



Richard S. Stein
(Stan Sherer photo)

Richard S. Stein Elected To National Academy of Sciences

Richard S. Stein, Charles A. Goessmann Professor of Chemistry, was one of 60 new members elected April 24 to the National Academy of Sciences during the organization's 127th annual meeting in Washington, D.C.

Professor Stein joined the faculty as assistant professor of Chemistry in 1950 and was appointed Commonwealth Professor in 1960. In 1961, he was instrumental in the founding of the Polymer Research Institute which he currently directs.

Under Professor Stein's leadership, the Institute has become one of the outstanding polymer study centers in the U.S. and is internationally known for its research in the relationship between the molecular structure of polymers and their physical and mechanical properties.

"Election to membership in the academy is one of the highest honors that

can be accorded a scientist or engineer in this country," said Provost Richard D. O'Brien.

"Professor Stein's accomplishments at this institution are the stuff of legend. He is one of the true pioneers in the relatively new field of polymer science and has been instrumental in making Massachusetts famous as a center for polymer research," added O'Brien.

Professor Stein was also lauded by Frederick W. Byron, Jr., Dean of the Faculty of Natural Sciences and Mathematics, who said, "He has helped define and bring into existence the whole field of polymer science. He has been so visible and articulate over the years, that he truly deserves the honor of membership in the Academy."

Professor Stein received his B.S. from the Brooklyn Polytechnic Institute in

1945 and was awarded his M.S. and Ph.D. by Princeton University. He is the author of more than 330 articles and research papers on the chemistry and physics of high polymers.

Professor Stein's election makes him the fifth University faculty member who belongs to the National Academy of Sciences.

The National Academy of Sciences is a private organization of distinguished scientists and engineers dedicated to the advancement of science and its use for the general welfare. The Academy was established in 1863 by a congressional act of incorporation that calls upon the Academy to act as an official advisor to the federal government upon request, in any matter of science or technology.

THE **GOESSMANN**
GAZETTE

A publication of the Chemistry Department
University of Massachusetts at Amherst

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The views expressed by contributing authors are not necessarily those of the Goessmann Gazette, the Department of Chemistry, or the University. The Editor welcomes comments about this issue and suggestions for future issues.

The Goessmann Gazette is distributed annually to friends and alumni of the Department of Chemistry. For a free subscription, write to: Chemistry Department, Lederle GRC Tower A, University of Massachusetts, Amherst, MA 01003.



Industrial Research Associates Program

During 1989, the Department developed and instituted a new program to bring about closer interaction with industrial chemical laboratories in the general region of the Northeast. In developing the program, it was reasoned that the Department could play a valuable role in educational and research activities in industrial laboratories, and could in turn benefit from closer interaction with these laboratories. A major way in which the new program was announced to industrial laboratories was through the Research Symposium and "Posterfest" held in November 1989 in the Department. This is described elsewhere in the Gazette. Our initial attempts to attract industrial laboratories into our new program has had some success. At this time, three companies have joined the program and several others are giving it serious consideration. Also as a result of our new contacts with regional industries, funds for the direct support of some faculty research projects have been obtained. The annual fee accompanying membership in the Industrial Associates Program is also used in the graduate research program in the Department, primarily through the creation of service-free fellowships for entering graduate students. Our first three industrial Research Associates are James River Graphics (South Hadley), Monsanto Company (Springfield), and Heublein, Inc. (Hartford). We warmly welcome these partners in research.

Department Notes

A New Analytical Instrument

As noted in the last issue of the Goessmann Gazette, in 1989, the Hewlett Packard Company introduced a new Analytical Instrumental System, combining a Gas Chromatograph and an Atomic Plasma Spectroscopic Detector (GC-AED) for element specific GC determinations. Bruce Quimby (Ph.D., UMass 1979) was group leader at Hewlett Packard for development of this instrument. One of these instruments is now operating successfully in Professor Uden's laboratory and is attracting considerable interest within and outside the department. Any alumni who might be interested in assessing the capabilities of the GC-AED should contact Professor Uden.

A New Analytical Research Laboratory

A new analytical laboratory for research in methods of trace and nanotrace analysis is nearing completion of the first stage. Rooms GSMN 12 and 14 have been combined in a suite of three laboratories and graduate student offices and refurbished to very high standards of cleanliness. In the second stage, to be completed before the end of 1990, a clean sample preparation room will be installed. The laboratory will be used by Professor Julian Tyson's group for research involving flow injection and continuous flow techniques principally for atomic absorption spectrometry. Other related work will be concerned with the introduction of solid samples into atomic spectrometers, the determination of anions and the construction of a new atomic fluorescence instrument. Professor Tyson joined the faculty in September, 1989.

(See photo on page 3)



A Short Course in "Colloids Science Principles and Practice" was held here in Amherst on July 15-20, 1990. The course is designed for industrial scientists, engineers, and technicians involved in basic research, process development, product formulation, quality control and technical services. There was a bio-technology session and an instrument tutorial and exhibit. The course director was **Professor Robert L. Rowell**.

The Chemistry Department, with the Department of Polymer Science and Engineering, jointly sponsors a **Social Hour** at every National ACS Meeting. Be sure to check the program for time and location. At the ACS meeting this August, the Social Hour was in the London Room at the Holiday Inn, Washington, DC. The largest turnout ever of alumni was noted at the Spring ACS meeting in Boston, far exceeding 50.

The Analytical Division hosted a **Short Course** on practical methods of digestion for trace analysis from June 18th to June 21, 1990. The course director was **Professor Ramon Barnes**.

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Faculty News

Recent promotions in the department:

Marion Rhodes to Professor.
Howard Stidham to Professor.
Everett Turner to Assistant Professor.

Professor Ramon M. Barnes has been elected Fellow of the American Association for the Advancement of Science. For a total of five weeks in March and August, 1989, Professor Barnes served as a consultant and foreign expert to the Comisión Chilena de Energía Nuclear in Santiago, Chile. Sponsored by the International Atomic Energy Agency in Vienna, Austria, Dr. Barnes presented a short course on inductively coupled plasma spectrometry and assisted in the training of individuals in analytical chemistry and inductively coupled plasma spectrometry at the Lo Aguirre Nuclear Centre.

Professor John Brandts retired as of August, 1990. He will attain emeritus status, but his extensive research activities will proceed uninterrupted, supported by a National Institutes of Health grant held jointly with **Professor Robert Weis**.

Professor Paul Cade was on sabbatical leave for the Spring of 1990. He divided his time between Cambridge University and Oxford University in England.

Professor Louis A. Carpino was named a Faculty Fellow in September, 1989.

Professor David J. Curran is the North American Editor of the *Journal of Automatic Chemistry*. The President of the American Chemical Society appointed Professor Curran to the Council Committee on Meetings and Expositions as an Adjunct Member.

Professor Robert R. Holmes, in his capacity as Editor-in-Chief of *Phosphorus, Sulfur and Silicon*, hosted a banquet at the XI International Conference on Phosphorus Chemistry in Tallinn, Estonia (USSR) in July, 1989. Invited guests consisted of the principal conference organizers and members of the Editorial Board. A good time was had by all in an atmosphere of "Glasnost." Professor Holmes attended the conference as a guest of the Institute of Chemical Physics and Biophysics of the Estonian Academy of Sciences. Research in his group under a new NSF grant continues in developing analogies between silicon and phosphorus chemistry both from experimental and theoretical approaches. The latter takes advantage of the Cray Supercomputer Center in San Diego where he spent the month of January. His oldest daughter, Mary Anne, who resides in San Diego with her husband, Greg, and daughter, Kelsey, gave birth to twin girls in early December.

Professor Paul M. Lahti was invited to give talks at the recent ACS meeting in Boston (April, 1990) and at the World Congress of Theoretical Organic Chemists in Toronto, Ontario (July, 1990).

He gave a short course in applied computational chemical modeling in

