

EDUCATION

- **University of California - Santa Barbara** Santa Barbara, CA
Ph.D. in Physics, Advisor John Martinis Expected 2020
- **University of California - Santa Barbara** Santa Barbara, CA
Master of Science in Physics, Advisor: John Martinis 2015
- **University of Wisconsin - Madison** Madison, WI
Bachelor of Science in Physics, mentor: Chun Lin 2006

EXPERIENCE

- **University of California - Santa Barbara** Santa Barbara, CA
Graduate Student Researcher - On site at Google Quantum Hardware Lab 2017 - Present
 - **Entanglement dynamics of a many-body localized system:**
 - **Hamiltonian recovery:**
 - **Machine learning physical device model from analog quantum dynamics:**
 - **Interface with theory collaborators:** Configure superconducting qubit experiments Calibrate superconducting qubit devices with tunable frequencies and interactions Develop and execute multi-qubit quantum algorithms
- **University of California - Santa Barbara** Santa Barbara, CA
Graduate Student Researcher 2011 - 2017
 - Room temperature deposition of sputtered TiN films for superconducting coplanar waveguide resonators SUST 27, 015009 (2014). arXiv:1306.2966 Demonstrated highest quality factor coplanar waveguide resonators in the literature at that time.
 - Dielectric surface loss in superconducting resonators with flux-trapping holes Publication: *SUST 29, 10 (2016)*. arXiv:1607.05841 Article awarded "SUST highlights of 2016"
 - Precision noise metrology of a quantum system: Increased measurement band by two orders of magnitude
 - Developed high-fidelity, two-qubit adiabatic controlled-Z gate with tunable coupling
- **University of California - Santa Barbara** Santa Barbara, CA
Teaching Assistant 2010 - 2011
 - **Honors experimental physics:**
- **Opticomp Corporation** Zephyr Cove, NV
Junior Test Engineer 2007 - 2010
 - **Responsibilities:** Wafer level device testing:
- **University of Wisconsin - Madison** Madison, WI
Student Research Assistant - Atomic Collisions Group, Advisor Chun Lin 2003-2007
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TECHNICAL SKILLS

- **Scientific programming:** python, numpy, scipy, pandas, matplotlib
 - data acquisition, analysis, and presentation.
 - Numerical simulations of quantum dynamics
- **Electronic test and measurement**
- **Materials science and device fabrication,** Reactive UHV sputter deposition, Inductively coupled plasma etching, optical lithography
- **Cryogenics:** Adiabatic demagnetization refrigerator, Dilution refrigerator

PRESENTATIONS

- **Contributed presentations: APS March Meeting 2012 - 2020:** Selected Topics: High quality factor TiN resonators, Precision noise metrology of a superconducting qubit, High fidelity two qubit gates with tunable coupling
- **Invited presentation: Quantum Science Symposium Europe 2018:** Title: “gmon superconducting qubits: a programmable, high fidelity quantum simulation platform”