

## **Lester Wolfe Workshop in Laser Biomedicine**

# **Probing blood disorders with light**

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Biomedical optics is playing an ever-increasing role in the diagnosis, monitoring and treatment of a number of diverse diseases. This workshop will feature the role of light in probing and monitoring of blood disorders. Malaria is one of the largest killers in the under-developed world and optics and spectroscopy may provide a cost-effective solution to detection and monitoring. Optics may also be used to monitor blood glucose levels in diabetes in a less invasive fashion. Sickle-cell anemia is another third-world blood disorder for which optics and imaging is being used to study the mechanism of vaso-occlusion.

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**Keynote: Energy, evolution, and cancer**

Donald Coffey, Johns Hopkins University

**Compositional and structural assessment of biological tissues with polarized light**

Alex Vitkin, Ontario Cancer Institute/ Princess Margaret Hospital

**Raman spectroscopy is paving the way towards molecular diagnosis of malaria**

Torsten Frosch, Institute for Photonic Technologies, Jena, Germany

**Sickle cell disease: physics and pathophysiology**

L. Mahadevan, Harvard University Systems Biology, Harvard Medical School

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Tuesday, November 24, 2009, 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 Laboratories, the Harvard-MIT Division of Health Sciences and Technology, and the Center for the Integration of Medicine and Innovative Technology (CIMIT)