

Workshop Series of Chinese 3DEM Community
Get Acquainted with Cryo-Electron Microscopy: Third Chinese Workshop for Structural Biologists
Tsinghua University and Institute of Biophysics, CAS, Beijing, China and Thermo Fisher Scientific (USA)
Jul 31 - Aug 5, 2017

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Structural biology has become one of the most important tools to understand the fundamental principles of life. Besides the commonly established X-ray crystallography and nuclear magnetic resonance (NMR) spectroscopy approaches, three-dimensional reconstruction via cryo-electron microscopy (3DEM) is another approach to study the 3D structures of macromolecules, which has multiple advantages of investigating the structures of large macromolecular complexes. In recent years, 3DEM has gone into its evolutionary phase along with the significant advancements in specimen preparation, hardware development and imaging processing algorithms. With these advancements, there are lots of complicated macromolecular complexes whose structures could impossibly be determined by X-ray crystallography and NMR spectroscopy, but now have been solved with close to near atomic resolution. Because 3DEM has been emerging as an important technology, the needs to learn/adopt this technique by non-EM structural biologists are growing quickly.

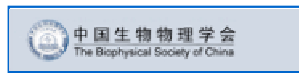
In order to promote the application of 3DEM in solving the structures of sophisticated bio-molecular complexes and provide opportunities for non-EM structural biologists - especially Chinese protein crystallographers and NMR spectroscopists to learn this state-of-the-art technique, we, the Chinese 3DEM community in association with Thermo Fisher Scientific (USA), are organizing a local workshop in China. The workshop focuses on 3DEM single particle analysis (SPA) technology and teaches participants from theory to practice. It will be held in Beijing, China from **July 31 to Aug 5, 2017** and there will be lectures followed by group discussions (2 full days) and practice sessions (2 full days). Both Institute of Biophysics, CAS and Tsinghua University will share their EM facilities for this workshop. Due to the limited resources, the maximum number of participants will be restricted to **64**. All participants can join both the lecture and practice sessions.

Both the basic principles of electron microscopy, specimen preparation and image analysis as well as basic protocols for microscopy alignment, low dose imaging and image processing will be taught and discussed during the workshop. The practice sessions will be organized to get the hands-on experiences of negative staining, plunge freezing, microscope operation, image collection and software usage for reconstruction. Young professors, senior graduate students and postdocs, who currently work in the structural biology field using crystallography, NMR spectroscopy or other non-EM approaches or who have great interests in the 3DEM applications for their current projects, are particularly encouraged to attend this workshop.

A poster of this workshop is now available [here](#).



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