

# CAMT Seminar

## “Overview of CEITEC Nano facility and Case Study Showing Fabrication & Characterization of CNTs Coated by TiO<sub>2</sub>”

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Location: Main Conference Room (1st floor), Bldg. A12

Center for Atomic and Molecular Technologies (CAMT)

(A12 棟 1 階会議室)

### Abstract

Central European Institute of Technology (CEITEC, <https://www.ceitec.eu/>) was established in 2011 as an interdisciplinary institute supported by two major Brno's universities, Masaryk University and Brno University of Technology. CEITEC provides access to 12 core facilities equipped with cutting-edge technologies in life, nanotechnologies and material sciences. This talk will introduce the core facility CEITEC Nano <http://nano.ceitec.cz/> for nanofabrication, nanocharacterization, structural analysis and X-ray tomography. The facility was used to prepare and characterize multi-walled carbon nanotubes (CNTs) modified by atomic layer deposition (ALD) of TiO<sub>2</sub>. The MWCNTs were grown by catalytic chemical vapor deposition on Si and Si/SiO<sub>2</sub> substrates using Fe catalyst. Since the ALD is a self-limiting surface process, it is important to understand how it proceeds on the inert and nanostructured surface of carbon nanotube forest. Therefore, we tested different plasma modifications of MWCNTs surface (oxygen plasma treatment, carboxyl plasma polymers) prior to the ALD. The MWCNTs were also tested as a part of the gas sensor for ammonia.

(Host: Satoshi Hamaguchi Ext:7913)