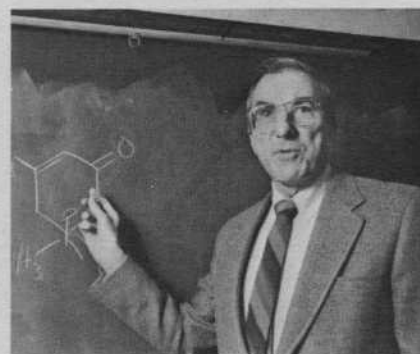


# THE GOESSMANN GAZETTE

A publication of the Chemistry Department, University of Massachusetts at Amherst

Spring 1986

*We are pleased to announce the appointment of Louis D. Quin as Professor of Organic Chemistry and Head of the Department. Lou comes to us from Duke University where he has held a James B. Duke Chair in Chemistry since 1981. We are including a statement from Lou along with his biographical sketch as a landmark in the Department's march toward excellence. Robert L. Rowell, Acting Head*



## *A Personal Statement—L.D. Quin December 16, 1985*

I have learned much about the University of Massachusetts and its Chemistry Department during the last few months, as I wrestled with the decision to make a major personal upheaval. In the end, a persuasive factor was the very positive view I had developed of the opportunities for growth and further development of both entities. I found a university administration that is committed to progress and that is aggressively working to this end. The Chemistry Department is prominent in their planning and already funds are being provided to upgrade instrumentation, add some badly needed young faculty members, improve the support package for graduate students, etc. The critical shortage of space that has prevailed for several years is soon to be relieved; the Biochemistry Department will be moving from the Graduate Research Center in about two years, and a significant part of their space has been committed to Chemistry. The long-range view is even brighter; plans are far along for a separate building for the Polymer Science and Engineering Department and its Institutes, and thus even more space can be foreseen. Equally persuasive was the high quality and spirit of the present faculty, which clearly recognizes that the opportunity is at hand to push on to even greater heights and seems eager to cooperate in the reorganization and modernization that might be required. I sense the same spirit in the graduate student body and the support personnel. During the first few months after I arrive in Amherst, we will all be busy working together and developing plans for the future. We will be addressing such problems as the directions we should take in research as new faculty are added, what further improvements need to be made in departmental instrumentation and its maintenance, how to expand the graduate student body while simultaneously strengthening it, how to maintain high quality in the instructional program yet improving research productivity, how to accomplish the vital task of increasing the amount of external financial support for the Department, which is the key to success in many of the areas mentioned above. Our long-range goal is direct: To develop the University of Massachusetts Chemistry Department as a vital, progressive

center for modern chemistry, with a national and international reputation for excellence.

## *Biographical Sketch*

**Born** in Charleston, S.C. in 1928, and lived there until receiving the B.S. degree in Chemistry at The Citadel (the Military College of South Carolina) in 1947.

**Graduate degrees** from University of North Carolina (Chapel Hill) in 1949 (M.A.) and 1952 (Ph.D.)

**Professional experience** includes two stints with industrial labs (American Cyanamid, Stamford, Conn. 1949-50; FMC Corporation, Charleston, W. Va. 1952-54), several consultancies, and service in the U.S. Army Chemical Corps (First Lieutenant, 1954-56).

**Academic career** started at Duke University in 1956; became Professor in 1967, given a James B. Duke Chair in Chemistry in 1981. Served as Director of Graduate Studies (1965-70) and Chairman (1970-1976).

**Sabbatical leaves** have been spent doing research at Woods Hole Oceanographic Institution here in Massachusetts, and the University of London, and as a visiting professor, University of North Carolina.

**Current research** interests are primarily in phosphorus and sulfur chemistry (about 150 research papers, mostly on synthesis, stereochemistry, multinuclear NMR).

**International activities** include service on Scientific Boards of two international conferences, Editorial Board of "Phosphorus and Sulfur," organizer of International Conferences on Phosphorus Chemistry, Duke University, 1981; lectureships in Poland and China, many seminars elsewhere.

**Author** of "Heterocyclic Chemistry of Phosphorus" (Wiley, 1981), "C-13 NMR Spectral Data of Heterocyclic Phosphorus Compounds" (Texas A and M University, 1983), "Phosphorus Chemistry" Volume 171 of ACS Symposium Series (1981); presently completing (with John Verkade) a research monograph "Phosphorus-31 NMR Spectroscopy in Stereochemical Analysis" (VCH Publishers, 1986).

**Active in American Chemical Society** (Chairman, North Carolina section 1983-84; member of national Publications Committee, 1982-present).

## ALUMNI NOTES

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**Dr. Augustine Silveira, Jr.**, Distinguished Teacher Professor and Chairman, Department of Chemistry at the State University of New York at Oswego, is the principal chemistry investigator of a \$502,700 National Science Foundation Grant entitled "Increasing the Effectiveness of Chemistry and Biology Instruction Through Research Application." The NSF award is the largest nonmatching grant awarded to SUNY, Oswego and will involve Dr. Silveira giving a series of workshops and working with high school science teachers on how to improve teaching over a three-year period. Recipient of over 30 grants and awards, Dr. Silveira has published his research results extensively in the major chemical journals in addition to giving invited presentations of his work at universities and symposia throughout the United States. Dr. Silveira has previously served a four-year term as a member of the University of Massachusetts at Amherst's Chemistry Department Alumni Advisory Council.

## FACULTY NOTES

The Sunday Times (London) on July 10, 1984 highlighted the work of **Dr. James Chien** and his British colleague **Dr. Joseph Schlenoff** on polyacetylenes and their application to the fabrication of a lightweight, high current capacity storage battery.

**Professors Bernard Miller** and **J.C.W. Chien** are investigating ways of linking food dye molecules to polymeric materials, so that the polymer-dye combination will not be absorbed in the intestinal system. This would eliminate carcinogenic properties of useful dyes.

**Marion Rhodes** is the Director of the Optical Microscopy Laboratory in the Chemistry Department. The instrumentation available provides transmission and reflective modes for bright field, polarization phase, and several types of interferometry including Mirau, Nomarski, and holographic. Data recording and analysis is available from photography, video, and the computer; all with the option of image analysis. The lab has an instructional program as well as a consulting service.

In August of 1985, **Dave Curran** participated in a Scientific Exchange with the People's Republic of China. A group of 16 American analytical chemists met with Chinese scientists in five cities in China: Beijing, Xian, Shanghai, Fuzhou and Guangzhou (Canton). Most of the sites visited were research institutes of the Chinese Academy of Sciences. Of course, there was also some sightseeing as well, and Dave can now say that he has walked on the Great Wall of China and seen the terra-cotta soldiers at Xian.

**Sharon Palmer** received her Ph.D. in 1985 from Northwestern in Inorganic Chemistry. She did postdoctoral work with Professor Ragle during the Fall semester 1985 and is serving as a visiting lecturer in the general chemistry program for the Spring semester 1986.

### **Professor Peter Lillya**

My group of about 10, including two undergraduate honors students, is working on new organic reactions and reactive intermediates, liquid crystals, and polymer chemistry. Two Ph.D.s left during the past year, **Tom Sarubbi** to Hunt Chemical in East Providence, Rhode Island and **Richard Gooding** to Union Carbide in Bound Brook, New Jersey. Extra administrative activities this past year have included service as a chemistry representative to the operations committee of the High Field NMR Laboratory of Chemistry and PS&E, a member of the Department Head Search Committee, and a seven-week stint as acting Department Head during Bob Rowell's trip to China and Australia.

**Robert Rowell** who has served the Department as Acting Head since February 1983 will return to full-time teaching and research in August when the new Head, Professor Louis Quin, joins the Department. Bob has served as Chairman-Elect of the Colloid Division of the American Chemical Society in 1985 and is Chairman of the Division for 1986. In January 1986 he accepted the post of Associate Editor of *Lanmuir*, the new ACS Journal of Surfaces and Colloids. The Department was in the capable hands of Professor Lillya while Bob was away on a seven-week lecture and research trip to China, Taiwan, and Australia last Fall.

## NEW FACULTY

1986. Two adjunct professors were associated with his research group this past year, Dr. Dainis Dakternieks from the University of Melbourne, Australia, and Professor Joan Deiters of Vassar College.

**Richard S. Stein**, Goessmann Professor of Chemistry, was the Plenary lecturer at Canadian Polymer Forum, August 1985, lecturer at IBM European Institute, Lech, Austria, August 1985, Plenary lecturer at International Conference on Fiber Science and Technology, Hakone, Japan, August 1985, attended the Japan-U.S. Polymer Science Symposium, Kyoto, Japan, October 1985, was Whitby lecturer, University of Akron, March 1985, and presented a principal lecture at Herman Mark 90th Birthday Symposium, New York, May 1985.

**O. Thomas Zajicek** was promoted to Professor in September 1984 and has continued to play a substantial role in the chemical analyses required for the state-supported Massachusetts 10-year Acid Rain Monitoring Project.

**Rene Bernasconi** was promoted to Assistant Professor in September 1985 in recognition of his long dedication to teaching in the general chemistry program.

**David Rice** joined the Department as Assistant Professor of Physical Chemistry in September 1983 but moved on to the Magnetic Resonance Laboratory at Cornell in January 1985.

**John E. Roberts** retired from the University in August 1983 after 37 years of teaching and service.

**Bill McEwen** has been elected a director of Region I of the A.C.S., which comprises New England and all of New York State east of Rochester.

### Robert Maxwell Williams Assistant Professor of Organic Chemistry

October 29, 1929-May 16, 1983

**Robert Maxwell Williams** was a devoted professor of organic chemistry who gave generously of his time to the students of his nonmajor organic chemistry classes. In the eyes of many of his students, this dedication has been seldom matched. He showed a special concern for his students such that his door was always open to the student seeking assistance. Students of the Class of '84 initiated a scholarship fund in order to honor his memory in perpetuity.

Since the intent is to serve both as an inspiration and a continued recognition of excellence in undergraduate teaching, contributions will be continuously received in order to strengthen the effort. Contributions payable to the **Williams Memorial Fund** may be directed to the UMass Foundation at Memorial Hall or to the Chemistry Office GRC-T102.

We are grateful to all Alumni who have made the Williams Fund a reality. We appreciate your support for this cause and we also appreciate your general donations which are so vital to that extra flexibility needed in the educational setting.

**George Oberlander** was promoted to Associate Professor in 1983 and retired in January 1985 but has continued post-retirement part-time teaching in general chemistry.

**Lou Carpino** will be at the Institute of Drug Research in East Berlin for the Spring of 1986, and in the Fall of 1986, he will be at the Pharmaceutical Institute of the University of Kyoto in Japan.

**Bret Jackson**, Assistant Professor of Physical Chemistry. He received his Ph.D. from M.I.T. in 1983 and did postdoctoral research at the University of California at Santa Barbara. His specialty is theoretical chemistry and his research interests are the theory of time dependent processes in condensed matter chemistry; investigation of molecule-surface scattering, including energetically inelastic processes, dissociation, and charge transfer; spectroscopy and transport of electronic excitations in crystals and glasses.

**Paul Lahti**, Assistant Professor of Organic Chemistry. He received his Ph.D. from Yale in 1985. He has taught at the University of West Indies and moved to Amherst with his wife Maureen, son James, and daughter Melanie. His research interests are properties and mechanistic chemistry of highly reactive species, using low temperature chemical trapping and/or cryogenic matrix spectroscopic characterization methods. Synthesis and properties of large polynuclear aromatic and hetero-substituted aromatic systems. Chemistry of strained, small-ring compounds. Theoretical predictions of electronic nature of ground and excited state species, using semi-empirical and *ab initio* methods.

**Michael J. Maroney**, Assistant Professor of Inorganic Chemistry. He received his Ph.D. from the University of Washington in 1981 and has done postdoctoral research at the University of Minnesota. He has moved to Amherst with his wife Sharon Palmer. His research interests are bioinorganic chemistry of transition metals; spectroscopic, electrochemical, and theoretical investigations of metal sites in metalloproteins and synthetic model systems directed at furthering the understanding of structure/function

## STAFF CHANGES

**Martha Robitaille**, Analytical Secretary, retired in 1985. **Linda Warren** was promoted to Staff Assistant in General Chemistry in 1985. Chancellor's Citations for 1985 were awarded to **Mathilda Boulanger** and **Janet Hrynshyn** for "beyond the call of duty" service to the University. Jan was promoted to Staff Assistant and placed in charge of the main office in December 1983. Last December, she traveled to Boston to be honored at a dinner hosted by Governor Dukakis and to receive a Commonwealth Citation for Outstanding Performance as part of a special program established by the Governor to recognize exemplary performance by state employees.

## GRADUATE STUDENTS

**Michelle E. Herrera** was awarded a summer fellowship by the division of Analytical Chemistry of the ACS in 1984.

**Donald Barr** (B.S., University of Massachusetts; Ph.D. University of California at Berkeley) was named Isotope and Nuclear Chemistry division leader at Los Alamos. In 1980, he received the prestigious E.O. Lawrence Award for "innovative and incisive diagnostic methods."

**Roger G. Bates** (B.S., University of Massachusetts, 1934; Ph.D., Duke University) was presented with the ANACHEM Award in September 1983 at the Philadelphia meeting of the FACSS.

**Professor Ramon N. Barnes**, editor of the ICP Information Newsletter, sponsored and organized the winter conference on Plasma Spectroscopy in San Diego, California, January 1984.

## ALUMNI NOTES

**Jessie Broadfoot Boyer** won a Dodge Fellowship in 1985 toward high school teaching certification, and plans to teach chemistry and biology.

**Weih-Oh Lin** (Ph.D. 1974) is Associate Professor at the Military Institute of Engineering in Rio de Janeiro, Brazil.

She will be returning to UMass in November as a Fulbright Fellow in Professor Miller's group. Her six-year-old daughter will accompany her.

**Kwo-Hrong Lai** (Ph.D. 1971) is Director of Research and Development at the Permuthane Corporation, Peabody, Mass., which is a subsidiary of ICI. Kwo-Hrong is married to Catherine Lai.

**Catherine Lai** (Ph.D. 1972) who, after some years away from scientific concerns, has just received a master's degree in computer science and is now working in the computer science field.

**Dr. Wei-Fang Anne (Lin) Su** is a Senior Engineer working on Polymer and Composite Research in the Westinghouse Research and Development Center, Pittsburgh, Pennsylvania. She received a special award for her research contributions in 1984. Ann visited UMass in October 1985 to discuss liquid crystalline polymers.

**Dr. Ronald A. Sahatjian** has left his position at Polaroid Corporation where he was Manager of the Color Applications Laboratory to become Director of Technical Development at Chemical Fabrics Corporation, in North Bennington, Vermont, which develops, manufactures, and markets high-performance coated fabrics.

**Rogert Graf** (Ph.D. 1973) is now Regional Sales Manager for IBM Instruments, Southeastern United States.

**Doug Brown** (M.S. 1978) is working on anticancer agents at INCO's Research and Development Laboratory in Suffern, New York. He expects to complete his M.B.A. degree in the near future.

**Robert Dubois** (Ph.D. 1975) is a research scientist at Dow Chemical's New England laboratory in Wayland, Mass. His work is principally in catalysis, and he arranges and organizes Professor Lilly's consulting visits to the laboratory.

**James Gleason** is a chemist at Owens Corning Fiberglass, Newark, Ohio and is in the process of finishing his Ph.D. research. Our new XL-300 NMR spectrometer will make an important contribution to his research.

**Robert Austin** (Ph.D. 1968) is with the Meade Corporation in Chillicothe, Ohio where his activities now extend into plant design and operation.

**Russell Gaudiana** (Ph.D. 1973) is part of a large UMass contingent at Polaroid.

**Craig Donahue** (Ph.D. 1977, Assistant Professor/Postdoctoral 1978) has been promoted (with tenure) to Associate Professor at University of Michigan at Dearborn.

**Chris Hardiman** (Ph.D. 1984) is a research scientist at Monsanto, Springfield, Mass.

**C. J. (Joe) Weber** (Ph.D. 1981) is a father and has changed companies from "20 Mule Team" U.S. Borax to a new situation, unknown to us at this time.

**Lester W. Tarr** (B.Sc., 1915) has written a most interesting communication on his experiences as a chemist. He is going strong at 92 years of age where he lives in retirement in Pompano Beach, Florida.