



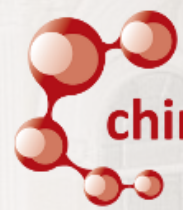
UNIVERSITÀ
DEGLI STUDI
DI TORINO

Università di Torino

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Unit objectives

- Responsibility for the selection of materials, preparation and artificial ageing of reference models, and identification of case-studies (**WP2**). Models will be designed and prepared in collaboration with conservators and used to optimize analytical protocols, to develop cleaning procedures and to evaluate the efficacy of protective coatings.
- Analytical evaluation of the efficacy of laser technology in removing unwanted graffiti (**WP4**).
- Participation and co-organization of dissemination and communication activities (**WP6**)



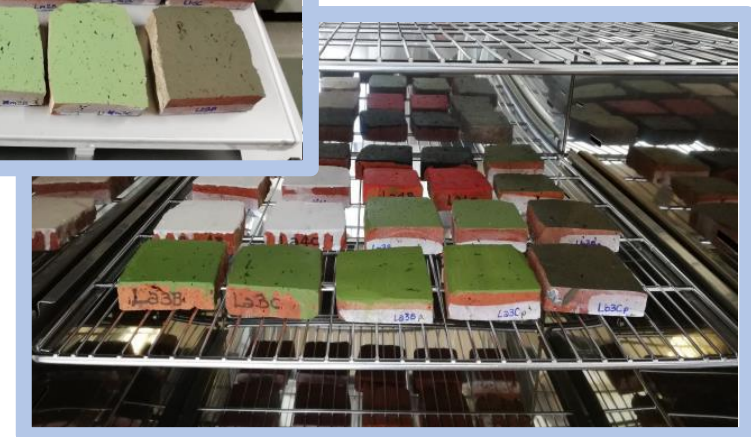
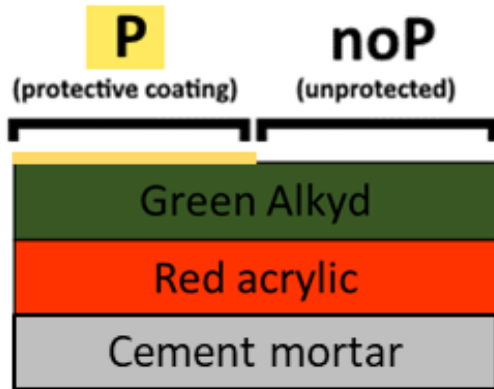


Facilities

- Xenon test chamber
 - Temperature-humidity climatic chamber
 - Scanning electron microscopy (SEM) with energy dispersive X-ray analysis (EDX)
 - Fourier transform infrared spectroscopy (FTIR)
 - Analytical pyrolysis-gas chromatography/mass spectrometry (Py-GC/MS)
 - Evolved gas analysis coupled with mass spectrometry (EGA-MS)
 - Size exclusion chromatography (SEC) equipped with multi-detector (RI/UV/LS/Visc)
 - Contact angle meter
 - Differential Scanning Calorimeter (DSC)
- Ageing treatments**
- Control of morphology and stratigraphy of model samples**
- Chemical characterization of paints & analytical evaluation of laser cleaning**
- Surface, molecular and thermal characterization of protective coatings**



Design, preparation and ageing of models



In collaboration with



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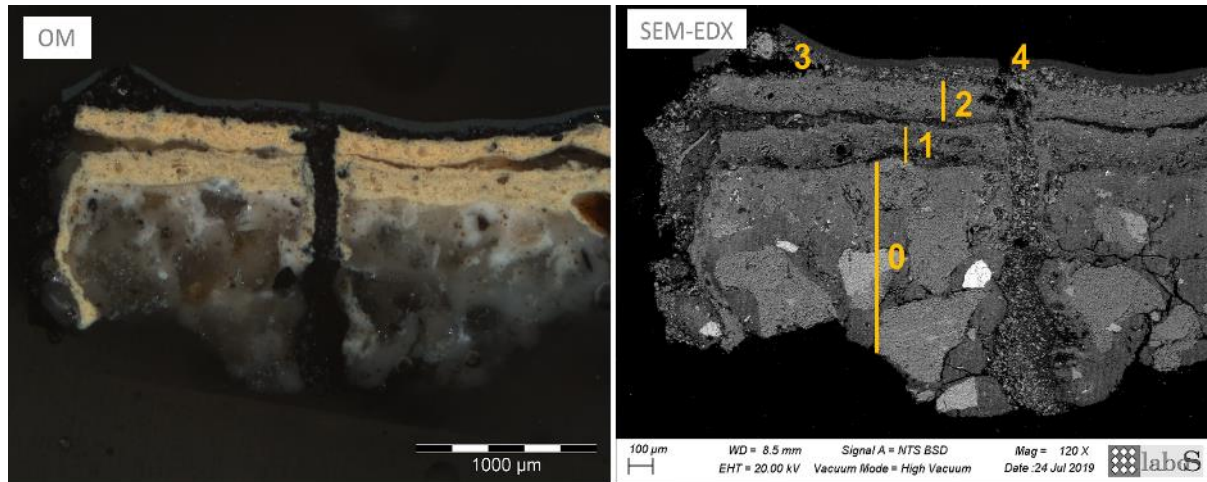
Design, preparation and ageing of models



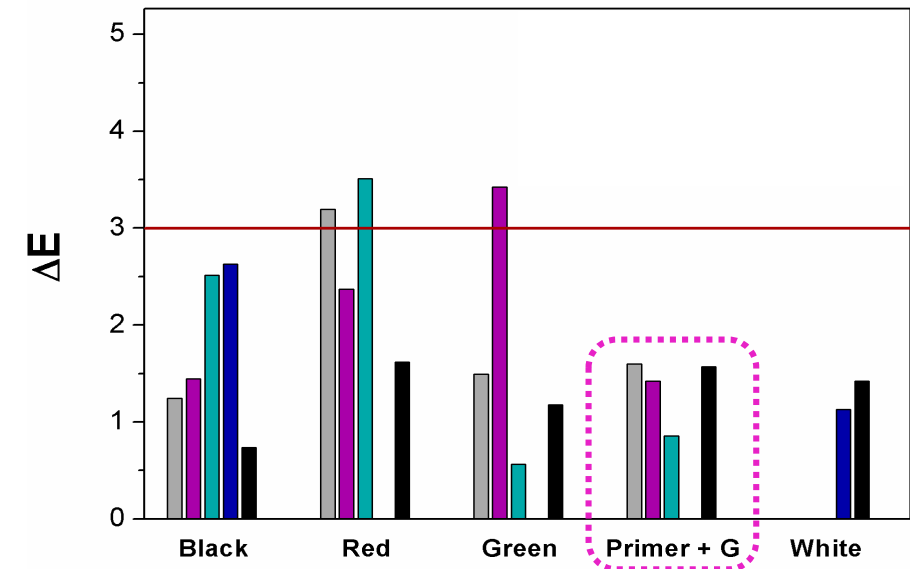
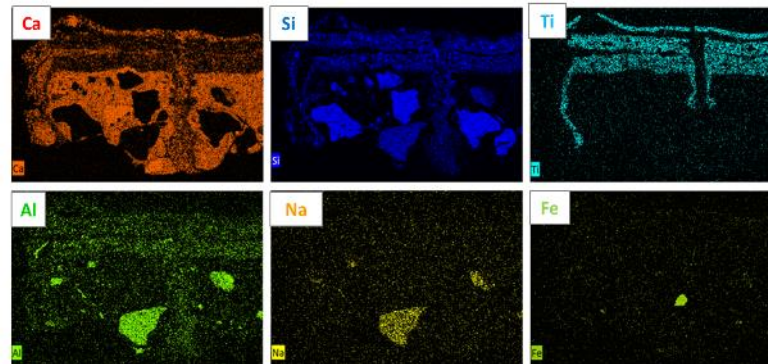
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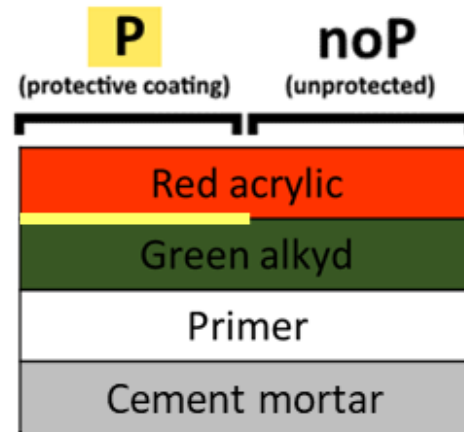
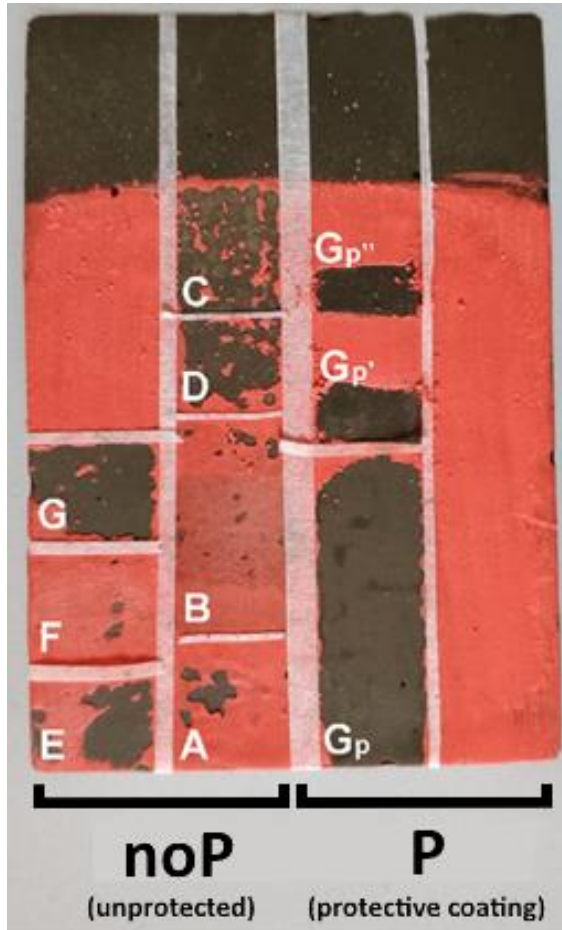
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0 – support	Carbonates + and Na, Al, Mg silicate inclusions
1, 2 – yellow	Si, Ti, Ca, (K)
3 – black	Si, Ca, (K), (Mg)
4 – grey	Ti, Si, Ca, Al, Fe



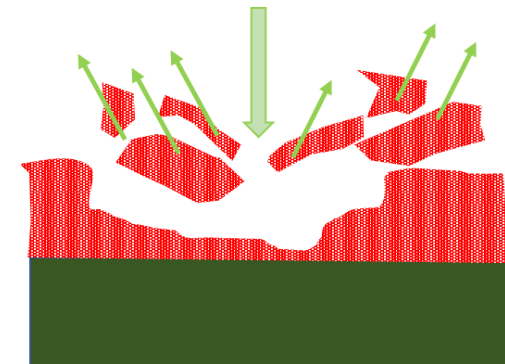
Development of laser and integrated cleaning procedures



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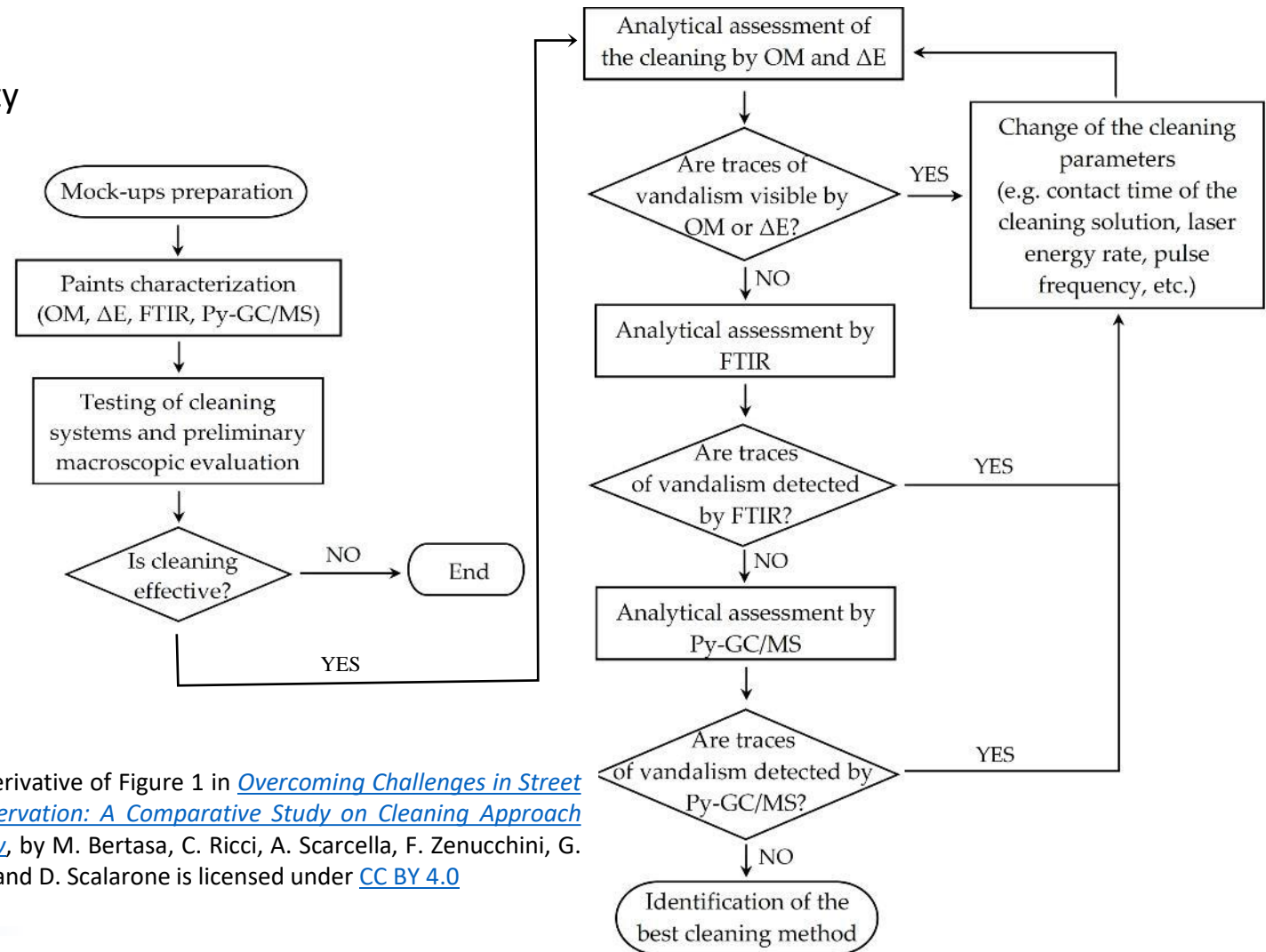
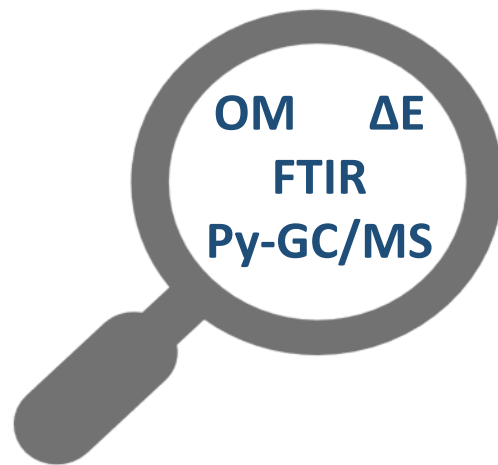


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Analytical evaluation of laser cleaning efficacy

- T preservation of the topography integrity
- Cr presence and clearance of the residues
- G preservation of the surface gloss
- Cp cleaning efficiency and evenness
- Am method feasibility



This figure is a derivative of Figure 1 in [Overcoming Challenges in Street Art Murals Conservation: A Comparative Study on Cleaning Approach and Methodology](#), by M. Bertasa, C. Ricci, A. Scarcella, F. Zenucchini, G. Pellis, P. Croveri and D. Scalarone is licensed under [CC BY 4.0](#)



Publications

- Bertasa M., Ricci C., Scarcella A., Zenucchini F., Pellis G., Croveri P., Scarlone D., “Overcoming challenges in street art murals conservation: a comparative study on cleaning approach and methodology”, *Coatings*, 2020, 10, 1019.
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Previous Projects

- **2018-2021: Conservation of Art in Public Spaces - CAPuS.** Funded by the European Commission, Programme Erasmus Plus - Key Action 2: Cooperation for innovation and the exchange of good practices – Knowledge Alliances (Call EAC/A03/2016), Project N° 588082-EPP-A-2017-1-IT-EPPKA2-KA (<http://www.capusproject.eu/>)
- **2018-in progress: PhD Technology Driven Sciences: Technologies for Cultural Heritage - T4C.** Funded by the European Commission, H2020-MSCA-COFUND-2016, Grant Agreement no: 754511 (<https://tech4culture.unito.it/>)
- **2016-2017: Polymer gels for cultural heritage.** Funded by Compagnia di San Paolo and University of Torino, project ID: Torino_call2014_L2_181
- **2015-2018: Enhancing water quality by developing novel materials for organic pollutant removal in tertiary water treatment - MAT4TREAT.** H2020-MSCA-RISE-2014, Grant Agreement no: 645551 (<http://www.mat4treat.unito.it/>)
- **2015-2016: An integrated approach for the treatment of micropollutants: oxidation, membrane technologies and new adsorbing materials.** Funded by Compagnia di San Paolo and University of Torino, project ID: Torino_call2014_L2_126
- **2012-2014: Development of oxidic and polymeric materials for stimuli responsive applications.** Funded by Compagnia di San Paolo and University of Torino, project ID: ORTO114XNH

