

Felix P. Lu, Ph.D.

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Work History:

- Aug 2006-date Vice-President
Applied Quantum Technologies, Inc.
Durham, NC

Worked with Jungsang Kim and group on MEMS-Based Optical Beam Steering System for Multi-Color 2D Spot Arrays optical beam steering system, Phase I STTR from the Army Research Office. Successfully completed Phase I, invited and submitted Phase II STTR proposal. We have also submitted a Phase I SBIR to the Air Force Office of Scientific Research (expect to hear from AFOSR in mid-May 2007).

- Aug 2005-date Research Scientist
Duke University, Dept. of Electrical and Computer Eng.
Durham, NC

Worked on wafer fusion of silicon to InGaAs films for photodetector applications, MEMS polyMUMPS layout
Teaching: ECE 61 – Introduction to Microelectronics (Spring 2006)

- Apr 2004-Jul 2005 Engineer-Scientist
Boeing satellite development center
El Segundo, CA

Worked in Technology Qualification and Reliability/failure analysis group on III-V HBTs, HEMTs and radiation testing of InP devices and optical fibers.

- Sept 1996-Mar 2004 Graduate student researcher/Teaching Assistant
University of California at San Diego
La Jolla, CA

Worked on design, simulation, fabrication and characterization of III-V optical and photoelastic waveguides; silicon hydrophilic, plasma activated wafer bonding, silicon on glass ion cut films, and electrical characterization of transferred silicon films.

Ph.D. Thesis: Electrical characterization of thermally and mechanically exfoliated silicon films for flat panel display applications; Advisors, P. K.L. Yu and S.S. Lau

Education:

- Ph.D., Materials Science and Engineering; University of California at San Diego, 2004
- M.S., Materials Science, University of California at San Diego, 1998
- B.S., Engineering Physics, University of California at San Diego, 1996

Other academic activities:

Curriculum development – Sensor fabrication course development for Sensors curriculum with Nan Jokerst (ECE), Martin Brooke(ECE), Claudia Gunsch (CEE), and Andrey Khlystov (CEE).

Extracurricular academic activities:

Science and engineering exposure to grade and middle school girls:

Instructor for FEMMES (Females Excelling More in Math Engineering and Science)

<http://www.duke.edu/~are4/FEMMES07/Home.html>

Local exhibit leader for Sally Ride Festivals (<http://www.sallyridefestivals.com>)

Faculty Associates Program (2006-7) – planning and participating in events with undergraduate students so that they can get to know faculty and ask questions.

Publications and Presentations:

- D.L. Hansen, M.J. Robinson, F. Lu, “Total Dose Effects in InP Devices”, To be submitted to Nuclear Space Radiation Effects Conference 2007, and published in IEEE Transactions on Nuclear Science.
- Kyle McKay, Felix P. Lu, Jungsang Kim, Changhyun Yi, April S. Brown, Aaron R. Hawkins, “Band discontinuity measurements of the wafer bonded InGaAs-Si Heterojunction”, Submitted to Applied Physics Letters, January 2007
- Changsoon Kim, Caleb Knoernschild, Felix Lu, Bin Liu, and Jungsang Kim, “Two-Dimensional optical scanner for quantum information processing in atomic systems”, Submitted abstract for Transducers 07, June 10-14, 2007, Lyon, France
- F. Lu, D. Qiao, M. Cai, P. K. L. Yu, S. S. Lau, R. K. Y. Fu, L. S. Hung, C. P. Li, P. K. Chu, H. C. Chien Y. Liou, “Ion-cutting of Si onto glass by pulsed and direct-current plasma immersion ion implantation”, Journal of Vacuum Science and Technology, B, 21(5) Sept/Oct 2003, p.2109-13
- F. Lu, J. Bickford, C. Novotny, P. K. L. Yu, S. S. Lau, K. Henttinen, T. Suni, and I. Suni “Strain and electrical characterization of metal-oxide-semiconductor field-effect transistor fabricated on mechanically and thermally transferred silicon on insulator films”, Journal of Vacuum Science and Technology, B, 22(6) Nov/Dec 2004, p.2691-7
- Presentation at Electronic Materials Conference, June 25-27, 2003; Salt Lake City, Utah