



Keynote Address of Dr. Salvatore Siano

CHARISMA's Laser and Optoelectronic RTD Activities: Novel Potential for Knowledge and Conservation of Cultural Heritage

CHARISMA (Cultural Heritage Advanced Research Infrastructures: Synergy for a Multidisciplinary Approach to Conservation/Restoration) is a European project (FP7, Capacities Specific Programme Research Infrastructures, GA n. 228330) aiming at the integration and exploitation of scientific knowledge and instrumental resources in the field of cultural heritage (<http://www.charismaproject.eu>). Its consortium includes 22 research and conservation institutions, which are strongly involved in advanced technologies for knowing, preserving, and valorising the material heritage.

CHARISMA's working plan foresees three activity clusters, which are jointly carried out by the partnership: networking, research and technological development (RTD), and transnational access to analytical facilities and archives. Core of the project is transnational access that offers the possibility to scientists, conservator/restorers, and curators to exploit archives of research data, portable mobile equipments (MOLAB), ion beam analytical facilities (AGLAE and ATOMKI), synchrotron (SOLEIL), and neutron sources (Budapest Neutron Centre), to facilitate their work and enhance the European research in the field. RTD is dedicated to improve future access programs, including the development of a set of innovative devices for imaging and material studies. Finally, networking focuses on methodological refinements and promotion of the best practices in the study and conservation of artworks, to homogenise the way European research infrastructures in cultural heritage operate.

After a brief overview of the project, the main results of CHARISMA activities concerning the development of laser and optoelectronic techniques will be discussed in some details. Insights will be dedicated to the development of laser-based conservation treatments, laser spectroscopy, optical coherence tomography, and others. Besides the innovative technological features of these techniques, special remarks will concern their concrete exploitation for the solution of a variety of knowledge and conservation problems.