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# ARCHMAT

ERASMUS MUNDUS JOINT MASTER IN ARCHAEOLOGICAL MATERIALS SCIENCE

Sala dos Docentes - Colégio do Espírito Santo – Universidade de  
Évora

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**Jana Striova**

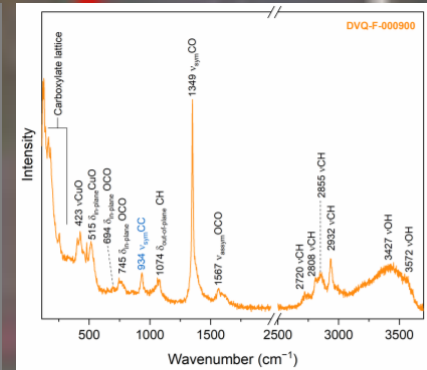
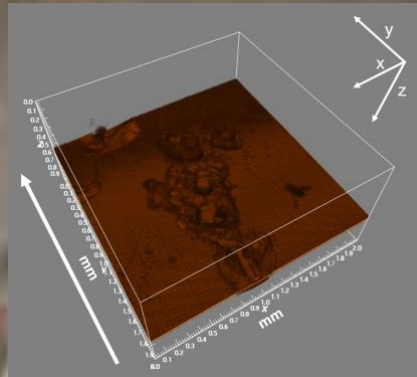
**Heritage Scientist** – National Research Council – National  
Institute of Optics (CNR-INO- Italy)



**Advanced analytical methods for the  
investigation of daguerreotypes**



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Daguerreotypes are the first commercially available photographs based on the image reproduction over a metallic support by using a *camera obscura*. Preserving daguerreotypes is particularly challenging because of their multi-material structure. In this talk, we will discuss a comprehensive multi-modal non-invasive approach to investigate the composition as well as the corrosion products in daguerreotypes. The optimization of non-invasive optical systems for the joint survey of the composition (molecular/elemental spectroscopy both imaging and punctual), the shape (3D micro- and macro-relief) and the stratigraphy (coherent optical tomography) reduces the need for sampling and represents an innovative contribution compared to available technological solutions. The methodology enables to link the chemical complexity of the entire structure to the daguerreotype degradation and the need to monitor the entire object as a partially closed system in constant interaction internally and with the environment