

Field of View FOCUSING ON UPCOMING EVENTS

- **2 - 4 March** – Biological TEM workshop (register by 15 Feb.)
- Register for the 2026 SEMS meeting in Athens, GA by clicking [here](#)

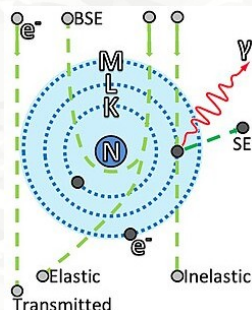
The Fine Print MICROSCOPIC UPDATES

- GEM will be closed from 24 Dec. - 5 Jan. for the holidays

The Objective Lens UNDENIABLY INTERESTING EM TOPICS

SEM Detectors

Our Teneo, SU3900, and SU9000 are outfitted with backscatter and secondary electron detectors to capture different types of information. Because SEMs function by rastering electrons across the surface of the sample, electrons can be either elastically or inelastically scattered. Backscattered electrons are elastically scattered and are useful for getting information about the content of a sample.

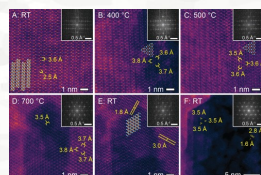


Electron paths

Secondary electrons are inelastically scattered and give information about the topography of a sample. Read more about SEM detectors [here](#).

Carbon Coated A LIGHT COVERING OF GEM PUBLICATIONS

Dr. Eric Formo, in conjunction with former GEM graduate student, Dr. Casey Rowe, recently had a paper published in ACS Nano. The paper is titled "Thermally Driven Formation of Multiphase, Mixed-Dimensional Architectures from TaSe₃ Nanoribbons," and discusses the structural changes that occur to tantalum-selenium compounds at increasingly higher temperatures.



TaSe₃ structural changes

The researchers use in-situ scanning electron microscopy to observe the changes in real time up to 1200° C. These data demonstrate the "low-dimensional chalcogenide architectures" that can occur as a result of increased temperature, which is significant for thermal stability in electronics. [Click here to read.](#)

Beam Me Up, Scotty

SEE WHAT'S ON STAGE AT
GEM

Lipids & Microcrystals

Dr. Jaap Brink, a Product Manager for JEOL, recently stopped by to introduce the GEM staff to cryo-EM techniques like electron tomography (ET) and micro-crystal electron diffraction (micro-ED) on the JEOL 2100 Plus. Electron tomography is comparable to our micro-CT in the way it utilizes images taken from different angles to create a 3D model. Our first tilt series was of proteoliposomes donated by Dr. Camilo Perez pictured below.



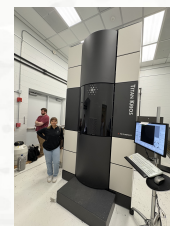
Electron diffraction can already be performed on the

SU9000, but now we have the ability to perform in the cryo regime. Our first micro-ED samples were uranium crystals grown by Dr. Eric Formo. With consistent practice, we hope to add these techniques to our list of services soon.

Fully Charged CURRENT EVENTS, LITERALLY

FSU Workshop

GEM staff member Dr. Bayleigh Roussel recently attended a Cryo-EM workshop held at Florida State University at the SECM4 facility. The workshop focused on sample preparation by focusing on techniques such as making graphene oxide grids and using innovative techniques like SPOT-RASTR. SECM4 staff also gave hands-on time with state-of-the-art instruments like the FEI Titan Krios and SPT Labtech Chameleon.



Dr. Roussel and the Krios

FSU is also home to the second Krios installed in the U.S. and offers high-resolution data collection after providing sufficient supporting material.