



Gladysz



Glemser

Faculty in Chemistry (1979–84), an Alfred P. Sloan Research Fellowship (1980–84), the Peter Mark Award of the American Vacuum Society (1984), a Camille & Henry Dreyfus Teacher-Scholar Award (1984–91), the Penn State Faculty Scholar for Outstanding Achievement in the Physical Sciences & Engineering (1990), and the ACS Akron Section Award (1990).

ACS Award in Organometallic Chemistry

Sponsored by Dow Chemical Co. Foundation

The research of JOHN A. GLADYSZ, professor of chemistry at the University of Utah, encompasses creative chemical synthesis, incisive mechanistic studies, and the application of a diverse array of physical techniques. He is strongly identified with numerous frontiers of mechanism, reactivity, structure, and bonding in organometallic chemistry, a field in which he has published nearly 200 papers.

Gladysz's early research addressed several problems in C_1 chemistry. He demonstrated the existence, structure, and reactivity of several key C_1 intermediates involved in the reduction of carbon monoxide. He also developed homogeneous models for other heterogeneously catalyzed commodity chemical transformations. Gladysz then turned his attention to the application of chiral metal complexes in asymmetric synthesis and mechanism elucidation.

He was the first to show that metal-alkylidene complexes can exist as cis and trans isomers about the metal-carbon bond. He further demonstrated that chiral alkylidene complexes can undergo highly diastereoselective nucleo-

philic additions. In a tour-de-force, he combined several transformations to achieve a general synthesis of compounds with chiral methyl groups (RCHDT) from the corresponding Grignard reagents.

Gladysz is a leader in rational design of enantioselective organometallic reactions. He has developed a chiral receptor, $Cp(NO)[P(C_6H_5)_3]Re^+$, which binds one enantio-

face of aldehydes and alkenes with high selectivity. He has conducted detailed studies in which steric and electronic factors that affect chiral recognition are precisely defined. Gladysz has also made significant discoveries in the areas of halocarbon-transition-metal complexes, metal-silicon chemistry, and complexes of elemental carbon.

Gladysz has received numerous honors. These include an Alfred P. Sloan Foundation Fellowship (1980–84), a Camille & Henry Dreyfus Teacher-Scholar Grant (1980–85), an ACS Arthur C. Cope Scholar Award (1988), and the University of Utah Distinguished Research Award (1992).

He received a B.S. degree in chemistry from the University of Michigan in 1971, and a Ph.D. degree in organic chemistry from Stanford University in 1974. In 1982 he joined the faculty at the University of Utah. Since 1984, Gladysz has been associate editor for *Chemical Reviews*.

ACS Award for Creative Work in Fluorine Chemistry

Sponsored by PCR Inc.

The expansive and imaginative research of OSKAR GLEMSER has resulted in publication of more than 460 research papers and six patents in fluorine chemistry and diverse areas of inorganic chemistry. During a career that has spanned more than 50 years, Glemser has served the world's chemistry community as an educator at the the University of Göttingen (Germany), as a member of the German Chemical Society and the International Union of Pure & Applied Chemistry (IUPAC), as a consultant to German and U.S. industries, and as an international lecturer.

Born and educated in Stuttgart, Germany, Glemser became senior engineer at the Institute for Inorganic & Electro Chemistry in Aachen, Germany, in 1939. In 1952 he began his career with the Inorganic Institute of the University of Göttingen where he has built, according to a colleague, "one of the strongest schools of inorganic chemistry in Germany and in the world." In 1981 he was appointed director emeritus of the Göttingen Institute.

Glemser developed a highly productive and creative program of basic research in diverse areas of inorganic chemistry. His contributions in the field of fluorine chemistry include studies of nitrogen-fluorine compounds and their reactions, C_6F_5 derivatives of pricogens and of silicon, boron-nitrogen-fluorine compounds, metal fluorides and halogen fluorides, and sulfur-nitrogen-fluorine compounds. One of his more recent publications is of special interest to synthetic organic chemists as well as to those interested in power sources, because it deals with an improved synthesis of silver oxide—a reagent widely used as an oxidizer in synthetic fluorine chemistry.

Glemser's research and teaching efforts become even more noteworthy when it is realized that in many areas his own work established the key facts, and then his methods and ideas paved the way for the investigations of other researchers. Many of his former students and coworkers occupy chairs or other positions in inorganic chemistry at universities throughout the world.

In 1954 Glemser was elected a full member of the Göttingen Academy of Sciences, the oldest academy in what was then West Germany; he was president of this academy from 1962 until 1970. He has served as president of the German Chemical Society (1976–77) and of the inorganic division of IUPAC (1969–73), was a member of the International Committee on Fluorine Chemistry (1967–82), and chaired the 2nd European Symposium on Fluorine Chemistry (1968).

Among the awards he has received are the Liebig Medal of the German Chemical Society, the Silver Medal of the University of Helsinki, and the Henri Moissan Medal of Société Française de Chimie. Glemser was elected to honorary membership in the German Chemical Society in 1988.