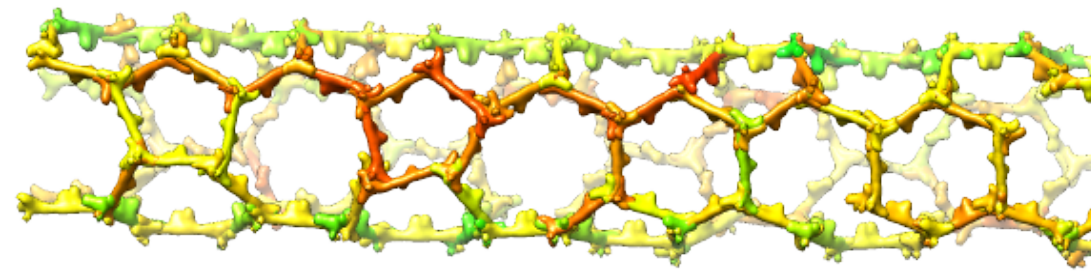
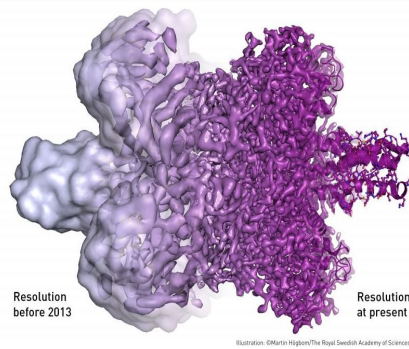
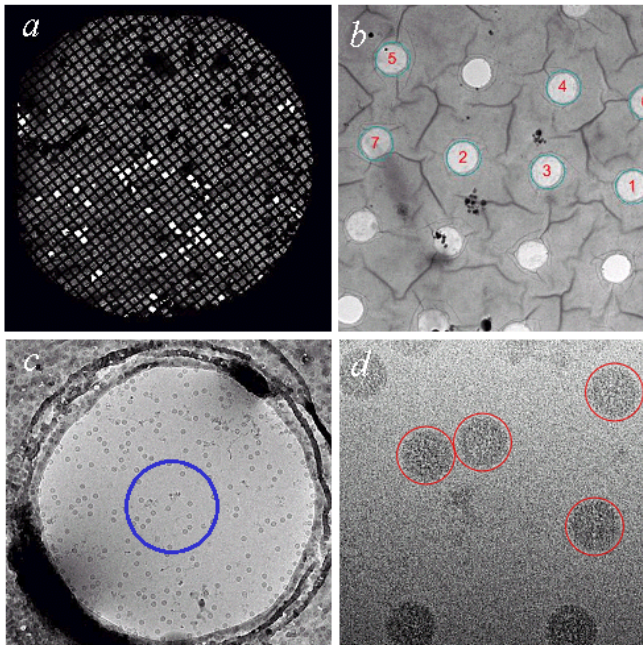


Molecular Electron Microscopy Core



About Us

Started in 2014, the Molecular Electron Microscopy Core (MEMC) is a state-of-the-art facility dedicated to electron cryo-microscopy (cryoEM), electron cryotomography (cryoET), and electron diffraction of microcrystals (microED). It houses four electron microscopes: a 300kV Titan Krios, a 200kV Glacios, a 200kV F20, and a 120kV Spirit. These microscopes are available to researchers either for direct use, or aided by MEMC personnel, to collect data aimed at high-resolution structural biology projects.



Our Services

- Project consultation
- Training
 - basic electron microscope operation
 - grid preparation: negative-stain and cryo
 - EM operation for cryo
- image processing
- Hourly EM rates for trained and assisted data collection
- Motion correction of movie frames
- Preliminary 2D class averages
- Basic image processing and consultation on extended analysis

Instrumentation

- **Aquilos 2** - The Thermo Fisher Aquilos 2 uses a focused ion beam and scanning electron microscope at cryogenic temperature (cryo-FIB/SEM) to prepare ultra-thin sections (lamellae) of biological samples for in situ transmission electron microscopy (TEM) analysis including tomography and sub-tomogram averaging. It also includes an integrated fluorescence light microscope (iFLM) that can be used for cryogenic correlative light microscopy and electron microscopy (cryo-CLEM).
- **TitanKrios** - The Titan Krios microscope has an XFEG electron source and operates at 300kV. It is designed to be extremely stable by environmentally isolating the system, with superior controllability and reproducibility, and the ability to collect data on a single grid for up to a week. The Krios provides high-resolution cryoEM and cryoET data collection.
- **Glacios** - The Glacios is a 200kV electron microscope with a cryo Autoloader, XFEG electron source and Falcon4 direct electron detector. It is ideal for screening cryo samples and preliminary data collection for cryoEM and cryoET.
- **TecnaiF20** - The F20 can operate at 120kV or 200kV. It has a FEG electron source and a TVIPS-XF416 camera. It is used for basic cryoEM of moderate resolution projects, higher-resolution negative-stain data collection, or microED.
- **TecnaiSpirit** - The 120kV Tecnai Spirit is equipped with a tungsten filament electron source, and a 2kx2k UltraScan CCD camera. It is primarily available for routine screening negative-stained samples and EM training.

The MEMC can help with your

structural biology

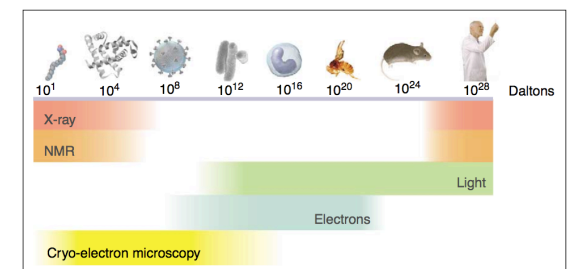
projects



**Enhancing Research,
Rigor and Reliability**

Our Team

Michael Purdy, PhD - Interim Director
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uva.corefacilities.org/account/login

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