

Title of the talk: Running an International service facility for cryoEM

Abstract:

The Netherlands Centre for Electron Nanoscopy (NeCEN) is the open access research facility for high-resolution cryo electron microscopy in The Netherlands. NeCEN offers research institutes and companies, both Dutch and international, access to advanced cryo electron microscopy and expertise. The cryo electron microscopes at NeCEN are specifically designed to explore complex biological structures.

NeCEN offers a variety of services ranging from training, sample preparation and screening to high resolution data collection and image processing.

The core service provided to our users is high throughput data collection on two state of the art Titan Krios transmission electron microscopes. Our two Titan Krios microscopes give unique possibilities to perform a very broad range of experiments; Cs corrected atomic resolution single particle acquisition, phase plate tilt series acquisition, STEM and diffraction applications.

NeCEN's experienced microscope operators in combination with the advanced and highly automated hardware allow the user to get most out of their sample and microscope time. An on-the-fly processing and reporting has been developed to ensure the best data quality is collected and the data is uploaded live to our fast-online servers so that the user can download the data live and start processing of the data right away.

For challenging samples, we can offer assistance during buffer optimization and sample screening. For this, a basic equipped wet-lab and dedicated entry level screening TEM are available on site.

To broaden its portfolio, NeCEN recently acquired an Aquilos cryo-FIB. With this machine it is now possible to prepare cryo-Lamellae of biological materials for high resolution cryo-Electron Tomography.

In addition to assistance in sample preparation, imaging and data processing, NeCEN is also meant as a training facility for structural biologists. Therefore, an academic team at NeCEN and at CNB-CSIC, together with Thermo Fisher started an initiative to organize an in-depth cryo-EM school. An extensive 9-week pilot was held at NeCEN at the beginning of 2017. The new version of the course will be held at NeCEN in Oct-Nov 2018 for a duration of 4-weeks.