



High-resolution molecular structure determination: Methods development and applications

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High-resolution molecular structure determination is a critical step to understanding and engineering biological, organic, and inorganic material systems. This presentation will describe the use and development of structure determination methods, specifically cryo-electron microscopy (cryo-EM) and microcrystal electron diffraction (MicroED), which represents much of our groups main research focus. Our applications of these methods to samples from diverse fields including structural biology, organic chemistry, and materials science will be described. Special emphasis will be placed on the recently developed MicroED method, and current work in our lab on new and improved MicroED methodology will be highlighted.