

Biomedical Optics

Potential Research Talk Topics

Bioluminescence
Camera pill endoscopy (video capsule endoscopy)
Confocal endomicroscopy
Digital endoscopes
Expansion microscopy
Fiber bragg grating temperature sensors
Fiber optic biosensors
Fluorescence imaging for cancer
Focusing light through turbid media
Frequency combs
Infrared laser lithotripsy
Infrared nerve stimulation
Label-free super-resolution microscopy
Laser capture microdissection
Laser flow cytometry
Laser doppler flowmetry
Laser liposuction
Laser portwine stain therapy
Laser skin resurfacing
Laser speckle imaging
Laser tattoo removal
Lensless microscopy
Light sheet microscopy
Miniature endoscopes
MRI guided laser ablation of brain tumors and epilepsy
Multimodal imaging (e.g. OCT + fluorescence)
Multiphoton microscopy
Nanoparticle mediated photothermal therapy
OCT angiography
OCT elastography
OCT guided laser procedures
Optical clearing agents
Optical transillumination in dentistry
Optical glucose sensors
Optical tissue phantoms
Optical technologies for low resource settings
Optical trapping using vortices
Optogenetics
Photoacoustic tomography
Photodynamic therapy for non-cancer applications
Photoporation
Polarization sensitive OCT
Photon migration techniques (diffuse optical tomography)
Photonic crystal optical fibers
Raman spectroscopy
Short wavelength infrared (SWIR) imaging
Thermal imaging
Ultrashort pulse lasers in ophthalmology
Wearable optical sensors