



# Eric J. Zhang

Postdoctoral Researcher [[Google Scholar](#) | [IBM Research](#)]

IBM Thomas J. Watson Research Center

Yorktown Heights, NY 10598 (email: [eric.jh.zhang@gmail.com](mailto:eric.jh.zhang@gmail.com))

**Expertise:** Optical spectroscopy and trace-gas sensing for medical/environmental diagnostics. Full-stack optoelectronic system design, from benchtop prototypes to integrated photonic chip sensors.

**Education:** 2016 – Princeton University, Ph.D. (Electrical Engineering)  
2010 – University of Toronto, B.A.Sc. (Engineering Physics)

**Research Experience:**

- 11/2016 - 02/2019 ■ **Postdoctoral Researcher**  
IBM Thomas J. Watson Research Center  
*Silicon Integrated Nanophotonics*
- 06/2015 - 09/2015 ■ **Research Internship**  
IBM Thomas J. Watson Research Center
- 09/2012 - 01/2013 ■ **Assistant in Instruction**  
Princeton University  
*Course: ELE 351 – Electromagnetic Field Theory*
- 09/2011 - 10/2016 ■ **Ph.D. Candidate**  
Princeton University  
*Dissertation: Noise Mitigation Techniques for High-Precision Laser Spectroscopy and Integrated Photonic Chemical Sensors*
- 05/2009 - 08/2009 ■ **NSERC USRA Candidate**  
University of Toronto

**Academics:** 12 Journal publications | > 30 Conference abstracts | 7 Invention disclosures

**Technical Skills:** Stochastic noise analysis | Regression models | Denoising algorithms | Device physics | Machine-learning | Mid- and Near-IR optics | Molecular spectroscopy (TDLAS/FRS/DCS)

**Software:** Github | Matlab | Python | Vim | Notepad++ | Atom | Microsoft Office Suite | Origin | Batch/powershell scripting | Remote networking - SSH/SFTP/VNC/RDP

**Awards & Honors:**

- OSA Ambassador Distinction (Optical Society of America)
- First Plateau Invention Achievement Award (IBM Research)
- First Patent Application Invention Achievement Award (IBM Research)
- Walbridge Fund Graduate Award (Princeton University)
- Alexander Graham Bell Canada Graduate Scholarship (NSERC, Princeton University)
- First Year Engineering Fellowship (Princeton University)
- NSERC Undergraduate Student Research Award (NSERC, University of Toronto)
- Wallberg Admission Scholarship (University of Toronto)
- Queen Elizabeth II Aiming for the Top Scholarship (University of Toronto)

**Total Awards Value: 156,840 USD**