Maurice Brookhart

University of Houston/University of North Carolina

Maurice Brookhart (b. 1942) grew up in the mountains of western Maryland and attended Johns Hopkins University in Baltimore where he received an A.B. degree in chemistry in 1964. He carried out his doctoral work in physical organic chemistry at UCLA under the direction of Saul Winstein. After finishing the Ph.D. degree in 1968, he spent six months as a National Science Foundation postdoctoral fellow at UCLA with Winstein and Frank Anet, followed by a year of study at Southampton University as a NATO postdoctoral fellow. Brookhart joined the University of North Carolina faculty in 1969 and retired as a William R. Kenan, Jr. professor of chemistry in 2014. In 2015 he joined the faculty at the University of Houston to conduct joint research with Prof. Olafs Daugulis.

Brookhart has spent research leaves in Rennes, Oxford, Berkeley, Seville, Marburg and at the Max Planck Institute in Muelheim. He served as associate editor of Organometallics (1990-95) and received ACS Awards in Organometallic Chemistry(1992), Polymer Chemistry(2003) and the Somerjai Award for Creative Research in Catalysis(2015). He was elected to the National Academy of Sciences in 2001 and received the North Carolina Award in Science in 2008 and the Willard Gibbs Medal in 2010.

Brookhart's research interests span mechanistic, synthetic, and structural organometallic chemistry and catalysis. Most of his work has focused on the development and mechanistic understanding of late transition metal complexes for olefin polymerizations and the employment of C-H and Si-H bond activation processes in catalytic transformations of small molecules, particularly hydrocarbons.

The Development of Late Metal Catalysts for Olefin Polymerizations

Beginning in the early 90s, a major focus of my group has been the conception and development of an array of late transition metal catalysts for polymerization of olefins and copolymerization of olefins with polar monomers. This talk will review some of our earlier mechanistic and synthetic studies in these areas as well as describe recent results aimed at constructing new catalysts and incorporating new polar monomers into polyethylene.