

Lester Wolfe Workshop in Laser Biomedicine

Molecular tools in diagnostic medicine: The opportunity for biomedical optics

Recent ground-breaking progress in cell and molecular biology has resulted in tremendous advances in understanding the molecular underpinnings of human diseases. These new discoveries have given rise to the new discipline of molecular diagnostics that continues to revolutionize the practice of diagnostic pathology and in vivo imaging. In parallel, the development of targeted therapies against specific molecular markers has placed additional demands for molecular-specific characterization of cells and tissues. This workshop will introduce the participants to the current challenges and opportunities in molecular diagnostics, with special emphasis on the contribution of optical and spectroscopic methods.

State-of-the-art in molecular diagnostics

John Iafrate, Massachusetts General Hospital/ Harvard Medical School

Flip-flopping contrast mechanisms in optical imaging

Samuel Achilefu, Washington University School of Medicine

Molecular pathology with mid-infrared chemical imaging

Rohit Bhargava, Beckman Institute at the University of Illinois

Imaging of molecular assemblies for cancer detection, monitoring and therapy: A plasmonic approach

Konstantin Sokolov, University of Texas, at Austin

Tuesday, November 25, 2008, 3:30-6:00 PM

Massachusetts Institute of Technology

Grier Room, 34-401

77 Massachusetts Avenue, Cambridge

Refreshments served at 3:00 PM

Sponsored by the G. R. Harrison Spectroscopy Laboratory, MIT; MGH Wellman Center for Photomedicine; Harvard—MIT Division of Health Sciences and Technology; and CIMIT (Center for Integration of Medicine and Innovative Technology).