Suchit Bhattarai

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Education

Aug. 2011 - Present — PhD. student in Electrical Engineering and Computer Science (EECS)
University of California, Berkeley
Graduation: May 2017

Dec. 2010 — Bachelor of Science in Electrical Engineering (Magna Cum Laude)
University of Maryland College Park

Relevant UCB Courses — Advanced Circuit Design (EE 141/240/241), Device Physics (EE230C)
Nano-fabrication (EE 235), Computational Imaging (EE 290F)

Research and Work Experience

Aug. 2011 - Present — Graduate Student Researcher in EECS, UC Berkeley
Subject: Extreme Ultraviolet (EUV) Lithography
Research focus is on characterizing the dominant contributors to line edge roughness (LER) in EUV resists through experimental and computational approach. The computational aspects center around modeling the random nature of the energy absorption process and the chemical imaging processes involved during the post-exposure bake (PEB) of an EUV resist.

June 2016-August 2016 — Summer Intern at ASML Brion, San Jose
Advanced Technology Development Group
Wrote image analysis software in MATLAB for characterization of thru-focus behavior of hotspots using SEM images

June 2015-August 2015 — Summer Intern at Global Foundries, Santa Clara
Strategic Lithography Team
Performed Monte Carlo simulation studies on the impact of various EUV resist parameters on important metrics, e.g. LER, CDU and tip-to-tip variability

Jan. 2011-July 2011 — Technology Analyst at Brookhaven National Laboratory, New York
National Synchrotron Light Source II (NSLS - II) Controls Group
Implemented and tested an event receiver module on a Virtex-6 Xilinx FPGA that translated event codes received from an event generator into hardware outputs

June 2010 - Aug. 2010 — Research Intern at Brookhaven National Laboratory, New York
National Synchrotron Light Source II (NSLS - II) Controls Group
Assisted in the design of a PLL-based clock recovery and jitter correction circuit. Performed testing of the PCB to verify circuit functionality

June 2009 - Aug. 2009 — Undergrad Researcher at University of Maryland, College Park
Helped characterize performance of carbon nanotube FET based biosensors. Sensitivity of the devices to changes in NaCl concentration were experimentally investigated

June 2008 - May 2009 — Undergrad Researcher at University of Maryland, College Park
Wrote C code for controlling the gaits of bio-inspired robots (a bird-inspired robot and a lizard-inspired robot) through computer commands transmitted wirelessly to the robots

Selected Publications

1. S. Bhattarai, A. R. Neureuther, P. P. Naulleau, "Study of energy delivery and mean free path of low energy electrons in EUV resists," Proc. SPIE 9779 (2016)
2. S. Bhattarai, W. Chao, S. Aloni, A. R. Neureuther, P. P. Naulleau, "Analysis of shot noise limitations due to absorption count in EUV resists," Proc. SPIE 9422 (2015)
3. S. Bhattarai, A. R. Neureuther, P. P. Naulleau, "Limitations of resist-based characterization of EUV mask surface roughness," Proc. SPIE 9048 (2014)

Teaching Experience

Fall 2014	Signals and Systems (EE 120), University of California, Berkeley Hosted weekly discussion sections, created solutions to homework problems, and graded exams
Spring 2014	Introduction to Circuits (EE 40), University of California, Berkeley Hosted weekly discussion sections

Skills

MATLAB (Advanced), Python (Intermediate), C (Intermediate), Microcontroller programming (Intermediate), Circuit design, simulation and layout with Cadence tools (Intermediate)