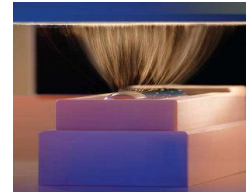


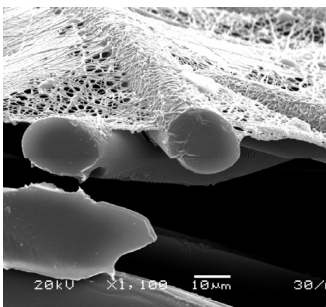
Mission

Center for Nanotechnology was found in early 2010 as an informal platform of three departments at the **Czech Technical University in Prague** (Dept. of Mechanics, Dept. of Physics and Dept. of Building Structures) with the joint interest at the search for potential **applications of nanotechnology in construction industry**.



Main focus areas

- **Fundamental research** in civil engineering with the general aim of application of **nanotechnology**, and especially **nanotextiles, in construction industry**.
- **Applied Science**, i.e. cooperation with the industry on the development of suitable **applications** of perspective nanotechnologies and their implementation in **industrial practice**.
- **Development to Science** via leading of PhD. students, publication in impacted journals, solution of joint research projects.



Research Areas

- Development of **protective layers** of building materials.
- Search for new materials based on **nanotextiles** with controlled features (e.g. hydrophobicity, antibacterial effects, controlled permeability, anti-corrosion, anti-abrasion features, etc., filtration of air/liquid).
- Incorporation and growth (nucleation) of **nanoparticles** on textile net in industrial application (e.g. using Nanospider).
- **Modification** of building materials with nanotextiles, nanoparticles or both.

Facilities

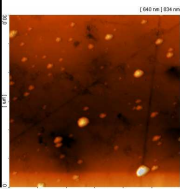
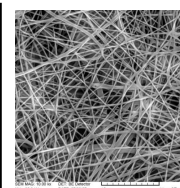
- Electron microscope XL30 ESEM TMP Philips (SE, BSE, EDX)
- Atomic Force Microscope (DME)
- He-Porosimeter, Calorimeter
- Nanoindenters: Hysitron Tribolab system (quasi-static nanoindentation, DMA, modulus mapping, scratch test, in-situ SPM imaging); CSM Nanohardness tester (quasi-static nanoindentation, climatic chamber 10-40 C, 20-95% R.H.); Micromaterials Nanotest (quasi-static nanoindentation 0-500 mN, high temperature testing 20-500 C)
- Nanotextile production: NANOSPIDER, Elmarco co.



Contact Persons

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nanofibers

[1000 x ZOOM]

a human hair

