# Opportunities for Quantum Biosensing with Fluorescent Diamond and Phosphor Nanoparticles

P R Hemmer[1]

[1] *Texas A&M University, College Station TX, USA*
Contact Email: prhemmer@ece.tamu.edu

Fluorescent nanoparticles can probe biological processes on the nanoscale, sometimes with the potential for quantum-enhanced sensing. I will give a brief overview of the field with emphasis on opportunities for hybrid integration of diamond and upconversion phosphor particles. In particular, I will discuss some experimental examples of using both types of particles as biological probes. I will also discuss opportunities to use the quantum nature of some of the fluorescent particles to improve sensitivity.