

Physics Colloquium

Michigan Technological University

Thursday, October 23, 2008

4:00 – 5:00 pm

Room 139, Fisher Hall

Overview of Foundations for New Sensor Concepts Exploiting Orbital Angular Momentum (OAM) Beams

Rich Freeling

SRI International

Ann Arbor, MI

Abstract: In this talk, an overview of foundational aspects of a new class of sensors that would exploit orbital angular momentum content of active as well as passive electromagnetic radiation will be presented.

Biography: Dr. Richard Freeling is a Principal Physicist with SRI International, Ann Arbor, MI. From 1996 to January 2008, he was employed as a Principal Scientist in the Sensor and Information Processing Group at the General Dynamics Advanced Information Systems Ann Arbor Research and Development Center. At General Dynamics Ann Arbor, Dr. Freeling served as Program manager as well as Principle Investigator on several programs. He initiated an AFRL sponsored program to evaluate and demonstrate Virtual State Spectroscopy, a novel stand-off sensing approach using entangled photon absorption-induced fluorescence for remote detection and identification of bio-hazard aerosols. He has been employed in DoD and government research activities since receiving his PhD in theoretical physics from the University of Michigan.