

# IQSE AMO QO Seminar Series

Tuesday, April 4th, 11:30 am ZOOM & IQSE  
seminar room (MPHY 578)

Pizza will be served for IQSE members at 11:00 am. The talk will start around 11:30 am

## Dr. Ted A. Laurence

(Lawrence Livermore National Laboratory)

### **Solutions for 3D Bioimaging with Applications in Host Pathogen Science and Bio-energy**

**EVENT DETAILS:** Dynamic 3D Imaging is an enduring need for understanding biological systems and interactions. For host pathogen science, such imaging is necessary to understand the sequence and timing of events in pathogen invasion of host cells. The interaction of bacteria and fungi with plant roots (the rhizosphere) and bacteria and algae in aqueous environments can affect growth of plants or algae positively or negatively, and understanding these interactions are crucial to development of effective bioenergy. At LLNL, we have applied multimodal multiphoton microscopy in combination with adaptive optics to the imaging of the rhizosphere without labeling and lattice light sheet microscopy to the imaging of the behavior of host cells upon infection by pathogenic bacteria. We are also developing a new 3D quantum imaging technique (3DQ) that will allow us to obtain multiple dimensions of information for each fluorescence emission or scattering event. I will discuss the basics of each of these solutions and the challenges each faces to reach its potential.

**ZOOM information:**

<https://tamu.zoom.us/j/98156251523?pwd=QVdSdGxtL1UyY0g1L083SU5QR0QrUT09>

Meeting ID: 981 5625 1523

Passcode: 297578

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