

Cryo-EM Workshop: Lectures on Cryo-EM Image Formation and 3-D Reconstruction

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Cryo-EM is revolutionizing structural biology. It has been used to determine numerous structures of viruses and protein complexes to 2-4 Å resolutions and a few cases at sub-2 Å resolutions in recent years. The cryo-EM revolution has attracted many novice users who will need to learn both the principles and the hands-on skills of sample preparation, TEM instruments, image processing and 3-D reconstruction, and structural analysis. In this Cryo-EM Workshop, I will present lectures on TEM optics, image formation, image processing, and 3-D reconstruction. In addition, I will also present our new virtual reality augmented hands-on training system CryoVR with the focus on sample plunge freezing.