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NanotechITALY2012

INTERNATIONAL SHOWCASE FOR NANOTECHNOLOGIES

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PROMOTING RESPONSIBLE INNOVATION

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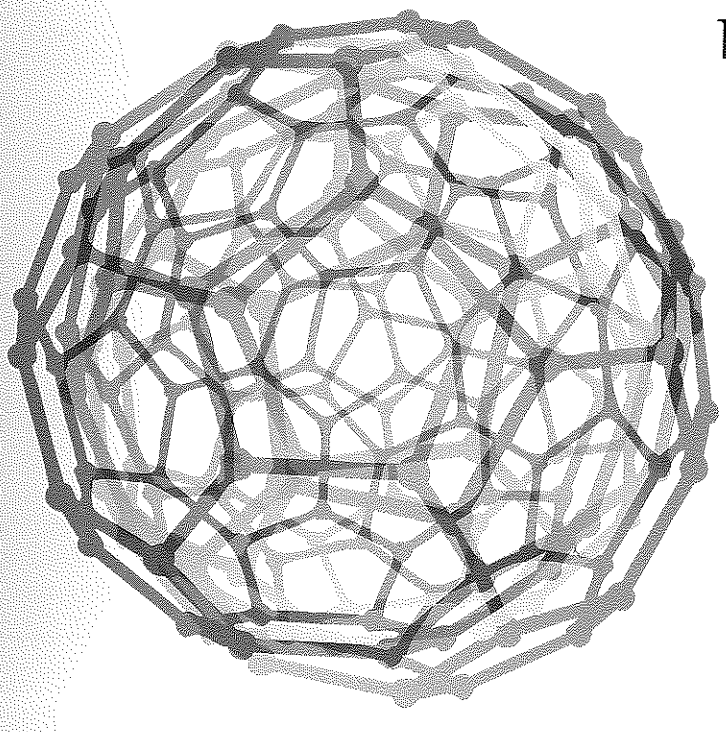

Advanced materials for improved use of resources

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Ministero dell'Economia e delle Finanze

are analysed by advanced multifractal of the phases distribution in the paste istical radial distribution functions in or- iscriminate between possible nucleation isms

Semi-interpenetrating p(HEMA)/PVP hydrogels for the cleaning of water-sensitive canvas paintings

Rodorico Giorgi (1), Joana A. L. Domingues (1), Nicole Bonelli (1), Piero Baglioni (1)
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Nanotechnology provides a rich range of tools to improve the existing methodology for works of art restoration. Innovative systems based on a novel chemical gel class, loaded with nanostructired fluids (o/w microemulsions), are shown to be effective for the cleaning of water sensitive support, such as canvas and wood paintings. High water- retention capability and any traces of gel residue on painted surfaces was achieved through polymerization reaction of HEMA monomer in a poly-VP solution.

Nanomaterials from Metal-alkoxides Precursors for Conservation of Building Materials:the EU Project NANOMATCH

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The EU project NANOMATCH develops a class of innovative materials, the Metal-alkoxides precursors tuning their properties on the basis of the stone, wood and glass-substrate characteristics leading to a new generation of nanoproducts tailored specifically for historical materials in a climate change context, merging from the most recent advanced research in the fields of conservation science and nanotechnologies. Central to the project is the synthesis of mo- related properties assessment finalized to the production of innovative products to update the market of conservation products in replacement of unfitting traditional ones.

Nanostructured substrates for application of SERS to cultural studies

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(2) Centro SMAArt, Dipartimento di Chimica, Università di Perugia, Italy
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The design and synthesis of a tailor-made surface-enhanced Raman scattering (SERS) active films which are fabricated to be removable from the surface of an artwork under study following effective measurements is detailed. Studies have been aimed at characterizing films' chemical and physical properties, with regard to the stability of the nanoparticles, the ease of application of the viscous gels, their speed of drying and the activity of dry films for SERS in situ measurements.

The Leaning Tower of Pisa: consolidation of capitals on 2nd and 3rd orders

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(2) C.B.C. Conservazione Beni Culturali, Rome
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It is shown results of consolidation of capitals of the Leaning Tower of Pisa with products based on nanoparticles. This application has been performed within the large restoration activities related to the surfaces of Tower of Pisa.