.

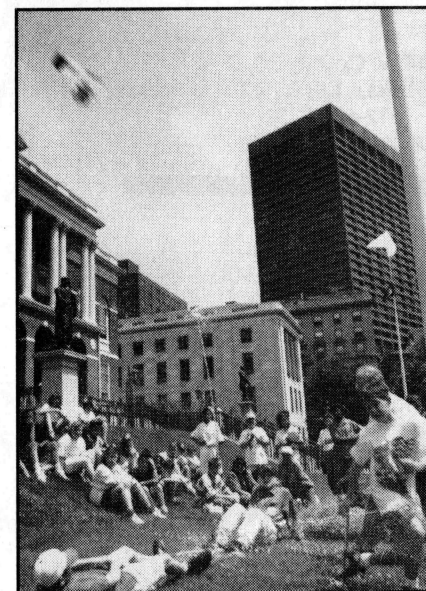
Copies of the 6-page Workforce report: "Chemistry Teachers and Chemistry Education" can be obtained from the Office of Professional Services, American Chemical Society, 1155 Sixteenth St., NW, Washington, DC 20036. ◇

More Pictures

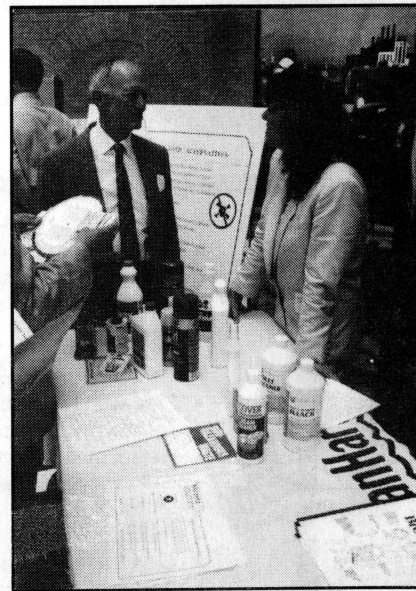
Statehouse Day, June 9, 1992

We didn't have enough space in the September issue to print all the pictures we wanted to show, so here is the remainder.

Rep. Robert Hawke talking with consultants Dr. Debra Saez and Mary Ann Solstad (Photo by A. Fingland)



Bottle Rocket being launched by students of Hastings Middle School (Photo by A. Fingland)



Arno Heyn at the Safe Harbors Exhibit (Photo by M. Simon)

Consulting Group

The Professional Consulting Chemists' Group: the season's first meeting is tentatively scheduled for Thursday, October 22, 1992, at 7:00 p.m. at the Vista International Hotel, located at Exit 27A off Route 128 in Waltham. The meeting's topic will be "The Advantages of Using a Patent Agent for Patent and Related Work", and features Ms. Ellen C. Childress, professional Registered Agent for the United States Patent and Trademark Office, as speaker. Ms. Childress will explain how licensed U.S. Patent Agents can serve the patent and trademark needs of smaller entrepreneurial enterprises, while saving the company money.

As always, this meeting is open to all who are interested in attending, and carries no admission fee. A dinner will be held before the meeting, starting at 5:30 p.m. at the Vista International Hotel, and offers an opportunity to meet with other technical professionals and with the speaker. Dinner costs \$27.00 for non-members of the Professional Consulting Chemists' Group, and \$22.00 for members. Make reservations for dinner on or before Monday, October 19 by calling Debra Saez at (508) 521-1327.

Check with Debra Saez for further details about this meeting, and check the *Boston Globe* Science and Business sections the week of October 19 for confirmation of the meeting time and date.

The Professional Consulting Chemists' Group offers its technical, entrepreneurial members special privileges, networking opportunities, and access to special events not available otherwise. Regularly scheduled meetings are held every other month between October and June. Additionally, special opportunities such as contacts with related groups and inclusion in Consultants' Directories are also offered. For information on membership in the Group or inclusion on the mailing list, call Debra Saez at (508) 521-1327. ◇

Designing Experiments for Process Optimization:

Quality the Japanese Way

A One-Day Workshop Presented by the Northeastern Section A.C.S. Committee on Continuing Education

Instructor: Brad Jones, DOE Products Manager, BBN Software Products

Saturday, November 21, 1992, Boston College, O'Neill Library. Rm. 248, Chestnut Hill, Mass.

Learn how to optimize processes quickly and accurately. This workshop introduces beginners to the methods that helped make the Japanese so commercially successful. You will learn how to establish test parameters and measure results, and how to use software to determine optimum conditions. The techniques can be used for widely diverse problems ranging from making pipes to manufacturing pharmaceuticals. Hands-on experience with computers will be included.

Program:

8:30-9:00 AM	Registration and coffee
9:00-10:30	Process Optimization: A case study
10:30-10:45	Coffee break
10:45-11:15	Design Fundamentals I
11:15-12:00	Hands-on workshop
12:00-1:00 PM	Cold buffet lunch provided
1:00-1:30	Design Fundamentals II
1:30-3:30	Hands-on workshop
3:30-4:00	Closing remarks

Advanced registration required by Nov. 9, 1992

Registration is limited to 26 persons.

Registration fee

A.C.S. Members	\$75.00	Non-A.C.S. Members	100.00
Retired A. C. S. Members	25.00	Students, High School Teachers	25.00

For Further information contact Prof. E.J. Billo 617-552-3619

Registration form for Workshop

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Historical Notes

by Edward R. Atkinson, Amherst, MA

With this issue we start another set of notes on recently deceased chemists of this section.

If you are wondering why there seem to be so many obituaries, there is a good reason: The number of people who entered the chemistry profession during and shortly after WWII increased greatly. Since this happened about 50 years ago, statistics catch up with this group. If you also entered the profession at that time, we wish that you help to increase the life expectancy of your age bracket. - the Editor

Isaac Asimov, 72, a prolific author of science and science fiction, and a former member of the Northeastern Section, died on April 6, 1992. Because extensive obituaries appeared in the newspapers (see, for example, the Boston Globe for April 7, 1992) we only note here that he was a chemistry major at Columbia University and that after service in World War II he taught biochemistry at the Boston University Medical School from 1949 to 1958. During this period he was a co-author of a text on human metabolism. At the time of his death he had published about 500 books at a rate of about 10 each year.

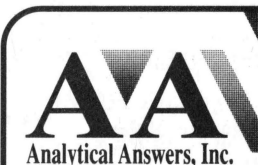
Frank C. Benner, 79, died on June 21, 1992. He was a Detroit native who received the B.S. from Wayne State University (1934) and the B.S. (1937) and Ph.D. (1941) from the University of Michigan where he was a student of the colloid chemist Floyd Bartell. Dr. Benner was employed by the National Research Corporation in Cambridge (1942-1964) and by the Norton Company in Worcester (1964-1976). Fellow graduate students at Michigan were Arno Heyn and Norman Bauer. Bauer was a colleague of mine at the University of New Hampshire and introduced me to Frank whom I saw at many Section meetings

and who was a fellow townsman of mine in Wellesley.

Stanley E. Dale, 67, died on June 19, 1992. A native of Evanston, Ill., he received the B.S. and M.S. degrees in chemical engineering from the University of Michigan. During the 1950-1960 period he was employed by the Callery Chemical Co. and then joined the professional staff of Arthur D. Little, Inc. for the balance of his career. His specialty was safety work for the petroleum and petrochemical

industries, with emphasis on the handling of gases containing hydrogen sulfide. He became director of a section dealing with process technology, safety and risk assessment in the chemical industry including exploration and production on platforms in the North Sea and the Gulf of Mexico. It was my good fortune to be associated with Stanley on a few jobs and I admired his complete familiarity with the art and science of chemical engineering. He

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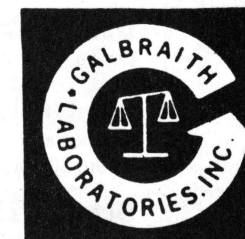
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Calendar

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October 1

Prof. Thomas D. Tullius (Johns Hopkins)
"Using the Chemistry of the Hydroxyl Radical to Study the Structure of DNA and DNA-Protein Complexes"
Boston College
Mekert Chemistry Ctr Rm 127 at 4:00 pm

October 5

Prof. Ian Scott (Texas A&M University)
"Genetically Engineered Synthesis of Natural Products"
Harvard University
MB-23 at 4:15 pm

Prof. Austin Angell (Arizona State Univ.)
"Water and Aqueous Systems at the Supercooled and Stretched (Negative Pressure) Limits of Metastability"
Brandeis University
Gerstenzang 122 at 4:00 pm

October 7

Dr. Robert Weis (UMass Amherst)
"Transmembrane Signalling by the Aspartate Receptor of E. coli"
UMass Dartmouth
Science and Engineering Bldg (Group II), Room 305 at 4:00 pm

October 8

Prof. Brian M. Hoffman (Northwestern U.)
"Multiple Paramagnetic Resonance Studies of Metalloenzymes"
Boston College
Mekert Chemistry Ctr Rm 127 at 4:00 pm

October 12

Symposium in Honor of
George H. Hitchings

Dr. George H. Hitchings
(Wellcome Research Laboratory)
"Antagonists of Nucleic Acid Derivatives as Medicinal Agents"
Harvard University
Science Center D at 2:30 pm

Prof. William Lipscomb (Harvard Univ.)
[Studies of Two Allosteric Enzymes: Aspartate Transcarbamylase and Fructose-1,6-Bisphosphatase]
Harvard University
Science Center D at 3:00 pm

Prof. Stuart Schreiber (Harvard Univ.)
"Molecular Investigations of the Immunophilins"
Harvard University
Science Center D at 4:15 pm

October 13

Prof. Helmut Schwarz (Technische Universität Berlin)
"Molecular Zeppelins: The Quest for Endohedral Noble-Gas Fullerene Complexes"
Brandeis University
Gerstenzang 122 at 4:00 pm

October 14

Dr. David B. Uliss (Rhode Island DPH)
"Aspects of Forensic DNA Analysis"
UMass Dartmouth
Science and Engineering Bldg (Group II), Room 305 at 4:00 pm

October 15

Prof. Jimmie D. Doll (Brown University)
"Spectroscopy and Dynamics of Hydrogen in Palladium and Nickel Systems"
Boston College
Mekert Chemistry Ctr Rm 127 at 4:00 pm

October 19

Prof. James Marshall (USC)
"Chiral Allylic Stannanes as Synthetic Reagents"
Harvard University
MB-23 at 4:15 pm

October 22

Prof. John W. Kozarich (UMaryland)
"Pyruvate Formate-Lyase: Chemistry and Enzymology of an Unusual Radical Reaction"
Boston College
Mekert Chemistry Ctr Rm 127 at 4:00 pm

October 26

Prof. Steve Kent (Scripps)
"Exploring Enzyme Action by Total Chemical Synthesis: Nature & Beyond"
Harvard University
MB-23 at 4:15 pm

Dr. Joseph M. Fortunak (SB Pharmaceuticals)
"Camptothecin Analogues: The Design and Development of Novel Anticancer Drugs"
Brandeis University
Gerstenzang 122 at 4:00 pm

October 28

Dr. Christopher Bauer (UNH)
"Sediment, Surfaces and Speciation"
UMass Dartmouth
Science and Engineering Bldg (Group II), Room 305 at 4:00 pm

October 29

Prof. William R. Roush (Indiana Univ.)
"Studies in Stereoselective Synthesis"
Boston College
Mekert Chemistry Ctr Rm 127 at 4:00 pm

Notices for the Nucleus Calendar should be sent to:

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e-mail: CARUMAINAYAG@LUCY.WELLESLEY.EDU

Member News

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tions at the State House Exposition, "Solutions for the Future" in June, has been extending his outreach program to include Holliston Middle School and recently performed several demonstrations there.◊

BU in C&EN

In the article: *University Technology Moves to Market via Patenting, Licensing*, B. U.'s gamble on the success of the Seragen biotech company is highlighted in the August 24 issue of C&EN. B. U. has invested about a third of its endowment funds in a 69% interest in Seragen, according to the article. Recently the shares have dropped by 27% to the detriment of BU's investment.

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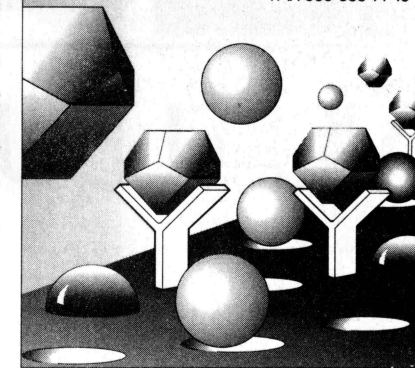
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