

1. Project Proposal Information

Project Proposal Title	Formation of biocompatible hydroxyapatite composite coating reinforced with carbon nanotubes on titanium alloys
Project Proposal Acronym	
Call Identifier	FP7-NMP-2012-CSA-6 FP7-NMP-2012-SME-6 FP7-NMP-2012-LARGE-6 FP7-NMP-2012-SMALL-6
Topic(s)	NMP.2012.2.2-1 Biomaterials for improved performance of medical implants
Funding Scheme	Large-scale integrating collaborative projects.
Keywords	Biocompatible materials, titanium alloys, coatings, high-energy treatment methods
Abstract (Max. 2000 words)	Forming scientific basis for the development of technology of composite biocompatible coatings on titanium alloys used in prosthodontics and implants, based on the effect of the interaction of carbon nanotubes with hydroxyapatite treated with a high-laser radiation, to improve the physical and mechanical properties (adhesion, long-term stability etc.) and extending the use of implants and prostheses in the body rights.
Project Description (Main Work Packages)	Therefore, development of technologies for biocompatible coatings with high adhesion and a wide set of service characteristics is the actual task facing researchers at the intersection of materials science and medicine. Main Work Packages: testing method of forming nanotubes and determine optimal parameters of processes, a carbon nanotubes and studied their structure, study processes that occur in chemically inert substrates in vacuum at high-temperature annealing of thin films of metal-catalysts; establishing patterns of flow processes on the interfaces: carbon nanotube - hydroxyapatite and structural study of phase transformations on it, develop a working hypothesis processes of interaction of laser ablation of hydroxyapatite with carbon nanotubes in vacuum at different temperatures, density, power

	deposition process of composite coatings, based on established patterns to develop theoretical foundations and laboratory technology for biocompatible composite coatings, analysis and synthesis of research, establishing patterns and mechanisms of formation of the biocompatible composite coatings.
Current Consortium (Partners, Organisation Types)	No
Deadline for Responses	November 2011

2. Profile of the Partners Sought

Organisation Type	Research or Educational
Required Skills and Expertise	High-energy treatment methods, novel and biocompatible materials
Role in the project	Cooperation in investigations
Other Requirements	

3. Project Proposer Information

Name of the Organisation	National Technical University of Ukraine "Kiev Polytechnic Institute"
Organisation Type	Education
Country	Ukraine
Fields of Activity	Coatings, high-energy treatment methods, X-ray analysis
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Previous FP Projects Participated	No
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