

Job Title: Associate Director of Electron Microscopy

We are seeking a high-level electron microscopist who will provide scientific support to the Materials Characterization Processing (MCP) Core Facility in the Department of Materials Science and Engineering (DMSE), Whiting School of Engineering. The position represents the lead electron microscopist for the Center for Intelligent Microscopy — a Center of Excellence in partnership with JEOL Ltd. focused on integration of AI/ML with cutting edge stimulus, controls and automation platforms in TEM and SEM. The position will report to the Director of the MCP, and the Director of Operations of the MCP, and will also involve outward facing activities with the broader Johns Hopkins University, including the School of Medicine, as well as the international electron microscopy community. This is a non-tenure track faculty position of the DMSE funded at 100% FTE.

The successful candidate will establish the two new JEOL TEMs, a Grand ARM II and a F200, both equipped with EELS, dual EDS, precession electron diffraction, direct electron detectors, IDES laser and beam manipulation, in situ holders, tomography and cryo He holder. These scopes are located in the brand new state-of-the-art MCP facility in the historic Stieff Silver Building. The MCP is a fully integrated facility designed for automated environmental lab control to guarantee machine performance, and full high-speed data connectivity at the instrument to cross-campus levels. We are looking for a microscopist who will help define how microscopy is done in the future. There will also be plenty of opportunities to participate in cutting edge university, government and industry research.

Qualifications or Specialized Certifications:

- Several years experience with aberration-corrected microscopy
- Extensive knowledge in:
 - Atomic resolution imaging (HRTEM and STEM) and 4-D imaging methods
 - Electron diffraction analysis, including scanning precession electron diffraction
 - Analytical transmission electron microscopy tools, including EELS and EDS
- Working knowledge of:
 - Electron tomography and in situ/operando sample holders
 - Scanning electron microscopy and focused ion beam
 - Desire and ability to teach microscopy techniques and theory to students, faculty and other researchers
 - Ability to interface with other staff toward interdisciplinary technical goals

Specific Duties & Responsibilities:

- Be the main TEM microscopist responsible for maintaining, operating and training of the JEOL scopes
- Interface with JEOL service and scientists in developing EDGE computing, AI and ML advancements
- Guide research directions in TEM applications with faculty, students and outside users
- Collaborate or assist in ongoing research with JHU, outside university, government and industrial users
- Teach new users and mentor the progression of student knowledge base
- Oversee demonstrations, workshops, etc.

Additional Opportunities

- Collaborate as Co-PI on grants.
- Participate in the national and international microscopy community.
- Career development