



Associate Prof Seemantini Nadkarni
Harvard Medical School, USA

Seemantini Nadkarni, PhD, is Associate Professor at the Wellman Center for Photomedicine at Harvard Medical School. Her work encompasses both fundamental and translational areas of research, focused on the innovation of novel optical technologies for applications in Hematology, Cardiology, cancer research and in vitro diagnostics. Her laboratory develops optical devices to detect unstable plaque, portable sensors for whole blood testing using a drop of blood, and new imaging tools to quantify the micromechanical properties of the tumor extracellular matrix.

ABSTRACT

Optical Sensing of Hemostasis and Blood Coagulation

Impaired coagulation is a leading cause of acute hemorrhage or thrombosis in hospitalized patients. In this talk, we discuss new optical tools to comprehensively evaluate all aspects of the coagulation cascade including primary and secondary hemostasis, and fibrinolysis. We will discuss the opportunity to quantify multiple, vital coagulation metrics within minutes using a drop of whole blood at the patient's bedside to facilitate the early detection and prediction of acute hemorrhage or thrombotic states. We will further describe optical tools to visualize the dynamics of fibrin clot polymerization and microstructure to obtain a complete assessment of impaired hemostasis in patients.