



OSE SEMINAR SERIES



Drs. Paul Davids & Anna Tauke-Pedretti
of the Center for Integrated Nanotechnologies (CINT)
within Sandia and Los Alamos National Labs
CHIP SCALE QUANTUM PHOTONICS

Thursday, February 5, 2016 from 11:00 AM to Noon, CHTM, Rm. 101

Abstract:

In this talk, Dr. Davids will present an overview of our effort in developing chip-scale quantum photonics using Sandia's Si Photonics Platform. Dr. Tauke-Pedretti will discuss recent work done at Sandia on quantum sources being developed in the DOE Office of Science Grand Challenge LDRD on micro-systems-enabled quantum key distribution. In particular, I will focus on an electrically-pumped, AlGaAs-based photon pair source which utilizes spontaneous parametric downconversion.

Bio:

Paul S. Davids received his Ph.D in theoretical condensed matter physics in 1993 from Indiana University while as a graduate research associate in Theoretical Division at Los Alamos National Lab. He was then a post-doc in the Electronics Device and Materials group from 1993-1996. He then joined Intel Oregon and held various research positions from 1996-2008. He joined Sandia National lab in 2008 where he is currently a PMTS. He has over 75 papers and 23 issued patents with 18 pending.

Anna Tauke-Pedretti received the Ph.D. degree in Electrical and Computer Engineering in 2007 from the University of California, Santa Barbara. Her dissertation research involved the design, fabrication and testing of InP-based photonic integrated circuits for high-speed wavelength conversion. In 2008, she joined the technical staff at Sandia National Laboratories and has worked on a variety of compound semiconductor optoelectronic devices. Her work has included entangled-pair photon sources, optical injection locking, high-speed modulators, high-efficiency solar cells and infrared detectors. She has more than 60 conference and journal articles and has been awarded 7 patents.

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