

The 13th Annual Harold I Schiff Lecture Faculty of Pure and Applied Science

Presented by:

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The Early Days of Flowing Afterglow Ion Chemistry

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Senate Chamber, N940, Ross Building
York University

Abstract. In 1965, shortly after the development of the FA technique for gas phase ion-molecule reaction studies, Harold Schiff began a collaboration with our Boulder group. He taught us how to quantitatively produce chemically unstable neutral reactants (such as O, N, H and OH radicals). With this capability in hand we elucidated the ion chemistry of the E- and F-regions of the ionosphere. Prior to this none of the reaction rate constants had been established. Later Harold taught us how to deal with ozone and we developed the negative ion chemistry of the D-region, prior to any in-situ negative ion measurements in the atmosphere. The FA was subsequently applied to a wide range of applied problems as well as to fundamental questions concerning reaction mechanisms. Diethard Bohme and Brewster Young made the first gas phase organic reactions in the Boulder FA, initiating a very active field of research. The FA has now been adopted widely as the method of choice for gas phase ion chemistry studies. Some highlights of this history will be recounted.