



FRONTIERS Bio-Nano Winter School 2008



Integration of Nanotechnology-Related Life Science Research in Europe

Zermatt (Switzerland), March 9-13, 2008

4 participants per network partner

Topics

Drug delivery - Methods, biomaterials, biocompatibility

Nanoparticles as drug delivery carriers

Biocompatibility of artificial biointerfaces

Chemical, topographical and elastic properties of interfaces and scaffolds

3D scaffolds for bioreactor and in vivo applications

Cell attachment/spreading/proliferation/differentiation

Nanopores and nanochannels as sensors

Fabrication of nanopores and nanochannels

Biological nanopores/nanochannels

Molecular machines and switches - Fundamentals

Artificial vs. natural molecular machines

Exploitation of molecular machines - Techniques

The role of mechanics in life - a perspective from the nanoscale

Cantilever-based biosensors

Optical biosensors

Application of biosensors - sensitivity issues, medical diagnostics

Imaging techniques - AFM, STM, Nano-Optics

Nano-detectors, Nano-sensors, Nano-manipulation

Functionality of nanostructured surfaces

Nanostructured surfaces for biological applications

Microfluidics and lab-on-a-chip

Registration details will follow later

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