

NSI

Nanostructured Surfaces and Interfaces

Objectives

The research project cluster NSI links three core competences in the field of nanoscience and -technology in the region of Linz and Upper Austria. These are biosystems, nanocomposites, and surfaces/interfaces. Additional contributions are from the topical field semiconductor technology. The linking of these established core competences, and the participation of industrial partners also from other regions of Austria, is expected to release synergies, and to open new fields of applications. In addition, the project provides positions for graduate and undergraduate students, and thus contributes to the nanoscience/technology program at the Johannes Kepler University in Linz.



project logo; background shows a copper surface that was nanostructured by self-organization

Project description

Nanostructured surfaces and interfaces are fabricated with various top-down and bottom-up techniques, characterized in a concise manner, and optimized for potential applications. This happens in three topical fields: (i) Biosystems, for which surfaces are nanostructured and bio-functionalized in order to either localize single bio-molecules, or to allow selective cell cultivation. (ii) Nanocomposites, for which specific nanocrystals or -particles are synthesized. These are then embedded in a polymer matrix to modify the optical, electrical, thermal, and magnetic properties. (iii) Metallic Clusters, the properties of which are characterized by newly developed, process compatible optical techniques. The topical fields share the methods for nanostructuring and nanocharacterization in an interdisciplinary manner.

Number of RTD projects in the cluster:	9 projects		
Recent funding period:	01.03.2007 - 28.02.2009		
Overall planned duration:	01.03. 2005 - 28.02.2011		
Project volume:	1 st funding period	01.03.2005 - 28.02.2007:	€ 1,800,484,-
	2 nd funding period	01.03.2007 - 28.02.2009:	€ 2,633,843,-
Funding:	1 st funding period	1.03.2005 - 28.02.2007:	€ 1,506,775,-
	2 nd funding period	01.03.2007 - 28.02.2009:	€ 2,009,468,-

Project partners

- Johannes Kepler Universität Linz
Institute für
 - Atom und Oberflächenphysik
 - Angewandte Physik
 - Biophysik
 - Halbleiter- und Festkörperphysik
 - Anorganische Chemie
- Upper Austrian Research GmbH
- Universität Wien
 - Institut für Pharmakologie und Toxikologie
- TU Wien
 - Institut für Chem. Technol. Anorg. Stoffe
- Hueck Folien GmbH
- Profactor GmbH
- Electrovac GesmbH
- Tigerwerk GmbH&Co.KG
- SCL SensorTech GmbH

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