

University of Rochester

Summer 2025 undergraduate research in Physics, Optics, and Astronomy

Taytum Nelson, class of '27 at Minnesota State Moorhead, studied the efficiency of indirect evaporative cooling systems with wicking metals with Professor Chunlei Guo at the Institute of Optics. She plans to apply to graduate school for applied physics.

Matthew Goh, class of '27 at Amherst College, worked with Professor Nicholas P. Bigelow's research group to characterize and mitigate noise in an external cavity diode laser so that it could be used to produce Bose-Einstein condensates. He plans to apply to graduate school for physics.

Edward Brown, class of '28 at Wake Forest University, worked to configure the QICK (Quantum Instrumentation Control Kit) for pulse generation and data readout in semiconductor spin qubit experiments with Dr. John Nichol. He also designed a circuit board to house chips containing qubit devices. He plans to apply to graduate school for physics.

Kellen Pollock, class of '26 at Hillsdale College, I researched cross-coupling in silicon nitride waveguides with Dr. Jaime Cardenas. He is unsure whether he will apply to a graduate-level program after receiving my undergraduate diploma.

Emilio Benitez Aguinaga, class of '25 at Allan Hancock College transferring to California Polytechnic State University class of '27, analyzed counter rotating galaxies and their respective environments and morphological types with Professor Kelly Douglass and graduate student Nitya Ravi. He plans to apply to graduate school for astrophysics.

Gioia Zincone, class of '26 at the University of Georgia, worked with Dr. Sean Tanny on plan quality comparison metrics for daily online adaptive radiation therapy. She plans to apply to graduate school for medical physics.

Joseph Murphy, class of '26 at University of Texas at Austin, I studied resistivity saturation in metals using numerical calculations with Professor Chaitanya Murthy. I plan to apply to graduate school for theoretical condensed matter and/or quantum information physics as he graduates from the University of Texas at Austin in the spring of 2026.

Donovan Dyk, class of '27, studied resonator reflection measurements under Professor Machiel Blok using Qiskit Metal and Ansys electronics to determine how standing waves affect resonator coupling strength. He plans to apply for graduate school in physics and research quantum computing.

Sara Conti, class of '27 at Hamilton College studied simulations of supernova neutrino signals in an upgrade of the IceCube detector under Professor Segev BenZvi. She plans to apply to graduate school for particle physics.