



**Robert J.P. Williams**

Robert (Bob) J.P. Williams was born in Wallasey, England in 1926. He was educated at Wallasey Grammar School (1937–1944) and then went to Merton College, Oxford in 1944 where he took his degree in chemistry in 1948. He then worked with Professor Harry Irving from 1948 until 1950 when he graduated with a Doctor of Philosophy. His research was concerned with the stability constants of transition metal complexes which led to the Irving–Williams series. His work on the biological functions of transition metal ions began about this time. He then went to Sweden as a Rotary International Fellow for the year 1950–1951 where he worked with Professor A. Tiselius in Uppsala and, together with Dr. R. Alm, they developed gradient elution analysis. He returned to Oxford as a Research Fellow of Merton College where he continued work on the function of metal ions in biological systems through the analysis of stability constants, redox potentials and the visible spectra of complex ions. In 1955, he was elected a Fellow and Tutor of Wadham College, Oxford and to a University Lecturership. In 1974, he became the Napier Research Professor of the Royal Society which he held at Oxford and retired from that position in 1991. He is now Sub-Warden of Wadham College.

Apart from the work on metal ions in biology, he proposed that proton-coupled energy capture in biological cells leads to the formation of ATP. He developed the concepts of metal catalysis in biological systems which he, and Professor B.L. Vallee, termed the "entatic state hypothesis". In 1969, he began a long exploration of the structure of macromolecules in solution, using nuclear magnetic resonance spectroscopy with particular emphasis on the relationship between the *dynamics* of macromolecules and their function. More recently, he has been engaged on the examination of biological minerals. He and Professor J.J.R. Fraústo da Silva have described their views of the whole of inorganic biochemistry in their new book, *The Biological Chemistry of the Elements: The Inorganic Chemistry of Life*.

He was elected a Fellow of the Royal Society in 1971 and has received numerous awards, including the Tilden Medal of the Chemical Society in 1970, the Keilin Medal of the Biochemical Society in 1973, the Liversidge Medal of the Royal Society of Chemistry in 1979, the Hughes Medal of the Royal Society in 1980, the Claire Brylants Medal of the University of Louvain, the Sir Hans Krebs Medal of the European Biochemical Societies in 1985, the Linderstrom-Lang Medal in Copenhagen in 1986, the Sigillum Medal of the University of Bologna in 1987, the Heyrovsky Medal of the International Union of Biochemistry in 1988, and the Sir Frederick Gowland Hopkins Medal of the Biochemical Society (England) in 1989.

He has been President of the Chemistry Section of the British Association for the Advancement of Science and is now the President of the Dalton Division of the Royal Society of Chemistry. He is an Honorary Fellow of Merton College, a Foreign Member of the Lisbon Academy of Science, the Royal Society of Science in Liege, the Royal Swedish Academy of Science and the Czechoslovakian Academy of Science. He has received an Honorary D.Sc. from the University of Leicester and from the University of East Anglia. He has given numerous named lectures, including the Buchman Memorial at the California Institute of Technology, the Frank C. Mathers, Indiana, the Bakerian at the Royal Society, the Sunner Memorial in the University of Lund, the Arthur D. Little at the Massachusetts Institute of Technology, the Ferdinand Springer of the European Biochemical Society, the Wenner-Gren in Stockholm, and the Goodman in London. He has frequently been Plenary Lecturer at conferences concerned with coordination chemistry, nuclear magnetic resonance spectroscopy, biochemistry, the organic chemistry of free radicals, calcium chemistry and biochemistry, and minerals in biology.