

Ming LYU (吕铭)

PhD candidate, Electrical Engineering, Princeton University

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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.

EDUCATION

Princeton University
09/2016 - expected 2021

PhD in Electrical Engineering (GPA 3.891/4.0)

- Advisor : Dr. Claire Gmachl
 - Long wavelength Quantum Cascade Laser and GaAs/AlGaAs Photonic Devices
- Semiconductor Device Infrared Optics Laser and Detector Chemical and Bio-sensing

Tsinghua University
08/2012 - 07/2016

B.S. in Physics (GPA : 93.0/100, top 3/33), Minor in Computer Science (GPA 92.9/100)

- Thesis : “*Long Coherence Time Quantum Memory on Ion Trap System with Dynamical Decoupling*” (Thesis Advisor : Dr. Kihwan Kim)
- Graduate with honor : 2016 “Chi-Sun Yeh” Award (highest honor for physics undergraduate), 2016 Beijing Outstanding Graduate, 2013-2016 Outstanding Student Scholarship

SOCIAL SERVICES AND ACTIVITIES

Vice-president : Association of Chinese Students and Scholars at Princeton University (ACSSPU) 03/2018 - 04/2019

- Coordinated advertising and public relationships
- Built connection with student groups for unionization issue

President : Student Association for Science and Technology, Physics Department, Tsinghua University 06/2015 - 07/2016

- Led the update of the student-run server and department SNS website and FTP services
- Organized student academic colloquium
- Organized campus competition for China Undergraduate Physics Tournament

Vice-president : Student Union, Physics Department, Tsinghua University 09/2014 - 02/2015

- Coordinated the department hearing for students' right and benefit
- Coordinated department student orientation
- Connected students and school administration for housing issues
- Organized the practice of December-9th Chorus Competition

Founder and Team Leader : the Student Debate Team in Physics Department, Tsinghua University 09/2013 - 05/2016

Zhihu.com Outstanding Answerer on Physics and Quantum Physics 知乎 逸心 , with 16k 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
2019 Spring

Teaching Assistant, SCHOOL OF ENGINEERING AND APPLIED SCIENCE

- ELE 351 : Electromagnetic Field Theory and Physical Optics
 - Prepared and helped students with numerical simulation tools for Maxwell equations
- ELE 308 : Electronic and Photonic Devices
 - Fabrication of Si-based devices like MOSFET, CMOS, PN junction, solar cells, etc.
- EGR 151 : Foundations of Engineering : Mechanics, Energy, and Waves
 - Lab sessions for physics and creative thinking

PUBLICATION

“Design and Characterization of 14 –20μm Wavelength GaAs/AlGaAs Quantum Cascade Lasers”, Infrared Terahertz Quantum Workshop (2019), M. Lyu, Loren Pfeiffer, Ken West, 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)