

Phoebus Optoelectronics Job Posting for Metamaterial Simulation Engineer:

Position Title: Metamaterial Simulation Engineer (Level 1)
Planned Start Date: Spring 2010
Educational Requirements: BS (MS preferred) in EE, Physics or Applied Math
Experience Level: 1 year cumulative experience with E-M modeling
Supervisor: Michael Crouse, PhD

Job Responsibilities:

The metamaterials simulation engineer will be responsible for the design, planning and execution of advanced electromagnetic simulations using a mix of industry-leading finite element methods and Phoebus's own proprietary algorithms. The simulation engineer will work both independently and as a team with other engineers and graduate students to deliver optimized designs for metamaterial devices against a challenging schedule. Additionally, the simulation engineer will be required to assist in the maintenance and operation of high performance computing clusters (HPC) and software issues. A diverse range of simulation skills will be developed including, but not limited to, the following:

1. Finite element E-M modeling using industry-leading software which includes: Ansys HFSS, CST Microwave Studio and Comsol Multiphysics for metamaterial design.
2. Standard computer math packages matlab, Mathematica and Maple for running Phoebus's proprietary algorithms.
3. Optical ray tracing simulations and macroscale optical designs with Zemax.
4. HPC cluster management using the Microsoft Windows Server OS.
5. Device simulations with Silvaco's ATLAS and ATHENA programs.
6. Statistical Data analysis using SAS's JMP or equivalent software.
7. Report creation using Microsoft Office.

In addition, the simulation engineer may occasionally be asked to assist with optical characterization at CCNY. The simulation engineer will also be asked to occasionally travel to participate in fabrication efforts at the Cornell Nanoscale Science Facility (CNF) in Ithaca NY.

Required Experience:

The candidate must have at least 1 year of experience in advanced E-M simulations using one of the industry leading packages (HFSS, CST or Comsol). Experience simulating metamaterials or photonic crystals is highly recommended and demonstrated through a publication record. The applicant must be able to demonstrate programming and analysis of general numerical problems using matlab. A fundamental understanding of the physics of metamaterial structures and strong grasp of electromagnetic / optical science is required.

Required Education:

The candidate must have a 4-year BS Engineering or Science degree in a applied physics field such as: Electrical Engineering, Computer Science, Applied Physics or Applied Math.

Recommended Experience:

The candidate with optical characterization and some nanofabrication experience will be highly considered. In addition to the core skillset of simulations, a broader range of responsibilities will include simulation, fabrication and characterization of the metamaterial devices. Individuals that can demonstrate skills in multiples of these areas are of key interest.

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.