



1. Research activity

The research activities investigate the properties and the efficiency of two innovative and eco-friendly materials for the conservation of copper and silver alloys. In particular, PVA-based cleaning gels and chitosan-based protective coatings are going to be deeply investigated. The first ones are studied in order to optimize their ability to selectively remove different types of patina and to preserve the passivating compounds. The second ones are studied in order to develop green active coatings for the protection of both indoor and outdoor metal artifacts.

Validation tests are conducted on proper sacrificial reference alloys, characterized by ancient-like microchemical and microstructural features. Their patinas are the result of the exposure to two different types of environment, the archaeological and the exhibition one.

For the characterization of the reference alloys surfaces and for the evaluation of the conservation materials efficiency, a multi-analytical approach is carried out, including OM, EMPA, FE-SEM-EDS, FE-SEM-EDS-Raman, ATR-FTIR, XRD and electrochemical measurements.