ECE Seminar in Nanophotonics

Optical Excitation of Rare Earth Ions in GaN

John Zavada

Rare earth doped materials have played an important role in many optoelectronic and photonic applications, including solid-state lasers, phosphors for color displays, and optical fiber telecommunications. Incorporation of rare earth elements into GaN semiconductor host materials is a promising area of research for full color displays and high power lasers. A central issue in such applications is the optical activity of the rare earth ions. This talk will focus on the optical activity of Eu and Er ions in GaN thin films. Different methods for exciting the rare earth ions and estimates of the percentage of optically active ions will be presented.

Dr. John Zavada joined the National Science Foundation (NSF), Washington, D.C., in August of 2010 and serves as Program Director in the Division of Electrical, Communications and Cyber Systems (ECCS). His program involves research projects in optics and photonic devices. He is also a research professor in the NYU Tandon School of Engineering. Previously, Dr. Zavada served as program manager in the Electronics Division of the Army Research Office in the Research Triangle, NC, where he managed optoelectronics programs in photonic devices and advanced materials. Dr. Zavada has had two assignments at the Army's European Research Office in London, England, where he directed R&D programs in optoelectronics throughout Europe. His research has focused on the optical and magnetic properties of materials, in particular hydrogen and rare earth impurities in III-V semiconductors. Dr. Zavada has authored more than 160 publications and has given over 60 conference presentations. He is a Fellow of the Optical Society of America, the SPIE, and is a recipient of the Army's Meritorious Civilian Service Award.

Time: October 6th, 2017, Friday, 3:00 pm - 4:00 pm
Location: ECE 101 (Lankford Lab), Dept. of Electrical and Computer Engineering
Hosted by: Jingyu Lin & Hongxing Jiang