

Curriculum Vitae

Dr. Xiaomin Jin: Assistant Professor, Electrical Engineering Department, California Polytechnic State University (since 2004).

Dr. Jin has strong photonic device measurement and simulation capability due to previous projects. She received her PhD from UIUC in 2001. From 2001 to 2003, Dr. Jin worked in the research laboratories of several companies, including Corning Lasertron, Inc, W. L. Gore and Associates, and Optical Communication Products, Inc. Dr. Jin is now an Assistant Professor of EE department at Cal Poly. Overall she has over fifteen years of research experience in areas of photonics and fiber optic communication, including more than five years of photonic device fabrication experience, ten years of device design and characterization experience, and five years of device package and system performance/application experience. She has over 40 publications in the past on the topic of photonic devices.

Education:

- B.E. and M.S. in Electronic Engineering, Tsinghua University, Beijing, China, 1992 and 1996
- Ph.D. in Electrical Engineering, University of Illinois at Urbana-Champaign, USA, 2001.

Academic Experience:

- California Polytechnic State University, California, Assistant Professor, 09/04-present
- Temple University, Philadelphia, Pennsylvania, Adjunct Assistant Professor, 07/03-8/03, Assistant Professor, 09/03-6/04
- University of Illinois at Urbana-Champaign, Illinois, Teaching Assistant, 01/98-06/00
- Tsinghua University, Beijing, China, Graduate Teaching Assistant, 08/93-01/94 and 08/94-01/95

Other Relevant Experience:

- **PI of Agilent Grant 2007-2008**, "Simulation of the 633nm Photodetector" Using Crosslight", Dec 2007-June 2008, \$9,432.
- **PI of proposal to JDSU 2007**, "Transceiver Competitive Performance Analysis Collaboration" 2007, Granted \$12,117.51 cashed donation in June 29th 2007.
- **PI of Agilent Research Grant 2006 amendment for \$6,000** in April 2007.
- **PI of Agilent Research Grant 2006** "Modeling and Testing of Semiconductor Lasers, Cables, and Photodiodes for Interferometer Measurement System Applications", 2006, \$78,038.
- **PI of Cal Poly C3RP 2005 grant**, (The Department of the Navy, Office of Naval Research, under Award # ONR N00014-05-1-0855) "Investigation of Photonic Lattice Based Gallium-Nitride Light Emitters", Jan 2007-Dec 2008, \$42,374.
- **PI of Cal Poly C3RP 2007 grant** (The Department of the Navy, Office of Naval Research, under Award # ONR N00014-07-1-1152), "VCSEL based Optical transmitter system design using injection-locking technique", Sept 2005-Sept 2006, \$32,000.
- **PI of The State Faculty Support Grant (SFSG) Program**, "Weight-in-motion fiber optical sensor to monitor the load and speed of Vehicles on highway", Sept 2005-Sept 2006, \$3,700.

Awards and Recognition:

- Research Fellow at Peking University, Beijing, China, 2007-2008, by Ministry of Education, China.
- 2006 – 2007 Best Lab Professor, IEEE Student Branch and EE Department, California Polytechnic State University, April 2007.
- Nominee, the 25th Annual Woman of the Year Faculty Awards, California Polytechnic State University, March 2007.
- Wang Faculty Fellowship 2006 at Peking University, Beijing, China, by CSU International Programs.
- Bor-Uei Chen Memorial Scholarship, by the Photonics Society of Chinese-Americans, March 2001.

Membership in Professional Associations:

- Institute of Electrical and Electronics Engineers (IEEE: LEOS and WIE), Senior member
- Optical Society of America (OSA), Member
- American Society for Engineering Education (ASEE), Member
- Photonics Society of Chinese-Americans, Life-time member

Journal Papers

1. X. Jin, B. Zhang, T. Dai, X. N. Kang, G. Y. Zhang, S. Trieu, and F. Wang, "Optimization of top polymer gratings to improve GaN LEDs light transmission", OSA Journal: Chinese Optics letters (Focus Issue Nano Photics), (accepted and will be appeared in Vol 6 no. 10, 2008).
2. X. Jin, B. Y. Tarn, and S. L. Chuang, "Relative Intensity Noise Study in the Injection-locked Integrated Electroabsorption Modulator-Lasers", Solid State Electronic, (submitted in Nov 2007, under revision).
3. X. Jin, B. Zhang, T. Dai, and G. Zhang, "Effects of Transverse Mode Coupling and Optical Confinement Factor on Gallium Nitride-Based Laser Diode" The Institute of Physics: Chinese Physics, vol 17, no.4, pp-1274-1278, April 2008.
4. X. Jin, B. Zhang, L. Chen, and G. Zhang, "The Optimization of Gallium Nitride-Based Laser Diode through Transverse Modes Analysis", OSA Journal: Chinese Optics letters, vol.10, no. 5, p588, 2007.
5. L. Chen, J. D. Leon and X. Jin, "Strong Guiding of Light in Hollow Nanowire Structures" OSA Journal: Chinese Optics letters, vol.5, no. 9, p 543, 2007.
6. X. Jin and S. L. Chuang, "Bandwidth Enhancement of Fabry-Perot Quantum-well Lasers by Injection-locking", Solid State Electronic, vol. 50, p. 1141, June 2006.
7. G. Liu, X. Jin, and S. L. Chuang, "Novel techniques for measurement of linewidth enhancement factors of strained QW lasers using injection locking," IEEE Photon. Tech. Lett., vol. 13, p430, 2001.
8. X. Jin and S. L. Chuang, "Microwave modulation of a quantum-well laser with and without external optical power injection," IEEE Photon. Tech. Lett., vol. 13, p 648, 2001.
9. X. Jin, T. Keating, and S. L. Chuang, "Theory and experiment of high-speed cross-gain modulation in semiconductor Lasers," IEEE J. Quantum Electron., vol. 36, p 1485, 2000.
10. X. Jin and S. L. Chuang, "Relative intensity noise characteristics of injection-locked semiconductor lasers," Appl. Phys. Lett., vol. 77, p 1250, 2000.
11. T. Keating, S. H. Park, J. Minch, X. Jin, and S. L. Chuang, "Optical gain measurements based on fundamental properties and comparison with many-body theory," J. Appl. Phys., vol. 86, p 2945, 1999.
12. T. Keating, X. Jin, S. L. Chuang, and K. Hess, "Temperature dependence of electrical and optical modulation responses of quantum-well lasers," IEEE J. Quantum Electron., vol. 35, p1526, 1999.

13. J. Hu, B. Wu, and X. Jin, "Characteristic of a broadband Ti: LiNbO₃ optical modulator with buried electrodes and etched grooves in the buffer layer," *Fiber and Integrated Optics*, vol. 16, pp. 269-276, 1997.
14. X. Jin, B. Wu, and K. Zhang, "Analysis of x-cut Ti: LiNbO₃ modulator using the finite element method," *Acta Electronica Sinica*, vol. 24, pp. 123-126, 1996.
15. X. Jin, B. Wu, and K. Zhang, "Progression of acoustically tunable optical filter," *Optical Communication Technology (China)*, vol. 19, pp. 116-120, 1995.
16. X. Jin, B. Wu, D. Li, and K. Zhang, "Ti: LiNbO₃ optic-electrode modulators with thick and narrow Au electrode," *Acta Photonica Sinica*, vol. 24, pp. 132-134, 1995.
17. B. Wu, G. Xu, and X. Jin, "Traveling wave electrode optimization for high speed electro-optic modulators using the Fourier series method," *IEE Proc. Optoelectron.*, vol. 141, pp. 381-390, 1994.
18. X. Jin, B. Wu, and K. Zhang, "Measurement of optical waveguide mode diameter by near field method," *Acta Photonica Sinica*, vol. 22, pp. 31-35, 1993.

Conference Papers

1. S. Trieu, X. Jin, B. Zhang, T. Dai, K. Bao, X. N. Kang and G. Y. Zhang, "Light extraction improvement of GaN-based LEDs using patterned undoped GaN gratings", *SPIE Photonic West 2009*, San Jose, CA, January 2009. (Accepted).
2. X. Jin, Xian Wang, and Chi Yeh Hsu "Design and Implementation of Mobile Free Space Optical Communication System", *the 2008 Avionics, Fiber-Optics and Photonics Conference, (AVFOP2008)*, Sept 30-2nd, 2008, San Diego, CA. (Accepted).
3. X. Jin, Xiao-Hua Yu, Saied Zargar, Roshan H. Patel, and Sam Ward, "A Pressure Sensing System using Fiber Optic Sensors and Artificial Neural Networks", *the 2008 Avionics, Fiber-Optics and Photonics Conference, (AVFOP2008)*, Sept 30-2nd, 2008, San Diego, CA. (Accepted).
4. X. Jin, S. Trieu, "Improvement of light transmission using photonic lattices for solar-cells," *Solar Energy: New Materials and Nanostructured Devices for High Efficiency*, Stanford, California, June 2008.
5. X. Jin, B. Zhang, F. Wang, J. Flickinger, S. Jobe, T. Dai, G. Y. Zhang, "International engineering research and educational activity on GaN lasers and LEDs" *International Association of Journals and Conferences (IAJC)-International Conference, International Journal of Modern Engineering (IJME) IAJC-IJME 2008*, November 18-22, 2008, Nashville, Tennessee (abstract accepted, submitted full paper in June 2008).
6. F. Wang, W. P. Dunn, M. I Jain, C. D. Leo, X. Jin, N. Vicker, R. Savage, S. Mamedov, and P. Boolchand, "Thermal Annealing Effects of Obliquely Evaporated Silver Doped Chalcogenide Glass Thin Films", *The 2008 Material Research Society (MRS) Spring Meeting*, March 24 - 28 Moscone West and San Francisco Marriott, CA, USA.
7. X. Wang, C. Y. Hsu, and X. Jin, "Light-weight mobile free space optical communication system", 1st place winner paper in "Engineering and computer science-undergraduate", *the 22nd annual California State University Student Research Competition*, East Bay, May, 2008.
8. X. Wang, C. Y. Hsu, and X. Jin, "Mobile free space optical communication system", *SPIE Photonic West 2008*, San Jose, CA 19 - 24 January 2008.
9. X. Jin, B. Y. Tarng and S. L. Chuang "Relative intensity noise Sstudy in the injection-locked integrated electroabsorption modulator-lasers", *International Semiconductor Device Research Symposium (ISDRS 2007)*, College Park, MD. Dec, 2007.
10. J. Flickinger, X. Jin, E. Heller, and L. Chen, "Gallium Arsenide Photodiode Simulation", *The 7th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD 07)*, Delaware, United States, 24 - 27 September 2007.

11. X. Jin, B. Zhang, S. Jobe, J. DeLeon, J. Flickinger, T. Dai, G. Zhang, E. Heller, and L. Chen, "Two-dimension simulation of GaN-Based LD", *The 7th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD 07)*, Delaware, September 2007.
12. L. Chen and X. Jin, "Strong guiding of light in hollow nanowire structures", The OSA: NANO 2007, Hangzhou, China, June 2007.
13. X. Jin, B. Zhang, L. Chen, S. Jobe, T. Dai, and G. Zhang, "The optimization of GaN based laser Diode through transverse modes calculation" OSA: NANO 2007, Hangzhou, China, June 2007.
14. D. Derickson, S. Agbo, S. Jobe, J. Sharpe, D. Wasche, and X. Jin, Photonics Education Program at California Polytechnic State University", *Education and Training in Optics and Photonics 2007 (ETOP 2007)*, Ottawa, Canada, June 2-3rd, 2007.
15. K. Burian and X. Jin, "Generic Device Control System for Remote Procedure Calls", *6th annual Wireless Telecommunications Symposium (WTS 2007)*, April, 26th-28th, Pomona, CA 91768, USA, 2007.
16. X. Jin, F. Wang, K. D. Lystad, and M. H. Sendaula, "Electromagnetic Crosstalk Penalty in 2.5GB/s and 10GB/S Serial optical modules", *The 7th International Symposium on Antennas, Propagation, and EM Theory (ISAPE2006)*, Guilin, China, Oct 26-29th, 2006.
17. X. Jin, A. Hsu, and S. L. Chuang, "Study of Optical-feedback using an Integrated Laser-modulator/amplifier Device", *2006 Integrated photonics research and application topical meeting (IPRA 2006)*, Uncasville, CT, USA, April 24-26th, 2006,
18. X. Jin and S. L. Chuang "Injection-Locking in Fabry-Perot Quantum-well Lasers", *2005 International Semiconductor Device Research Symposium (ISDRS 2005)*, Bethesda, MD, USA. Dec 6-9th 2005.
19. X. Jin, Lystad, K.D.; Sendaula, M.H., "Electromagnetic crosstalk penalty in serial fiber optic modules," *Microwave and Millimeter Wave Technology, 2004. ICMMT 4th International Conference on*, Proceedings, 18-21 Aug. 2004, Page(s): 912- 915.
20. X. Jin and S. L. Chuang, "Relative intensity noise study of injection-locked semiconductor lasers using integrated electroabsorption modulator laser", *the 2004 Avionics Fiber-optics and Photonics*, LEOS, St. Louis, MO, USA, April 2004.
21. R. D. Martin, M. N. Donhowe, T. A. Yost, X. Huang, X. Jin, S. P. Kilcoyne, and X. Zhang "High-speed VCSEL-based transceiver development at Gore Photonics" (Invited Talk), *Photonics West [4994-25]*, San Jose, California, USA, 2003.
22. Hsu, E. Young, G. Liu, X. Jin, and S. L. Chuang, "Broken rail and buckled rail detection using fiber-optics," *Workshop on Rail Defect Detection, Removal Policies, and Broken Rail Detection Technologies*, Pueblo, CO, USA, July 1997. (Invited talk)
23. X. Jin, B. Wu, and K. Zhang, "High speed Ti: LiNbO₃ modulator using thick electrode and thick SiO₂ buffer layer," *International Laser, Lightwave and Microwave Conference (ILLMC 95)*, Shanghai, China, 1995.
24. J. Hu, X. Jin, B. Wu, W. Wang, and K. Zhang, "Analysis of traveling-wave modulator by FEM," *International Laser, Lightwave and Microwave Conference (ILLMC 95)*, Shanghai, China, 1995.
25. B. Wu, G. Xu, J. Xiao, and X. Jin, "Low voltage broad bandwidth LiNbO₃ optic waveguide modulator", *1994 National Annual Meeting of Opti-electric Device and Integrate technique*, Hangzhou, Jiangsu Province, pp24-28, April 1994.
26. X. Jin, B. We, and K. Zhang, "Theoretical analysis of X-cut Ti:LiNbO₃ modulator", *the 8th National Meeting on Integrate Optic, Lianyungang*, Jiangsu Province, p81, Sept 1995.
27. B. Wu, X. Jin, D. Li, J. Gu, and K. Zhang, "Broadband low driving voltage 15GHz Ti:LiNbO₃ electro-optical modulator", *Symposium on Integrated Optoelectronics, Photonics China '96*, Beijing, 1996.