



**Joint Seminar Series of the
CENTRE FOR RESEARCH IN MOLECULAR MODELING
and the
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY**

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Concordia University H-1070



**Detective Stories in Mass
Spectrometry**



**So Elementary My Dear
Watson!**

Prof. Paul M. Mayer

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Both interstellar space and our own atmosphere are rich sources of ions ranging from H^+ to complex proton-bound clusters containing many molecules. Unraveling the chemistry of these species is the domain of gas-phase ion chemistry. Many of the rules we learn about in our undergraduate chemistry courses, though, do not suffice to adequately describe the chemistry of isolated gas-phase ions. I will present some classic conundrums from organic mass spectrometry and then go on to see how mass spectrometry can be used to investigate the often unusual behaviour of ions in the gas phase. A central theme in our work is how we can use mass spectrometry to learn about the energetics of an ion-chemistry process such as dissociation and isomerization.

Paul Mayer graduated in 1990 from University of Manitoba and obtained a PhD from University of Ottawa in 1994. He then went to University of North Carolina as an NSERC Postdoctoral Fellow, before taking up another Postdoctoral Fellow position at the Research School of Chemistry, Australian National University. Dr. Mayer returned to Canada in 1998 and joined the Department of Chemistry at University of Ottawa, where he is now an Associate Professor and the Director of the Mass Spectrometry Centre.

