

Xiaoge Zeng

Curriculum Vitae

1475 Folsom St Apt 1004
Boulder, CO 80302
☎ (303) 512 3120
✉ xiagoe.zeng@colorado.edu

Education

- 2011–Present **Ph.D. of Physics**, *The University of Colorado*, Boulder.
- 2008–2011 **Master of Physics**, *The University of Colorado*, Boulder, GPA – 3.74/4.0.
- 2004–2008 **Bachelor of Science**, *The University of Science and Technology of China (USTC)*, Hefei, China, GPA – 3.76/4.3.
Major: Physics, specialized in Optical Science and Engineering

Master's Paper

- 2011 Title: *Topological Insulators*
- Committee Professor Ana Maria Rey, Professor Matthew Glaser, Professor Kevin Stenson
- Description This review paper summarized the emerging field of Topological Insulators

Research Work

- 2010 – Present **Graduate Research Assistant**, NANOPHOTONIC SYSTEMS LABORATORY, University of Colorado Boulder, (Adviser: Professor Milos Popovic).
Adaptive devices and nonlinear optics based on integrated optics platform.
Detailed achievements:
- Design and fabricate adaptive integrated optical devices based on opto-mechanical structures
 - On-chip optical parametric oscillators (OPOs)
 - On-chip optical parametric amplifiers (OPAs)
 - Quantum Optics: photon pair generation
- 2009 **Summer Project**, CUNDIFF GROUP, University of Colorado Boulder, (Mentor: Dr. Andrew Funk and Professor Steven Cundiff).
Built a mode-locked fibre laser using Erbium-doped fibre as the gain medium and polarization-dependent loss as the mode-locking mechanism.
- 2007 – 2008 **Undergraduate Research Project**, THE KEY LABORATORY OF QUANTUM INFORMATION, Chinese Academy of Science, (Adviser: Professor Zhengwei Zhou).
studying theoretical knowledge of quantum information and physical realization of quantum computation at the Key Laboratory of Quantum Information, Chinese Academy of Science.

Publications

Journal Papers

- 1 X. Zeng, M. Popović, "Design of micro optical parametric oscillators based on third order nonlinearity", submitted to *Physical Review A*, 2013.

- 2 X. Zeng, M. Popović, "Engineering of Four Wave Mixing with Triple-microcavity", manuscript in preparation, 2013.

Conference Papers

- 1 X. Zeng, M. Popović, "Design of micro-optical parametric oscillators based on third-order nonlinearity", in *Proceedings of the International Union of Radio Science (URSI) National Radio Science Meeting, Boulder, CO, January 2013*, paper D3-1.
- 2 C. Poulton, X Zeng and M Popović, "Synthesis of High-Q Linear Photonic Crystal Microcavities Based on a Real-k Band Structure Solver", in *Proceedings of the International Union of Radio Science (URSI) National Radio Science Meeting, Boulder, CO, January 2013*, paper D3-3.
- 3 X. Zeng, M. Popović, "Optimum micro-optical parametric oscillators based on third-order nonlinearity", in *CLEO:2013 - Laser Applications to Photonic Applications, OSA Technical Digest (CD) (Optical Society of America, 2013)*, paper CTh1F.7.
- 4 Y. Liu, X. Zeng, J. Shainline and M. Popović, "High-Q Contacted Ring Microcavities with Scatterer-Avoiding Wiggler Supermode Fields", *Integrated Photonics Research, Silicon and Nano-Photonics (IPR), Puerto Rico, July 2013*, paper IM2B.6.
- 5 C.V. Poulton, X. Zeng, J.S. Orcutt, J.M. Shainline, M.T. Wade and M. Popović, "Linear Photonic Crystal Microcavities in Zero-Change SOI CMOS", *Integrated Photonics Research, Silicon and Nano-Photonics (IPR), Puerto Rico, July 2013*, paper IT5A.6.
- 6 Y. Liu, J. Shainline, X. Zeng and M. Popović, "Ultra-low-loss Waveguide Crossing Arrays Based on Imaginary Coupling of Multimode Bloch Waves", *Integrated Photonics Research, Silicon and Nano-Photonics (IPR), Puerto Rico, July 2013*, paper IM1A.4.
- 7 X. Zeng, M. Popović, "Four-wave mixing in a silicon 'photonic molecule' compound microring resonator with engineered wavelengths and state lifetimes", submitted to *Optical Fiber Communication Conference (OFC), 2013*.

Teaching Experience

- Fall 2012 Gave a lecture on "Nonlinear Optics on Micro Scale" to a graduate class (ECEN6006) at Department of ECEE, University of Colorado at Boulder
- 2010–2012 Mentored undergraduate students
- Chris Poulton: Rigorous design of linear photonic crystal cavities in standard SOI wafer, as well as in advanced CMOS fabrication run
 - Ian Franklin: Charactering on-chip photonic devices
- 2008–2009 Teaching Assistant of undergrad classes (PHYS1110, PHYS1140, PHYS2150) at Department of Physics at University of Colorado at Boulder

Other Experience

- 2009–2010 **President** of Chinese Students and Scholars Association (CSSA) at University of Colorado at Boulder.

Languages

English Advanced

Chinese Mother tongue