

## **Cryo Electron Tomography – A Powerful Tool Exploring Ultra-Structure in Biology**

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The ultra-structure in biology refers to the fine biological structures, as of a cell, usually containing massive details which are invisible through a conventional microscope, such as all organelles in the cell. Promisingly, with the application of cryo electron microscope, the close details become visible.

Learning these ultra-structures and be able to “see” as many details towards their surroundings as possible, is helpful to understand what they are, where they are located, what roles they are playing and their mechanism related to physiological dysfunctions. Endless of scientific questions would be raised and many of them could be addressed.

Cryo electron tomography is such an approach, still developing, aiming of studying the ultra-structures and revealing their related physiology functions. As the development of cryo electron tomography, there are still technical limitations under study.

It is valuable to review the development of cryo electron tomography and its widely application in structural biology, to introduce this technique to prompt application and improvement.