

Phoebus Optoelectronics Job Posting for Fabrication Engineer:

Position Title: Metamaterial Fabrication Engineer (Level 1)
Planned Start Date: Spring 2010
Educational Requirements: BS (MS preferred) in Materials Science related field.
Experience Level: 1 – 3 years fab experience (min 1 year)
Supervisor: Michael Crouse, PhD

Job Responsibilities:

The metamaterials fabrication engineer will be responsible for the design, planning and execution of metamaterial device fabrication at the Cornell CNF. The fabrication engineer will work both independently and as a team with other senior fabrication engineers at Phoebus to deliver processes and prototypes against a challenging schedule. A diverse range of fabrication processes will be developed including, but not limited to, the following:

1. Thin film deposition of a wide array of materials including metals, dielectrics and semiconductors.
2. Lithographic patterning processes using contact, I-line, DUV and ebeam lithography tools.
3. Pattern transfer using plasma etching in RIE tools for metals, dielectrics and semiconductors.
4. Planarization techniques including CMP, deposition and etch back cycling, resist lift-off and other methods as required.
5. Materials and structural characterization using various microscopy methods including SEM, AFM, TEM and NSOM. Materials characterization will include X-ray diffraction, EDAX, spectroscopic ellipsometry and other materials characterization techniques.
6. Electrical performance testing using I-V probe stations and solar efficiency using standardized photovoltaic testing equipment.

In addition, the fabrication engineer may be asked to travel occasionally to New York City and work with the Optics & Simulation team for optical experiments and general meetings with the larger Phoebus staff.

Required Experience:

The candidate must have at least 1 year of experience using the standard tools in the Cornell CNF or comparable facility. The candidate must display a functional knowledge of the basic IC fabrication steps including thin film deposition, lithographic patterning and pattern transfer using plasma etching. The qualified candidate must also demonstrate basic microscopy techniques. Lastly, basic knowledge of project management and the ability to work independently in a laboratory setting is required.

Required Education:

The candidate must have a 4-year BS Engineering or Science degree in a materials related field such as: Materials Engineering, Chemical Engineering, Electrical Engineering, Applied Physics or Chemistry.

Recommended Experience:

Candidates with additional levels of experience in materials characterization, NSOM microscopy, photovoltaic devices and optical characterization will be highly considered.

About Phoebus:

Phoebus Optoelectronics was founded in 2003 to commercialize various high potential nanostructured materials research being done at The City University of New York (CUNY). The company is largely focused on “metamaterials” and their applications to renewable energy, environmental monitoring and defense related applications. The company holds several key patents in the metamaterial field for the commercialization of these structures. Additionally, Phoebus partners with the CUNY Center for Advanced Technologies to access state-of-the-art simulation capabilities using CST Microwave studios and HFSS E-M modeling on a high performance computer cluster. The company has seen significant growth in the past 2 years with over \$3 million in committed funding in SBIR and STTR grants.

Recruiting Contact:

Please email all resumes to Michael Crouse at: crousem238@gmail.com.