

The Department of Chemistry and Biochemistry

Seminar Series

Presents a Seminar Titled:

“Luminescent Boron Biomaterials for Oxygen Sensing and Imaging”

Presented By



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Luminescent boron dyes are known for their intense fluorescence, 2-photon absorbing capability, and environmentally sensitive emission. They also display unusual optical properties in the solid state. Specifically, difluoroboron β -diketonate-poly(lactic acid) analogues exhibit both intense fluorescence and long-lived room temperature phosphorescence. When fabricated as nanoparticles, these simple, dual-emissive biomaterials serve as optical probes for cell biology and as ratiometric tumor hypoxia imaging agents, with impressive combined spatial and temporal resolution. Hypoxia is also relevant in wounds, tissue engineering and other contexts. Boron nanoparticles are also finding application as a new kind of functional brain imaging agent, advancing neuroscience and epilepsy research in important ways. Materials synthesis, structure-property relationships, and biomedical applications will be discussed.

Friday, November 1, 2013 at 3:00 p.m. in OCNPS 100