

Non-invasive analysis for the conservation of the frescoes in the Monumental Complex of S. Maria della Grotta (TP, Italy)

Wednesday, 6 March 2024 13:30 (15 minutes)

The current study presents the results of non-invasive diagnostic investigations conducted in situ on the medieval frescoes in the complex of St Mary of the Cave, Marsala (Trapani, Italy). The aim of the study was to assess the frescoes' state of conservation and execution technique. The state of conservation of the wall paintings is compromised due to the characteristics of the environmental conditions typical of an underground environment: high humidity levels, poor air circulation, extensive colonisation of biodeteriogens, presence of salt efflorescence and detachment of the constituent material. The research highlights significant results on the thermo-hygrometric conditions of the environments, the nature of the original pigments used and the pathologies of the frescoes, in particular the presence of salts and the color changes. In detail, N.8 frescoes in rooms 1, 2 and 3 of the complex were studied in situ by using the non-invasive techniques XRF and FORS and Infrared and Raman Spectroscopy to identify the pigments. A few microsamples were collected for the investigation of salts by XRD and of biodeteriogens for DNA analysis. These results made it possible to select ad hoc conservation strategies for the consolidation of the frescoes in order to halt the ongoing degradation processes.

Presenting author

Chiara Tuccio

Primary authors: TUCCIO, Chiara (Università degli studi di Palermo); Dr ARMETTA, Francesco (Università degli studi di Palermo); Prof. SALADINO, Maria Luisa (Università degli studi di Palermo)

Presenter: TUCCIO, Chiara (Università degli studi di Palermo)

Session Classification: Cultural heritage, a testimony of the past and reference book for the future

Track Classification: General sessions: Cultural heritage, a testimony of the past and reference book for the future