

PURDUE QUANTUM SCIENCE AND ENGINEERING INSTITUTE

Innovating quantum technologies

Quantum Communications and Networking at Oak Ridge National Laboratory (ORNL)

Nicholas A. Peters, Group Leader and Senior Scientist

Quantum Information Science Group, Oak Ridge National Laboratory

Wednesday, March 31, 11 a.m.: [Zoom Link](#)

In this talk, we describe some of ORNL's most recent and ongoing work in quantum communications. In the first part of the talk, we will focus on quantum approaches to improve cybersecurity. In the second part of the talk, we will describe recent quantum networking experiments and finish by looking to a future where quantum repeaters enable continental-scale quantum communications.



Nicholas (Nick) Peters is the group leader of Oak Ridge National Laboratory's (ORNL) Quantum Information Science Group as well as a Senior Scientist. Before joining ORNL, he worked for nearly a decade in applied research for the Applied Communications Sciences/Telcordia Technologies/Bell Communications Research (Bellcore) family of companies. Prior to that, he earned his PhD in Physics studying mixed-state photonic entanglement from the University of Illinois Urbana-Champaign. He has coauthored over 80 peer-reviewed journal and conference papers. He has coinvented fourteen US patents, at least three of which are currently licensed. Nick has won multiple corporate-level awards as well as a Thomas Alva Edison Patent Award. He is a member of The American Physical Society, as well as a Senior Member of The Optical Society (OSA) and the Institute of Electrical and Electronics Engineers (IEEE). He is an active referee and has served as an Associate Editor for Optics Express since 2016.