Karen Lee
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Education

MASSACHUSETTS INSTITUTE OF TECHNOLOGY **Cambridge, MA**
Ph.D. candidate in Electrical Engineering and Computer Science, June 2011. GPA: 4.9/5.0
Thesis: Understanding new regimes for light-matter interactions
Relevant coursework: Finance Theory I, Detection, Estimation, and Stochastic Processes, Quantum Theory, Statistical Mechanics, Theory of Solids, Mathematical Methods in Nanophotonics
Master of Science in Electrical Engineering and Computer Science, June 2006. GPA: 5.0/5.0
GRE Math: 800/800 GRE Verbal: 630/800 GRE Analytical Writing: 5/6

UNIVERSITY OF CALIFORNIA, BERKELEY **Berkeley, CA**
Bachelor of Science in Electrical Engineering and Computer Science, High Honors, May 2004.
Minor: Physics GPA: 3.83/4.0

Experience

NANOSTRUCTURES AND COMPUTATION GROUP, MIT
Research Assistant (Summer 2006 – present)

- Established rigorous mathematical conditions for wave localization and guidance in a general class of optical fibers, predicted and confirmed new designs of single-polarization single-mode fibers.
- Simulated electromagnetic fields generated when an explosive blast wave impacts a human head using numerical finite-element methods in C++, showed that the resulting in-brain electric fields are large enough to have neurological effects.
- Optimized dielectric structures with desirable optical properties.
- 3 first author journal publications, 1 co-authored journal publication, 1 pending patent

MIT ELECTRICAL ENGINEERING AND COMPUTER SCIENCE DEPARTMENT
Teaching Assistant
Signals and Systems (Fall 2004) and Probability and Stochastic processes (Spring2005)

- Taught 5 weekly tutorial sessions to clarify course materials for 30 students.
- Designed tutorial handouts, problem sets, exams and solutions.
- Led a final review session for over 150 students.

Leadership

MIT SUSTAINABILITY SUMMIT 2010
Operations Director (Fall 2009 – Spring 2010)

- Headed a team of 25 to organize a 200-person full-day conference addressing sustainability issues.
- In charge of logistics, in-kind donations, and a $20,000-budget.
- Participants included industry professionals, NPOs, academics and students.
- Conference was well received by all participants.

MIT HONG KONG STUDENT BIBLE STUDY
Executive Committee (Fall 2005 – Spring 2009)

- Chaired term assembly, developed program for the semester. Scheduled weekly meetings, led programs, delegated responsibilities, and oversaw preparation of teams on duty.
- Initiated various programs, including annual welcome picnics, annual Thanksgiving dinners and other social events. Attendances of over 40 persons per event.

Skills

Computer: MATLAB, C++, Scheme, Python, Perl; Windows, Macintosh and UNIX OS
Languages: Fluent in English, Cantonese and Mandarin (written and spoken)

Honors/ Awards

MIT Emerson Scholarship for Music Performance (Voice), ABRSM Grade 8 Voice Certificate (Distinction)
Tau Beta Pi Engineering Honor Society, Eta Kappa Nu Electrical Engineering Honor Society, United World Scholarships

Activities

MIT Women's League ESL Tutor, MIT Ashdown House Undergraduate Mentorship Program, MIT Chamber Chorus, International films, Chinese cooking