

DANDRITE Topical Seminar

Tuesday 10 January 2017
at 14.00 – 15.00

Building 1162-013, aud. A, Aarhus University

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Seminar on "Exploring native cellular structure by cryo-electron tomography, correlated cryo-fluorescence microscopy and focused ion beam milling."

Cryo-electron tomography (CET) allows the direct imaging of intracellular space in a "frozen-hydrated" state, providing 3D molecular-resolution images of native cellular structure. While advances in electron detection and optical technologies are closing the gap between contrast and resolution in CET, simultaneous developments in correlated cryo-fluorescence microscopy and focused ion beam milling promise to guide us directly to targets of interest deep within cryo-preserved mammalian cells and tissue. In this seminar, I will discuss the strength of cryo-electron microscopy in the pursuit of understanding cellular structure and the opportunities that both in vitro and in vivo structural biology provide in this effort. Through examples from my own work with the bacterial cytoskeleton, yeast division machinery and neurons, I hope to provide a realistic perspective on what is currently doable and what the future holds for cellular structural biology.

Host: Group Leader Poul Nissen, DANDRITE, Dept. of Molecular Biology and Genetics, Aarhus University