

## Facilitating cryo-EM by further automation: Smart EPU and Tomo Live Software

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For researchers in both academia and industry, maximizing the efficient use of transmission electron microscopes enables more and better-quality structures to be determined. In this session, we will provide an overview of the latest software developments for data acquisition and on-the-fly image processing for the two common workflows in cryo-EM. For single particle analysis, Smart EPU Software combines well-known features of previous EPU Software releases with novel, easy-to-use tools designed for further automation. Capabilities powered by AI free structural biologists from the burden of routine tasks, as selection of grid squares or hole holes. The platform also offers programs for image evaluation to streamline on-the-fly analysis of the data, from motion correction to 3D refinement, and decision algorithms for optimal microscope performance. Equivalently, in cryo-electron tomography, Tomography Software and Tomo Live Software facilitate tilt series collections with accurate, fast and user-friendly functions while offering parameter-free and close-to-real time reconstruction of tomograms for prompt feedback about the collected data. We will finalize our workshop with an open session discussing barriers to efficiency.