

Peng Xie

Education **Ph.D. in Microsystems Engineering, Rochester Institute of Technology, expected in 2010, GPA: 4.0/4.0**

Research Area: Optical nanolithography

Courses taken in Geometrical Optics, Physical Optics, Fourier Optics, Nonlinear Optics, Random Processes, Stimuli-Responsive Materials and Radiation-Matter Interactions

M.E. in Microelectronic Engineering, Rochester Institute of Technology, expected in 2008, GPA: 4.0/4.0

Courses taken in Microlithography Materials & Processes, Silicon Processes, Device Physics, Thin Films, Microelectronics Manufacturing I and II, Microelectronics I, Advanced Field Effect Devices, Nanoscale CMOS, SiGe and SOI Devices and Technology

Key process skills in lithography exposure and processing tools (including ASML DUV, Canon i-line and GCA g-line), thin films deposition, plasma RIE, ion implant, CVD, diffusion, electrical test, CMP, metrology, material characterization, SEM, and surface analysis

B.S. in Microelectronic Engineering, University of Electronic Science and Technology of China (UESTC) – 2005, overall GPA: 3.73/4.0, major GPA: 3.92/4.0

Thesis: The Characterization of SiC Power MESFET with Floating Metal Gates and RESURF Structures

Research Interests

Optical lithography, EUV lithography, novel lithographic solutions (double patterning, maskless lithography, nanoimprint lithography, self assembly lithography, etc.), lithographic modeling, optical proximity correction (OPC) algorithm, photoresist chemistry, optical material characterization, metamaterial, optical laser, optical waveguide, advanced solid state device and semiconductor processing technology

Professional Experience

Jun. 2006 – Present

Research Assistant, Nanolithography Research Laboratories, RIT
Worked on research projects including polarization induced double patterning through four-beam interference, and waveguide effect on attenuated phase shift mask (APSM).

Oct. 2006 – Aug. 2007

Researcher, on assignment from Mentor Graphics Corp. to IMEC, Belgium / International Scholar, Katholieke Universiteit Leuven, Belgium
Involved in a variety of IMEC/Mentor projects including double patterning, high-NA optical modeling and laser aberration

Nov. 2005 – Feb. 2006

Teaching Assistant, Microelectronic Engineering Department, RIT
Coordinated and taught laboratory projects involving resist process optimization, anti-reflective control, DUV resist process design, swing curve analysis, CA-resist contamination, F/E analysis, and immersion lithography

Sep. 2004 – Jun. 2005

Research Assistant, Department of Microelectronic Engineering, UESTC
Involved in the 4-H SiC power MESFET funded by National Science Foundation. Worked on 2-D simulation of 4-H SiC MESFET with FMR (Floating Metal Ring) structure and 3-D simulation of 4-H SiC 3D RESURF MESFET with SJ (Super Junction) structures

July 2004 – Aug. 2004

Research Internship, E'Mei Semiconductor Factory, E'meishan, China
Research and characterization of CZ grown single crystalline wafer substrates

Professional Societies

Student Member of the Institute of Electronics and Electrical Engineers (IEEE)
Student Member of the SPIE
House Committee Co-Chair, Optical Society of America (OSA), Rochester Section

Awards

Recipient of the Microelectronic Engineering Graduate Scholarship (2005-2006)
National Scholarship, UESTC, (2001-2005)
Outstanding Student of the Year, UESTC (2003)

Publications

"Applications of TM polarized illumination," Bruce Smith, Jianming Zhou, and Peng Xie, Proc. SPIE 6924, 69240J, 2008.
"Double pattern EDA solutions for 32nm HP and beyond," George E. Bailey, Alexander Trichtkov, Jea-Woo Park, Le Hong, Vincent Wiaux, Eric Hendrickx, Staf Verhaegen, Peng Xie, and Janko Versluijs, Proc. SPIE 6521, 65211K, 2007.