

EDUCATION

Stanford University
Ph.D. Applied Physics
Advisor: Amir Safavi-Naeini

Stanford, CA
Sept 2024–present

Stanford University
B.S. Physics, GPA: 3.916

Stanford, CA
Sept 2020–June 2024

PUBLICATIONS

- [1] Alexander Y. Hwang, Hubert S. Stokowski, Luke Qi, David K. Concepcion, Geun Ho Ahn, **Ethan Rosenfeld**, Taewon Park, Devin J. Dean, Martin M. Fejer, Amir H. Safavi-Naeini. “Ultra-wideband electrically-tuned mid-infrared on-chip parametric oscillator”. <https://arxiv.org/abs/2604.06673>, 2026
- [2] **Ethan Rosenfeld**, “A Kinetic Inductance Parametric Amplifier for Quantum Sensing”. *Undergraduate Thesis*, 2024
- [3] Wang, BY., Chen, Z.C., Mohajeet Bhuckory, Tiffany Huang, Andrew Shin, Valentina Zuckerman, Elton Ho, **Ethan Rosenfeld**, Ludwig Galambos, Theodore Kamins, Keith Mathieson, Daniel Palanker. “Electronic photoreceptors enable prosthetic visual acuity matching the natural resolution in rats”. *Nature Communications*, 2022

AWARDS

National Science Foundation Graduate Research Fellowship (NSF GRFP)	2024
Stanford Major Grant	2023
Stanford Physics Department Research Grant	2021
Stanford Boothe Writing Prize Nominee	2021

RESEARCH

Ph.D. Research with Safavi-Naeini Group (LINQS) **Stanford, CA**
Advisor: Amir Safavi-Naeini *Jan. 2025–present*
Nonlinear optics with lithium niobate nanophotonics. Building frequency combs and tunable mid-infrared sensors.

Ph.D. Rotation with Vuckovic Group **Stanford, CA**
Advisor: Jelena Vuckovic. *Sept. 2025–Dec. 2025*
Quantum squeezing in silicon carbide nanophotonics.

Undergraduate Research with Safavi-Naeini Group (LINQS) **Stanford, CA**
Advisor: Amir Safavi-Naeini *Sept. 2022–Aug. 2024*
Superconducting circuits and quantum acoustics. Built parametric amplifier/squeezer + impedance matching circuit for quantum acoustic resonators.

Undergraduate Research with Palanker Group **Stanford, CA**
Advisor: Daniel Palanker. *Mar. 2021–Dec. 2021*
Subretinal neural interface for restoration of eyesight. Electromagnetic simulation and microscopy image analysis.

WORK EXPERIENCE

R&D Intern at Promaxo Inc. **Oakland, CA**
Supervisors: Dr. Molly Sadinski, Dr. Ram Narayanan
Built signal processing system to eliminate noise spikes and high white noise for image reconstruction in low-field MRI system.

PRESENTATIONS

“A Kinetic Inductance Parametric Amplifier for Quantum Sensing” *May 2024*
Stanford Physics Dept. Senior Thesis
“Far-field Modeling of Electric Current in the Rat Head” *June 2021*
Stanford Physics Summer Undergraduate Research Program Symposium

RELEVANT COURSEWORK

Physics 104 – Electronics lab
Physics 110 – Advanced mechanics
Physics 120/121 – Electromagnetism
Physics 130/131 – Quantum mechanics
Physics 170/171 – Statistical mechanics
Physics 230 – Graduate quantum mechanics
Physics 212 – Graduate statistical mechanics
Applied Physics 272 – Solid-state physics
Applied Physics 203 – Atomic/optical/molecular physics
Applied Physics 228 – Quantum hardware
Applied Physics 201 – Electrons and photons
EE 224 – Quantum control and engineering
EE 236C – Lasers
EE 332 – Laser dynamics
EE 346 – Nonlinear optics
EE 276 – Information theory
EE 235 – Analytical methods in biotechnology
EE 336 – Nanophotonics
Math 131P – Partial differential equations
Math 113 – Proof-based linear algebra
CS 106B – Programming Abstractions
CS 103 – Mathematical Foundations of Computing
Chem 33/121 – Organic chemistry