

## PHYSICS AND ASTRONOMY COLLOQUIUM (In Person Only)

**Gina Passante** California State University, Fullerton

## "Teaching & Learning Quantum Computing"

## <u>Abstract</u>

As quantum information science and engineering continues to gain momentum, more courses dedicated to teaching these ideas are being offered at every instructional level. As new courses, programs, and certificates are being developed, there is a unique opportunity for research-based instruction to be embedded into the curriculum. Our work focuses on the introduction of quantum computing content in advanced undergraduate and early graduate courses. At this level, students have taken a significant number of technical courses. At the same time, students enroll in these courses from a variety of majors, including math, engineering, computer science, and physics. We focus on understanding student thinking as they learn foundational quantum information topics from these diverse backgrounds. I will present results on where quantum computing courses are being offered, what content in taught, the development of a conceptual survey on quantum computing, and research into student understanding.

Wednesday, October 9th, 2024 3:30 p.m. PST BWC A104