



Joint DANDRITE & iNANO Seminar

Joint seminar between DANDRITE and the Interdisciplinary Nanoscience Center (iNANO)

Friday 19 September 2014 at 10.15 - 11.00

The iNANO Auditorium (building 1593, room 012)

iNANO, Aarhus University, Gustav Wieds Vej 14, 8000 Aarhus C

Coffee, tea and bread will be served from 10.00 in front of the auditorium



Arne Möller

Team Leader at DANDRITE & Assistant prof. at iNANO

Danish Research Institute of Translational Neuroscience - DANDRITE
The Interdisciplinary Nanoscience Center (iNANO)
Aarhus University

EM-analyses of Nanomachines in Action

Over the past decade Transmission Electron Microscopy of biological samples has seen significant improvements by means of resolution, reliability and throughput. Advances in EM-design, powerful computers and software and most importantly a new generation of EM cameras have recently led to results that are on par with those solved by X-ray crystallography.

In my presentation I will talk about our ongoing efforts to install a facility for streamlined EM data acquisition and processing at Aarhus University. The goal of this joint venture between iNANO and DANDRITE is to make EM accessible to a wider range of researches. With two state of the art TEMs, including a highest end Titan Krios, the current setup at Aarhus University is ideally suited for such an endeavor.

As EM only uses minute sample amounts and does not rely on crystallization this method is amenable to a large array of biological problems. Furthermore the "direct view" by EM is often priceless for sample optimization and also allows to immediately observe the dynamic processes that constitute the function of macromolecules.

In the second part of my talk I will discuss examples from my own research in which we utilized EM to analyze proteins undergoing many conformational states, with a special focus on ABC transporter and AAA enzymes.

