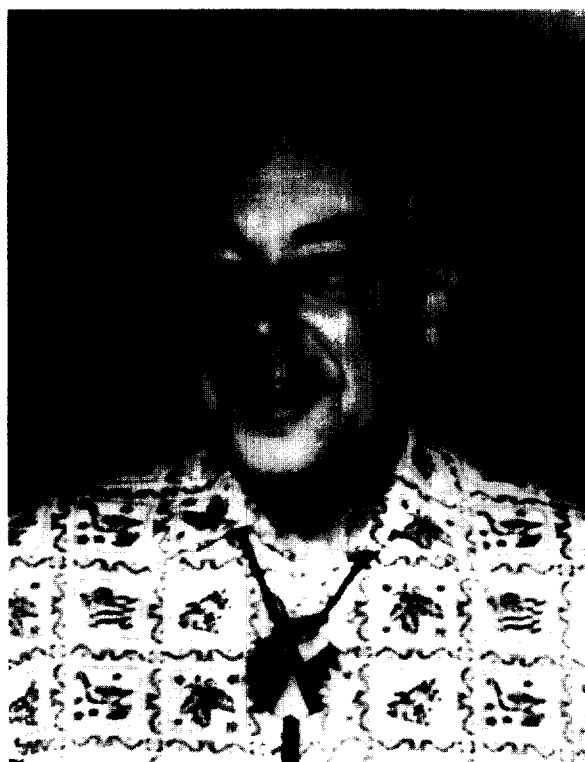


Obituary

Alan F. Clifford
(1919-1995)



Alan F. Clifford

Alan F. Clifford, head of the Department of Chemistry at Virginia Tech from 1966-1981, passed away Friday, December 1, 1995. On December 9th, a memorial service for family and friends was held in Newton, NC, where Alan and his wife Shirley had moved following retirement. An additional memorial to commemorate Alan's many scientific and leadership accomplishments was held on April 13th at Virginia Tech where the Atrium of the new Chemistry Building was named in his honor.

Alan came to Virginia Tech in 1966 as Head of the Department and Professor of Chemistry. Before that he had taught at Purdue University, Illinois Institute of Technology, and the University of Delaware. He served as the Head of the Department until June 30, 1981, and thereafter as Professor of Chemistry, full-time until 1985 and half-time until December 31, 1987, when he retired.

During the course of his career Alan made significant contributions in several areas of fluorine chemistry. For example, as a Guggenheim Fellow at The University, Cambridge, England, 1951-1953, with Professor Emeleus, he prepared some of the first known SF₅ derivatives from the electrochemical fluorination of carbon disulfide, namely SF₅CF₃ and (SF₅)₂CF₂. He and his co-workers also prepared the amine SF₅NH₂ in the early 1960s as one of the first known SF₅-N< derivatives. With his own synthesis of thiazyl trifluoride N≡SF₃, Alan's group was able to compete with Professor Glemser's group in Germany in the development of the field of nitrogen-sulfur-fluorine chemistry. Professors Clifford and Glemser both affectionately called this field of chemistry "Organic Chemistry Without Carbon"

Alan also co-authored a monograph entitled *Inorganic Chemistry in Liquid Hydrogen Fluoride* which remains the authoritative text on the subject to date. In addition, Alan almost won the race to produce the first noble gas compound. When Professor Neil Bartlett made his famous discovery that opened the door to noble gas chemistry, Alan and his student G.R. Zeilenga were busy studying the reaction between xenon, fluorine, and silicon tetrafluoride. They published their findings in *Science* in 1964, only a little over a year after Professor Bartlett's initial report.

Alan made numerous other research contributions, primarily in the broader field of inorganic chemistry. Most notable of these were his contributions in the areas of Mössbauer spectroscopy and the chemistry of the rare earth elements. He also published papers on the concept of group electronegativities, inorganic nomenclature, organometallic chemistry, as well as on a number of quantitative analytical procedures. A number of these later topics are also covered in his book *Inorganic Chemistry of Qualitative Analysis*. In all he published some 60 papers in professional journals as well as several patents on chemical and industrial processes. He also lectured at symposia and conferences throughout the country and around the world.

Alan was particularly active in the American Chemical Society Division of Fluorine Chemistry as well as helping to organize conferences and symposia on fluorine chemistry. One may not readily remember, but he was one of the co-chairmen of the inaugural Winter Fluorine Conference!

Alan was considered by his colleagues to be a very successful Head of the Department of Chemistry at Virginia Tech. He doubled the faculty from 15 to 30 and succeeded in increasing the number of graduate students from 30 in 1966 to about 80 in 1981. It was his efforts that laid the groundwork for the construction of the first additional chemistry building, dedicated to research, for the Department. Those colleagues who joined the Department during the era of rapid growth, credit Alan's vision for helping them to establish their careers at Virginia Tech and for enabling the Department to develop the reputation it presently enjoys. The collegial, family atmosphere that Alan created within the Department is further evidenced today by the fact that virtually one-half of the present chemistry faculty of 34 were hired during his tenure as Head. The aforementioned memorial and dedication of the Chemistry Atrium were a true testament to the "Builder" that he was.

Finally, Jon and I would like to once again express our gratitude to all of the authors and reviewers who have helped create this lasting memorial to Alan. Thank you.

Joseph S. Thrasher
Jon L. Howell
Guest Editors