


# Ming LYU (吕铭)

PhD candidate, Electrical Engineering, Princeton University

 [github.com/CareF](https://github.com/CareF)

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 Applied Physics, Optics, Photonics, Semiconductors, Computer Science



I am a PhD student doing research on Quantum Cascade Laser, with physics background and some experience of Quantum Information, Quantum Computing and Quantum Optics. I am interested in Computer Science and Technology and familiar with high-tech development.

## EDUCATION

**Princeton University**  
09/2016 - expected 2021

### PhD in Electrical Engineering

- Advisor : Dr. Claire Gmachl
- Quantum Cascade Laser and GaAs/AlGaAs Photonic Devices

**Tsinghua University**  
08/2012 - 07/2016

### B.S. in Physics, Minor in Computer Science

- Thesis : “*Long Coherence Time Quantum Memory on Ion Trap System with Dynamical Decoupling*” (Thesis Advisor : Dr. Kihwan Kim)
- Graduate with honor (“Ye Qisun” Award, Outstanding Graduate in Beijing)

## PUBLICATION

“**Design and Optimization of 14-20  $\mu\text{m}$  Wavelength GaAs/AlGaAs Quantum Cascade Lasers**”, 4th International Workshop on Infrared Technologies (2017), M. Lyu, C. Gmachl

“**Single-Qubit Quantum Memory Exceeding Ten-minute Coherence Time**”, Nature Photonics 11, 646-650 (2017), Y. Wang, M. Um, J. Zhang, S. An, M. Lyu, J.-N. Zhang, L.-M. Duan, D. Yum, K. Kim

“**Non-Markovian Dynamics of Open Quantum Systems without Rotating Wave Approximation**”, Arxiv :1047.5359 (2014), M. Tang\*, Y. Wu\*, M. Lyu\*, J. Tang, Z. Guo, T. Chen, X.-B. Wang (\*equal contribution)

## SOCIAL SERVICES AND ACTIVITIES

Vice-president of Association of Chinese Students and Scholars at Princeton University (ACSSPU)	03/2017 - PRESENT
President of Student Association for Science and Technology, Physics Department, Tsinghua University	06/2015 - 07/2016
Founder and Team Leader of the Debate Team in Physics Department, Tsinghua University	09/2013 - 05/2016
Vice-president of Student Union, Physics Department, Tsinghua University	09/2014 - 02/2015
Chair of Student Life and Right in Student Union, Physics Department, Tsinghua University	09/2013 - 09/2014
Zhihu.com (Chinese Quora) Outstanding Answerer on Physics and Quantum Physics, with 12.8k followers	

## PROFESSIONAL EXPERIENCE

**University of Waterloo**  
07/2015 - 09/2015

### Research Assistant, THE INSTITUTE FOR QUANTUM COMPUTING (IQC)

- Advisor : Dr. Raymond Laflamme, Dr. Guanru Feng
- Electron Spin Resonance implementation of Quantum Computing and Simulation

**Princeton University**  
2017 Fall

### Teaching Assistant, SCHOOL OF ENGINEERING AND APPLIED SCIENCE

- EGR 151 : Foundations of Engineering : Mechanics, Energy, and Waves
  - General physics for engineering freshmen
  - Lab sessions for physics and creative thinking
- ELE 308 : Electronic and Photonic Devices
  - Fabrication of Si-based devices like MOSFET, CMOS, PN junction, solar cells, etc.

## SKILLS

**Programing** Python, C, C++, Qt, OpenMP, MATLAB, Mathematica, Bash, Git,  $\text{\LaTeX}$ , Markdown

**Experiment** Cleanroom Fabrication, Nano-structure Imaging, Infrared and Laser Optics, Low Temperature Operation