

Strategic directions in long-term Nanotechnology in the European ICT Programme

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The Future and Emerging Technologies (FET) theme of the Information and Communication Technologies (ICT) Programme has been supporting advanced research in foundational and long-term topics in Nanotechnology throughout FP6 (2002-2006) and will continue to do so, in particular, in the FET Proactive Initiatives in FP7 (2007-2013). This talk will provide an overview on the evolution of the research challenges and some of the achievements related to the Emerging Nanoelectronics proactive initiative launched in FP6. Topics addressed by the research projects in these initiatives include, inter alia, advances beyond the limits of CMOS scaling, tackling new concepts in hybrid and molecular electronics. In the FP7-ICT research programme the focus on long-term challenges in Nanotechnology has been directed towards a new initiative called 'Nano-ICT Devices and Systems'. Results of the first call for proposals addressing new concepts for memories, switches and interconnects, as well as new functionalities of building blocks from the nanometer to the atomic scale, will be presented. Challenges for new initiatives that will be called for in 2008-2009, relating to ICT-based Nanoelectronics will be briefly outlined. In addition, some preliminary first orientations on the EU strategy for future funding as part of the new work programme 2009-10 will be provided.

