HRL Laboratories Microelectronics laboratory has recently opened a search to fill a research staff member position focused in advanced research in ebeam lithography and semiconductor device fabrication. The candidate would join their expert team and help push the state of the art in this field. A description of the position is shown below. Any interested candidates can respond to Dr. Wright directly, or find the job requisition on the HRL website, www.hrl.com.

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Job Title/Req: Research Staff - Electron Beam Lithography

Location: malibu, CA
Business Unit/Branch: HRL Laboratories
Job Description:

EDUCATION DESIRED: PhD in electrical engineering, materials science, chemical engineering, physics, or similar discipline, with education relevant to semiconductor devices, semiconductor device fabrication, and lithography.

ESSENTIAL JOB FUNCTIONS: Lead research and development efforts in the area of electron beam lithography, including developing new resist processes, creating new develop chemistry, and creating new lithography exposure conditions for the fabrication of semiconductor devices. Analyze the results with microscopy techniques and drive yield using data analysis methods. Troubleshoot issues due to pattern fidelity, yield, and device performance. Troubleshoot equipment issues and drive to root cause. Interact with cleanroom staff, device technology owners, and project managers. Interface with equipment and materials suppliers to maintain state of the art capabilities. Present technical results in meetings, presentations, conferences and written reports.

EXPERIENCE DESIRED: Three or more years' experience with lithography processing (preferably in electron beam lithography), critical dimension scanning electron microscopy (CDSEM), resist coat & develop tracks, and failure analysis techniques. Demonstrated track record of innovation in the fabrication of semiconductor devices, materials processing, and

semiconductor device integrated process flows is required. These experiences resulting in journal publications or patents is preferred. Experience with programming and scripting is required. Experience with process modeling and proximity error correction algorithms is a plus. Experience with CAD layout using Cadence is a plus. Experience with data analysis and databases is a plus.

KNOWLEDGE DESIRED: In depth knowledge of the principles of lithography and general semiconductor device fabrication is required. Detailed understanding of electron beam lithography is highly desired. Knowledge of the principles and operation of CDSEM equipment is desired. A strong work methodology is essential which includes: requirements gathering, functional specification, mask generation, scientific programming, validation, technical approval, and coordination of all aspects of nano lithography processes. Computer programming involving Bash scripting, Linux fundamentals a plus. Experience with SQL querying and data analysis with JMP, Matlab, Python or Excel is a plus. Experience can be gained from a combination of educational research experience, internships, or prior professional experience.

ESSENTIAL PHYSICAL/MENTAL REQUIREMENTS: Must be able to work safely in laboratory settings including Class 10 clean room facilities. Good verbal and written skills to work with a large cross section of personnel.

SPECIAL REQUIREMENTS (e.g. driver’s license special tools or restrictions): U.S. citizenship required. The ability to obtain and maintain a DoD security clearance is required.
We are proud to be an EEO/AA employer M/F/D/V. We maintain a drug-free workplace and perform pre-employment substance abuse testing.