Biographical Sketch for Ronald Breslow

Ronald Breslow was born in Rahway, New Jersey on March 14, 1931. He received his undergraduate and graduate training at Harvard University, where he did his Ph.D. research with Professor R.B. Woodward. He then spent a year in Cambridge, England as a postdoctoral fellow with Lord Todd, and came to Columbia University in 1956 as Instructor in Chemistry. He is now the Samuel Latham Mitchill Professor of Chemistry at Columbia and one of twelve University Professors, and a former Chairman of the Department.



Professor Breslow's research interests can be described generally as involving the design and synthesis of new molecules with interesting properties, and the study of these properties. Examples include the <u>cyclopropenyl cation</u>, the simplest aromatic system and the first aromatic compound prepared with other than six electrons in a ring.

His work establishing the phenomenon of anti-aromaticity has involved the synthesis of novel molecules, as well as their study. Even in work on purely mechanistic questions, such as his discovery of the chemical mechanism used by <u>thiamine</u> (vitamin B-1) in biochemical reactions, the synthesis and study of novel molecules played an important role.

Although he continues his interest in unusual conjugated systems, his major emphasis in recent years has been on the synthesis and study of molecules that imitate enzymatic reactions. This work has included the development of <u>remote functionalization</u> reactions and the development of <u>artificial enzymes</u>. Recently he has developed a new group of cytodifferentiating agents with potential use in cancer chemotherapy. He is the author of over 400 publications.

He is a member of the U.S. National Academy of Sciences, of the American Academy of Arts and Sciences, and of the American Philosophical Society, as well as other scientific societies including the New York Academy of Sciences. He was President-Elect of the American Chemical Society (1995), ACS President (1996), and ACS Immediate Past President (1997).

He has received many of scientific awards: The American Chemical Society Award in Pure Chemistry (1966), the Centenary Medal (1972), the Arthur C. Cope Award (1987), the National Academy of Sciences Award in Chemistry (1989), the U.S. National Medal of Science (1991), the Priestley Medal (1999), and the New York City Mayor's Award in Science (2000) are among them.

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