Irene Kotzamanidi

Member of the Laboratory Teaching Staff, University of Patras

Contact Details

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Education

2000 Ph. D in Physics at the Department of Electrical & Computer Engineering, University of Thrace and at the NCSR DEMOKRITOS Institute of Nuclear and Particle Physics, Greece. Thesis Title: "Conservation and Restoration of Archaeological Iron objects by radiofrequency reducing plasma treatment".

1992 Postgraduate courses at the Institute of Nuclear Technology, NCSR "DEMOKRITOS".

2000 Certificate in "Open and distance education", Hellenic Open University, Greece.

1989 Degree in Physics (Ptychion - 4 years study course) at the Department of Physics, University of Patras, Greece.

Foreign Languages

English (Cambridge First Certificate in English)
French (Diplôme d' Études Supérieures d' Institut Français)

Fellowships – Awards

1996-1998	Research Grant**.** General Secretariat for Research and Technology of the Greek Ministry of Development, Greece.
1990-1995	Special Postgraduate Scholarship for Doctorate Thesis, NCSR "DEMOKRITOS", Greece.
1985,1986,1987	Undergraduate Grant, Scholarship from the State Scholarships Foundation, Greece.

Research Experience

2000-2002, 2009: Voluntary Researcher, Archaeometry Lab and Plasma Physics Lab, Institute of Materials Science, NCSR "DEMOKRITOS":

- Application of diagnostic techniques such as X-ray Diffraction, metallographic and electronic microscopy, in archaeological excavation artifacts from Berbati Argolis of the Swedish School of Archaeology. Scientific Cordinator: Dr. I. Bassiakos.
- Application of reducing plasma treatment on metallic artifacts, optical emission spectroscopy. Scientific Cordinator: Dr. H. Filippaki.

1992 - 1998: NCSR "DEMOKRITOS", Plasma Physics Lab: postgraduate Researcher:

R&D on the application of hydrogen plasma treatment on excavated iron objects and corroded steel samples. Physicochemical analysis such as X-ray Diffraction, neutron activation analysis, metallographic and electronic microscopy, microhardness measurements and electrochemical polarization measurements.

Participation in research projects:

- **1992 - 1993:** "Design and operation of rf plasma's experimental setup", Plasma Physics Lab NCSR "DEMOKRITOS" & Electromagnetism Lab, Department of Electrical & Computer Engineering, University of Thrace, Greece. Scientific Coordinator: Dr. Em. Sarris.
- **1994 - 1998:** NATO Science for Stability Project "Development of a Plasma Device for the Restoration and Conservation of Metallic and non Metallic Artifacts", Plasma Physics Lab and X-Rays Lab, Inst. of Materials Science, NCSR "DEMOKRITOS". Scientific Coordinator: Dr. S. Filippakis.
- **1996 - 1998:** "Conservation and Restoration of Archaeological iron and bronze objects and study of their corrosion state by physicochemical analysis. X-Rays Lab, Inst. of Materials Science, NCSR "DEMOKRITOS". Scientific Cordinator: Dr. S. Filippakis.

Teaching Experience

2021- today: Member of the Laboratory Teaching Staff, Department of Geology, University of Patras

Undergraduate courses: *Physics* *Teaching of Geo-science in secondary education* *Protection of the geological, geographic and human heritage* *Meteorology*

Collaborator at the Science & Technology Museum, University of Patras:
Implementation of educational programs for primary and secondary schools, such as: "Sound: traveling with waves" and "The solar system".
Planning of the educational program "Electromagnetism for secondary schools"

2001 – 2021: Teacher of Physics at Secondary High Schools in Lemnos Athens Patras, Hellenic Ministry of Education & Religious Affairs, Greece.

PUBLICATIONS

- Ε. Κοτζαμανίδη, «Μία πρόταση διδασκαλίας θεμάτων της σύγχρονης Φυσικής με τεχνικές βιωματικών δράσεων στα πλαίσια του μαθήματος Ερευνητική Εργασία», *Πρακτικά 8ων Πανελλήνιων Αγώνων Κατασκευών και Πειραμάτων Φυσικών Επιστημών*, ΕΚΦΕ Αιγάλεω, σσ. 272-276 (2014).
- E. Filippaki, I. Kotzamanidi, C. L. Xaplanteris "Optical Emission Spectroscopy in a Glow Discharge Plasma During the Restoration of Iron Corroded Objects", *Proceedings of XXV Panhellenic Conference on Solid State Physics & Materials*, Thessaloniki,(2009).
- P. Vassiliou, Cl. Samara, I. Kotzamanidi, and J.Novakovic, "Cleaning and Stabilizing weathered bronzes – Patina alterations by conservation methods", *16th International Corrosion Congress*, Beijing, China (2005).
- Kotzamanidi I., P. Vassiliou, Em. Sarris, A. Anastasiadis, S. E. Filippakis, L. Filippaki, "Effects of plasma treatment on the corrosion layer of corroded steel – XRD evaluation", *Anticorrosion Methods & Materials* **49** (4) 256-263 (2002), DOI: 10.1108/00035590210431755.
- Kotzamanidi I., Em. Sarris, P. Vassiliou, C. Kollia, G.D. Kanias, G.J. Varoufakis, S.E. Filippakis, "Effect of heat treatment in reducing plasma environments on chloride ions removal and corrosion of oxidized steel artifacts", *British Corrosion Journal,* **34** (4), 285-291 (1999) DOI: 10.1179/000705999101500987.

- Ε. Κοτζαμανίδη, Εμ. Σαρρής, Ε. Φιλιππάκη, Γ. Σακαρίκου, Σ. Φιλιππάκης, Κ. Κόλλια, Π. Βασιλείου, "Καθαρισμός και συντήρηση αντικειμένων από σίδηρο και κράματα χαλκού με επεξεργασία σε πλάσμα ραδιοσυχνότητας χαμηλού ιονισμού", *Πρακτικά 3ου Διεθνούς Συνεδρίου Ελληνικής Αρχαιομετρικής Εταιρεία*ς, εκδ. «Αρχαιομετρικές μελέτες για την Ελληνική Προϊστορία και Αρχαιότητα» Αθήνα 2001, σσ. 459-467.