

Maria Laura Santarelli

Current Positions

- Assistant Professor in Dept. of Chemical Material and Environmental Engineering, University of Rome Sapienza
- Responsible for Nanotechnology Area in Distretto Tecnologico dei Beni Culturali del Lazio
- Director of the Centre CISTeC – Research Centre in Science and Technology for the Conservation of the Historical-Architectural Heritage, University of Rome Sapienza (2013-2019)
- Director of Raman and IR Spectroscopy Laboratory and of Polymers and Innovative Energies, Dept. of Chemical Material and Environmental Engineering, University of Rome Sapienza

Background

- Master Degree (Laurea 5 years) in Chemistry, University of Rome Sapienza
- Ph.D. in Materials, Raw Materials and Metallurgy Engineering, University of Rome Sapienza

Research Areas and Teaching Activities

Research

Polymer science, building materials, conservation of Cultural Heritage, petroleum derivatives and, more recently, optoelectronic materials, photocatalytic materials and applications of graphene.

Teaching in University of Rome Sapienza

- Polymerization Processes, Master degree in Chemical Engineering
- Decay and Conservation of Non-metallic Materials, Master degree in Science and Technology of the Conservation of the Cultural Heritage
- Materials Science, in advanced course Polymeric Processes and Polymeric Materials, MOPLEN School, in collaboration with LyondellBasell (Ferrara, Italy)

Seminars in ETH Zurich and SUPSI (University of Applied Sciences and Arts of Southern Switzerland)

Collaborations and Consultancies

Collaborations

Various national (e.g. CNR, University of Perugia, University of Urbino, University of Lecce) and international institutions (e.g. ETH Zurich, Switzerland; Fraunhofer Institute, Germany; Northwestern University, USA).

Consultancies

- *Materials science consultant* for Basell Poliolefine Italia, Advanced Materials srl, Bruker Italia, Arakne srl, Bacchi Enterprise srl and for ENI and in the EU Project FP6-2003-SSP3-513718 “Graffitiage”.
- *Conservation science consultant* for Italian Governmental Institutions, including Soprintendenza Speciale per i Beni Archeologici di Roma, Sovrintendenza Capitolina di Roma, Soprintendenza per i Beni Archeologici del Lazio and a broad spectrum of companies involved in construction and restoration, and in research regarding “Evaluation of decay as factor of seismic risk in the conservation of the Cultural Heritage” for the Italian Ministry for Cultural and Environmental Heritage.

Conservation

Activities concerning conservation of Cultural Heritage as scientific expert at the following sites:

Sites in Rome (selected)

Colosseum

Domus Aurea

Augustus' House in the Palatine
Settimio Severus' Arch in the Roman Forum
Marco Aurelius' Bronze Statue in Capitolium
Lapis Niger in the Roman Forum
Tiberius' Domus
Massenxius' Basilica
Basilica of Ss Quattro Coronati
Veiovis' Temple in the Capitolium
Titus' arch in the Roman Forum
Traianus' markets
Sironi "L'Italia tra le Arti e le Scienze"

Other Italian sites

Pompei
Hercolanum
Greek temple in Segesta, Sicily
Etruscan statue of the Winged Horses in Tarquinia
Greek Column from Hera Licina' Temple in Capo Colonna, Croton, Calabria
Castle in the town of Collalto Sabino, Rieti, Lazio

Foreign sites

Villa Silin (Lybia)
Monastery of S.Catherina on the Sinai (Egypt)
Ebla (Syria)
Elaiussa (Turkey)

Interests in CH: diagnostic analysis, ancient materials, polymers and nanopolymers for conservation, mortars, plasters, pigments and dyes, crude and fired clay, natural asphalts and bitumens, nanocellulose, woods, glasses, ceramics, smart materials, stuccos, stones