



Photonics for Heritage Science. Expanding the infrastructure, widening synergies

Paraskevi Pouli

Institute of Electronic Structure and Laser, Foundation for Research and Technology - Hellas, N. Plastira 100, Vassilika Vouton, 70013, Heraklion Crete, Greece

Presenting author email: ppouli@iesl.forth.gr

ABSTRACT

Photonics for Heritage Science (PhoHS), a cross-disciplinary research team, active at IESL-FORTH for almost 30 years, pursues innovative research on the applications of advanced laser science and technologies in the field of Heritage Science (HS). The team's activities focus on a) material analysis, b) diagnosis and c) laser conservation. During the course of these years a number of analytical questions and challenging cleaning problems have been successfully tackled on the basis of state-of-the-art instrumentation and methodologies that have been purposefully developed. Meanwhile, in response to urgent needs for on-site work, the PhoHS group has developed several mobile instruments that have provided key support in several field campaigns at museums and archaeological sites in Greece, Europe and the Middle East.

Notably, the PhoHS group has been playing a major role in a number of Research Infrastructure (RI) projects thematically focusing on Heritage Science (CHARISMA (2009-14), IPERION-CH (2015-19) and IPERION-HS (2020-23)) and currently is a core member of the European Research Infrastructure for Heritage Science (E-RIHS.eu, ESFRI roadmap) and its Greek node, E-RIHS.gr, jointly with other teams at FORTH active in the field.

In the present talk, several highlights representing latest developments will be showcased, as for example the laser restoration of deteriorated azulejos (decorative glazed ceramic tiles from the Iberian Peninsula) and the adaptation of photoacoustic methodologies to follow on-line cleaning interventions and thus improve their control and applicability on sensitive objects. Furthermore, outreach initiatives will be presented, for example, the CALLOS open lab, under development jointly with the CCI group of ICS-FORTH and the Ephorate of Antiquities of the city of Athens). Also the international role of the team will be highlighted through its seminal collaboration with the Palace Museum in China.

REFERENCES

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