Mathematical Models for Optical Coherence Elastography

Silvia Barbeiro[1],

[1] CMUC, Department of Mathematics University of Coimbra silvia@mat.uc.pt

In this talk we discuss a mathematical model to reconstruct the mechanical properties of an elastic medium, for the optical coherence elastography imaging technique. We start by addressing the numerical simulation of the mechanical wave propagation and induced displacements. This direct problem is the computational basis to solve the inverse problem which consists of determining the set of parameters that characterize the mechanical properties of the medium, knowing the displacement fields for a given excitation.