

# **Seminář odd. 26**

## **Tenkých vrstev a nanostruktur**

*Fyzikální ústav AVČR, Cukrovarnická 10, Praha 6*

*datum: 9. 6. 2015 úterý*

*čas: 10:00*

*mítnost: knihovna, budova A, 1.p.*

### **TÉMA**

## **Single-Molecule Junctions in Strong Optical Fields**

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In order to advance the development of unimolecular electronic devices (e.g. film devices) it is mandatory to improve understanding of electron transport and its loss mechanisms in single molecules. In this aspect, multi-parameter studies are required to provide more information on such systems.

We developed a method which allows us to measure single-molecule junctions in strong optical fields. The molecules are selfassembled on a planar metal substrate and contacted by a metal-covered glass tip employed in scanning near-field optical microscopy (SNOM). The molecules are exposed to a photon flux guided through the SNOM-tip that at the same time provides the electrical contact. This method can be employed to investigate a variety of nearly unexplored properties in single-molecule junctions such as photocurrent generation and current induced vibrational excitations by directly measuring the phonon distribution by Raman spectroscopy.

odborný garant: *Hector Vazquez, PhD.*