



Joint LLC Seminar

Monday November 21st, 15:15
The Rydberg Lecture Hall, Dep. of Physics

Malin Malmsjö
Ophtamology, Lund University

Photoacoustic imaging – clinical transition

Photoacoustics is currently one of the most rapidly developing biomedical imaging techniques. It is a novel hybrid imaging technology that combines the strengths of optical and ultrasound imaging, to reveal the molecular composition of tissue at high resolution. The tissue is irradiated with pulsed laser light, which causes so-called thermoelastic expansion, which in turn generates mechanical waves that can be detected by the ultrahigh-frequency ultrasound scanner. The technique provides a spectral signature of the tissue with spatial resolution. The detection of small variations in tissue composition by photoacoustics is hence superior to that possible with other methods. So far, photoacoustics has mainly been used in experimental research, and we are among the first in the world to develop the technique for application in humans. Complementary biophotonic systems are used to investigate the spectral signatures of various tissues, which are then used to improve the differentiation ability of photoacoustics. Her research group has further developed diffuse reflectance spectroscopy to include an extended wavelength region and is also investigating details of the spectral signature using so called hyperspectral microscopy.

The Rydberg Lecture Hall is located at the Department of Physics, Professorsg. 1

**Coffee and refreshments will be served
before the seminar, from 15:00**



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