



Department of Physics and Astronomy
FALL 2022 Colloquium Series

“Probing Quantum Mechanics with Silicon Electronics”

Dr. Justin Perron
California State University San Marcos

In the early 20th century science underwent a “*quantum revolution*” where the development of quantum mechanics fundamentally changed the way we understand the universe. Now, 100 years later, we are in the middle of a 2nd quantum revolution. We are developing technologies with the ability to coherently control individual quantum systems. In addition to applications like quantum sensing and quantum computing these technologies enable researchers to experimentally investigate the strange and counterintuitive aspects of quantum mechanics at unprecedented levels. Gate-defined quantum dots are one of many physical systems where this quantum control has been demonstrated. In this talk, after an introduction into how these quantum dots work, I will discuss how they can be used to examine the quantum measurement process and help shed light on what constitutes a measurement and the collapse of a wave function.

Thursday, October 27, 2022

4:00 - 5:20PM

MND1015

Open & Free to all students, faculty and public