



**41st INTERNATIONAL
SYMPOSIUM ON
ARCHAEOLOGY**

BOOK OF ABSTRACTS

Editors:
N. Zacharias and E. Palamara

May 15-21, 2016
Kalamata, Greece

Our results indicate a high stability of the Maya blue compared to all other studied blue pigments (natural indigo, synthetic indigo, Prussian blue, Egyptian blue, han blue, etc.) even when exposed to ultraviolet radiation. Observations made on numerous ancient objects, like the famous wall paintings at Bonampak and Cacaxtla, where Maya blue displayed an extraordinary durability over hundreds of years of exposure under extremely weathering conditions confirm this stability.



[1] Van Olphen, H. (1966). Maya Blue: A Clay Organic Pigment? *Science* 154, pp. 645-646.

P-46. FTIR and Raman Spectroscopic investigation of mural Medieval paintings from Serdika Antique Cultural and Communications Complex, Sofia, Bulgaria

Zornitza Glavcheva⁽¹⁾, Dieter Fischer⁽²⁾, Albena Lederer⁽²⁾, Denitsa Yancheva⁽¹⁾, Bistra Stamboliyska⁽¹⁾ and Valentin Todorov⁽³⁾

(1) *Institute of Organic Chemistry with Center of Phytochemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev Str., build. 9, 1113 Sofia, Bulgaria*

(2) *Polymer Separation Group, Department Analytics, Institute of Macromolecular Chemistry, Leibniz-Institut für*

Polymerforschung Dresden E.V., Hohe Str. 6,D-01069 Dresden, Germany

(3) *National Academy of Art, Faculty of Applied Arts, 73 Tzarigradsko Shose blvd, 1113 Sofia, Bulgaria Sofia, Bulgaria*

In order to provide a study of immovable cultural riches possessing high scientific and exhibiting value, mural painting fragments were investigated by FTIR and Raman spectroscopy. The fragments, which have been removed from a medieval church dating back to the 6th century AD, belong to Serdika Antique Cultural and Communications Complex in Sofia, Bulgaria. These mural paintings are amongst scanty proves of ecclesiastical monumental arts development in medieval urban environment of Bulgarian capital.

Mural paintings are multilayered: mortar on which paint is deposited, preparatory drawing, and first coat of paint and primary hue, medium hue and sometimes retouching of painting. The wide variety of organic and inorganic materials, used in the creation process of an art work, makes the study and investigation of painting materials very complex and complicated.

It was concluded that the main inorganic components of the paint layer were calcite, natural red and yellow ochre, charcoal black, etc. The study of organic components in the samples is ongoing. The obtained results give useful information for scientists, conservators and society.

The authors are grateful for financial support by the National Science Fund of Bulgaria (Contract K02-15).