

# **Seminář odd. 26**

## **Tenkých vrstev a nanostruktur**

*Fyzikální ústav AVČR, Cukrovarnická 10, Praha 6*

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### **TÉMA**

#### **Electrical characterization of semiconductor nanostructures by scanning probe microscopy based techniques**

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The capability of simultaneous detection of forces and currents at the nanometer scale has led to a rapid development of a variety of scanning probe microscopy techniques over the last decades. Among these techniques are conductive atomic force microscopy (C-AFM), Kelvin probe force microscopy (KPFM) and piezoresponse force microscopy (PFM) which utilize a conductive probe during the measurement process. We demonstrate that these techniques can be applied in a conjunction to study electrical transport in semiconductor nanorods (NR), nanowires (NW) and nanodots (ND) as well as for the investigations of electrical properties of defects in epitaxially grown semiconductor thin films. The results on several material systems for optoelectronic and photovoltaic applications such as InAs/GaAs (NW, ND), ZnO (NR) and GaInP/Ge are presented.