

TOWARDS FUNCTIONAL APPLICATION OF OCT TO ART HISTORICAL STUDIES AND CONSERVATION

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Optical Coherence Tomography (OCT) is a fast scanning Michelson interferometer capable of 3D imaging of transparent or semi-transparent material. It was first designed for the in vivo examination of the eye. The application of OCT to the examination of art is fairly recent with the first papers published in 2004.¹⁻³ Since the initial demonstration of non-invasive imaging of cross-sections of paintings and other historical objects of art, OCT is gaining acceptance as a non-invasive, non-contact alternative to the examination of subsurface structures of art works. It is now a fast growing area of research.⁴⁻⁶

This talk focuses on moving OCT research in art conservation and art historical studies towards functional applications that is beyond qualitative imaging. The importance of the use of image processing techniques to post-process OCT images will be demonstrated. Examples of OCT examination of paintings in assisting conservation and art historical studies for western European paintings from the National Gallery as well as examples of how OCT can be used to assist archaeologists in identifying material and the manufacturing process for objects from the British Museum will be discussed.

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