



TECHNISCHE UNIVERSITÄT
CHEMNITZ

Institut für Physik Physikalisches Kolloquium



Mittwoch, 09.11.2016, um 16:00 Uhr

Ort: Reichenhainer Str. 90;
Zentrales Hörsaal- und Seminargebäude,
Raum 2/N013

Prof. Dr. Ioan Notingher

University of Nottingham, UK
School of Physics and Astronomy

Raman micro-spectroscopy for biomedical applications: from bio-nanomaterials to cell imaging and diagnostics

Advances in our understanding of the molecular biology of cells have led to a revolution in the treatment of many diseases, development of a wide range of therapies, as well as fundamental understanding of the links between cell biochemistry and biological function. However, understanding the molecular interactions which are responsible for cellular processes and diseases require new methods for studying biological nanomaterials and imaging of cells and tissues. Such methods must be able to provide detailed biochemical information in biological samples without using labelling or other invasive procedures and be suitable for dynamic molecular processes in live cells.

The talk will introduce the basic features of Raman micro-spectroscopy (RMS) and discuss potential advantages for biomedical research. Examples of several techniques based on RMS will be presented as follows:

- Bio-nanomaterials: molecular orientation in individual peptide nanotubes (combined polarised Raman spectroscopy- Atomic Force Microscopy)
- Label-free studies of live cells: from Raman-activated cell sorting of stem cells and time-lapse
- Molecular imaging of cells
- Tissue imaging and diagnosis: towards fast and automated spectral histopathology.

Alle Zuhörer sind ab 15:45 zu Kaffee und Tee vor dem Hörsaal eingeladen.

Informationen zum Vortrag erteilt:
Prof. Dr. Georgeta Salvan, Tel. 0371 531-33137



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