

Permanent Position | TEM Facility Manager

NUANCE Center - Northwestern University

NUANCE, Northwestern University's Atomic and Nanoscale Characterization Experimental Center, is seeking candidates for a permanent Senior Research Associate position to oversee research, collaboration and training related to Scanning-Transmission and Transmission Electron Microscopy (S/TEM) facilities. The successful candidate will be eligible for election to research faculty with Northwestern's Materials Science and Engineering department.

Qualifications:

The preferred candidate will have obtained a PhD in Materials Science, Physics or related physical science/engineering field. The preferred candidate will have at least 3 years of experience in advanced S/TEM analysis, related analytical techniques and sample preparation methods for physical science/engineering materials. Proven publication record utilizing advanced S/TEM techniques and applications is essential.

Skills:

The preferred candidate will have demonstrated expertise in conventional and advanced S/TEM techniques/skills, including: defect imaging, HREM, HAADF, electron diffraction, EDS, EELS, among others. The candidate will have demonstrated expertise in TEM-related sample preparation skills, including: conventional thin foil preparation and FIB/related techniques. Experience in aberration-corrected S/TEM is highly desirable.

The candidate will have demonstrated the ability to facilitate laboratory sessions for hands-on course and curricula related to conventional and advanced electron microscopy. The candidate will be capable of using software for simulation, modeling and tomographic reconstruction, as well as other software-related advanced imaging/spectroscopy analysis. The successful candidate will be customer-oriented and demonstrate the ability to design experiments and research programs to solve innovative problems in atomic and nanoscale analysis and characterization.

Duties:

The selected candidate will be responsible for training and assisting users on conventional and advanced Scanning-Transmission and Transmission Electron Microscopy (S/TEM), facilitating laboratory sessions for microscopy courses, and conducting analysis and characterization using advanced electron microscopes. The successful candidate will develop an informed and well-trained user base in advanced microscopy and related sample preparation and characterization instruments. The incumbent will participate in user training, hands-on assistance, development of professional and short-courses, and overall facility development. Essential to the success of this position is enhancing both the visibility and advanced utilization of the S/TEM instruments to promote scholarly activities among the faculty, student and staff user base.

The selected candidate will regularly operate conventional and advanced S/TEM analysis, consult and collaborate with users on experiment design & research in electron microscopy, sample preparation and general lab equipment. There are ample opportunities for independent and collaborative research utilizing advanced S/TEM. With the recent installation of an advanced aberration-corrected S/TEM instrument, prior experience with AC-S/TEM is desirable, but not required.

Materials should be submitted as a single PDF to nuance@northwestern.edu. Complete applications will include: Introduction letter, Curriculum Vitae, Statement of plans for research (3 to 5 pages), Contact information for three references (names, postal & email addresses, phone number).

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