

## New insights into molecular structure and ion solvation from mass spectrometry

Mass spectrometry is often the method of choice for solving difficult problems in chemical analysis, owing to its high sensitivity, specificity, and applicability to complex mixtures. Most applications of mass spectrometry involve identification of bond connectivity, whether through fingerprinting of small molecules for molecular identification or determining structures of proteins and protein modifications via fragmentation methods. New and emerging methods make possible detailed structural characterization of non-covalent interactions. Information about protein conformation, dynamics, and macromolecular assemblies can be obtained by combining both solution-phase methods with mass spectrometry analysis. The role of water on ion structure and stability can be examined using both electrochemical and photochemical methods, and new information about how ions affect the intermolecular interactions of water itself can be obtained. These gas-phase measurements can provide a bridge to understanding ion structure and solvation in the condensed phase.

**Prof. Evan Williams**  
University of California, Berkeley



# ANALYTICAL SEMINAR

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12:15 p.m. in 1315 Chemistry