



Seminar/Talk

Real-time cryo-EM data pre-processing with Warp

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The acquisition of cryo-electron microscopy (cryo-EM) data from biological specimens is currently largely uncoupled from subsequent data evaluation, correction and processing. Therefore, the acquisition strategy is difficult to optimize during data collection, often leading to suboptimal microscope usage and disappointing results. Here I will discuss Warp, a software for real-time evaluation, correction, and processing of cryo-EM data during their acquisition. Warp evaluates and monitors key parameters for each recorded micrograph or tomographic tilt series in real time. Warp also rapidly corrects micrographs for global and local motion, and estimates the local defocus with the use of novel algorithms. The software further includes a deep learning-based particle picking algorithm that rivals human accuracy to make the pre-processing pipeline truly automated. The output from Warp can be directly fed into established tools for particle classification and 3D image reconstruction. Warp is easy to install, computationally inexpensive, and has an intuitive and streamlined user interface.

Friday, July 20, 2018 09:30am - 10:45am

I22 Lakeside View (I22.01)



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