

# Rediscovery of the water-soluble encaustic technique in Roman wall paintings and Fayum portraits



## Pedro Cuni

According to ancient sources, encaustic was a wax-based paint used by ancient Greek, Roman, and Byzantine painters. However, these sources did not make clear the composition of this paint. FTIR and GC-MS characterization of the binding medium present in eight samples of Roman wall paintings from three archaeological sites in Spain and a sample of a Roman-Egyptian mummy portrait on wood showed strong evidence that the medium in all the studied samples was composed of beeswax and soap. These results suggest for the first time that Roman artists used a water soluble encaustic paint of beeswax and soap in wall and easel paintings.

Experimental studies with a wax-and-soap technique showed that this painting technique allows reproduction of the physical characteristics of many Roman-Egyptian encaustic mummy portraits with greater accuracy than the hot wax encaustic paint and the alkali-treated encaustic paint often considered to be the painting techniques used in these portraits. Wax-and-soap encaustic also showed greater accuracy in reproducing the physical characteristics of Roman wall paintings than the fresco painting technique, generally thought to be the technique used to execute such paintings. This study suggests that wax-and-soap encaustic could be a common painting technique among Roman artists, and its composition could correspond to a lost ancient encaustic formulation searched for over the past five centuries by many artists and researchers dissatisfied with the conventional reconstructions of the ancient encaustic painting technique based on molten waxes.

This presentation will give an overview of the historical, chemical, and experimental research carried out for this study. There will also be a demonstration on how water-soluble encaustic paint works and some paintings executed with it will be shown.

# MCI

## *Topics in Museum Conservation*

**June 27, 2012**  
**1:45 pm**  
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*MCI Theater*

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