

Accepted Manuscript

On the application of Optical Coherence Tomography as a complimentary tool in a analysis of the 13th century Byzantine Bessarion Reliquary

Magdalena Iwanicka, Giancarlo Lanterna, Carlo Galliano Lalli, Federica Innocenti, Marcin Sylwestrzak, Piotr Targowski

PII: S0026-265X(15)00284-2
DOI: doi: [10.1016/j.microc.2015.11.014](https://doi.org/10.1016/j.microc.2015.11.014)
Reference: MICROC 2313

To appear in: *Microchemical Journal*

Received date: 15 July 2015
Revised date: 6 November 2015
Accepted date: 6 November 2015

Please cite this article as: Magdalena Iwanicka, Giancarlo Lanterna, Carlo Galliano Lalli, Federica Innocenti, Marcin Sylwestrzak, Piotr Targowski, On the application of Optical Coherence Tomography as a complimentary tool in a analysis of the 13th century Byzantine Bessarion Reliquary, *Microchemical Journal* (2015), doi: [10.1016/j.microc.2015.11.014](https://doi.org/10.1016/j.microc.2015.11.014)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



On the application of Optical Coherence Tomography as a complimentary tool in a analysis of the 13th century Byzantine Bessarion Reliquary

Magdalena Iwanicka^a, Giancarlo Lanterna^b, Carlo Galliano Lalli^b, Federica Innocenti^c, Marcin Sylwestrzak^d, and Piotr Targowski^d

^aInstitute for the Study, Restoration and Conservation of Cultural Heritage, Nicolaus Copernicus University, Sienkiewicza 30/32, 87-100 Toruń, Poland;

^bLaboratorio di Chimica 1, Opificio delle Pietre Dure e Laboratori di Restauro, Fortezza da Basso, viale F. Strozzi 1, 50129 Firenze, Italy

^cFreelance collaborator of Laboratorio di Chimica 1, Opificio delle Pietre Dure

^dInstitute of Physics, Department of Physics, Astronomy and Informatics, Nicolaus Copernicus University, Grudziądzka 5, 87-100 Toruń, Poland;

*corresponding author: ptarg@fizyka.umk.pl

ABSTRACT

This work presents the results of an application of Optical Coherence Tomography (OCT) to examination a 13th century Byzantine reliquary of unparalleled artistic and historical value. The aim of this work, performed at the initial stage, before the restoration, was focused on the resolution of cleaning procedures regarding both the thick, old varnish and the gold leaf details finely applied on the painted parts of the artwork by means of an integrated approach of non-invasive and invasive analyses and diagnostics.

The results allow definition of the thickness of the varnishes, their inner morphology and establishes the presence (or absence) of secondary layers of gold leaf upon the original ones. Knowledge of varnish thickness and in-depth localisation of the secondary gold leaf allowed the restoration procedure of cleaning and thinning of the altered varnish to be performed safely and effectively in order to recover the wonderful pristine sight of a precious and ancient byzantine work of art.

KEYWORDS

OCT, icon, altered varnish, Byzantine art, reliquary, multidisciplinary, non-invasive methods

HIGHLIGHTS

The structure and composition of thick varnish layer is revealed.

Evidences of 15th century restoration are disclosed and examined.

The locations of gold leaf decorations (primary and secondary) are given.

The character and in-depth location of delaminations within the varnish are described.

Download English Version:

<https://daneshyari.com/en/article/7641563>

Download Persian Version:

<https://daneshyari.com/article/7641563>

[Daneshyari.com](https://daneshyari.com)