

Photolithography Engineer- Nanofabrication  
Grade 57  
Code "Senior Engineer"  
Draft Date 12/17/2019

#### Business Title

Engineer- Nanofabrication

#### Duties & Responsibilities

The Center for Nanoscale Systems (CNS) at Harvard University seeks a multi-talented, enthusiastic individual to work within the Nanofabrication Group as a photolithography engineer. CNS is an open, shared-use facility that serves all of Harvard as well as external academic and industrial users. Working under the supervision of the Nanofabrication Facility Manager, this person will provide maintenance, training and research development in photolithography and chemical wet process for nanofabrication.

Responsibilities will include, but are not limited to: provide support and maintenance of multiple photolithography tools (mask aligners, steppers, UV exposure systems, resist coaters/developers, pattern design software and computers) with capabilities in i-line and DUV with line/space resolution of 1  $\mu\text{m}$ . This person will oversee and lead chemical wet processes development, training and troubleshooting for nanofabrication, including various resist processes, wet etching, sample cleaning, wet process technology expansion, and chemical management in the cleanroom. This individual will also be in charge of advanced patterning characterization with scanning electron microscopy (SEM) for feature patterning and multilayer alignment, as well teaming with members of the Nanofabrication Facility for film deposition projects. Other responsibilities are training new users, ensuring safety practices, authoring SOPs and related documents for the Nanofabrication Facility. Collaboration with all CNS personnel and research group to achieve objectives and enhance service quality is expected. The candidate will also perform work for remote CNS users. Detailed record keeping of instrument activity, experimental results, maintenance and repair logs, and operating procedures is expected.

#### Basic Qualifications

Minimum of a Bachelor's Degree in Electrical Engineering, Material Science, Chemical Engineering, or related field plus 5-7year experience in semiconductor equipment field is required.

#### Additional Qualifications

Graduate degree in Electrical Engineering, Physics, Chemical Engineering, Material Science, Chemistry or a related field with 3-5year experience is desirable. Cleanroom fabrication experience, especially in photolithography, etching, film deposition, and metrology, are highly desired. The candidate should be self-motivated with a strong desire to acquire on-the-job training, to succeed, and to develop intellectual, and practical professional skills. Demonstrated ability to work well in teams is essential.

Physical Requirements: Must be able to work in cleanroom, chemical, and measurement laboratory environments. Will work around compressed gases, acids, solvents, vacuum pump oils, and other chemicals. Must be very dexterous; will be required to work on large and small assemblies.

All candidates must be authorized to work in the United States.