

When: Friday 13:50 – 14:50

Where: ETB 1035

Speaker: Prof. Philip Hemmer

Professor
Department of Electrical & Computer Engineering
Texas A&M University



Title: Biosensing with nanodiamonds and other non-bleaching particles

Date: 10-13-2017

Abstract: There has been much recent interest in ultrasmall, non-bleaching fluorescent particles for biological markers. Nanodiamonds are of special interest because of their extremely low toxicity and potential for sensing magnetic & electric fields, and temperature. Ceramic oxide upconversion particles are also of interest for their ability to overcome bio-fluorescent background. In this talk I will discuss our efforts to overcome materials limitations of these systems, and will also show preliminary data from selected biological demonstration experiments.

Biography: Dr Hemmer received his B.S. in physics from the University of Dayton, and his Ph.D. in physics from MIT. He worked many years as a physicist for the Air Force Research Laboratory at Hanscom, AFB, MA. Since 2002, he has been with the ECE Department at Texas A&M University. Dr Hemmer's current research interests include quantum optics and bio-sensing especially with diamond color centers, subwavelength imaging, quantum computing in solids, plasmon-based nano-optics, slow and stopped light, and ultrasound imaging.