ALEXIA TOUMAZATOU

PhD Physicist

CONTACT INFORMATION

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Pagkrati, Athens

LANGUAGES

English
Certificate in English (ESOL) -
Council of Europe Level B2
University of Cambridge

DISTINCTIONS AND ACHIEVEMENTS

2017–2021 : Onassis Foundation Scholarship for Doctoral Studies
2009 – 2010 & 2008 – 2009: Scholarships from the State Scholarships Foundation (IKY) for academic performance during semesters of study.
(2008) Scholarship from the State Scholarships Foundation (IKY) for distinguished performance in the entrance examinations of Tertiary Education.

ACADEMIC BACKGROUND

PhD in Physics **2017-2023**
Department of Physics, National and Kapodistrian University of Athens
Experimental Condensed Matter Physics. Doctoral research on "Titanium dioxide photonic nanostructures for photocatalytic application under visible light"

Master's Degree in Physics **2014-2017**
with specialization in Materials Physics
Department of Physics, National and Kapodistrian University of Athens
Thesis: Photonic crystals of titanium dioxide for enhancing photocatalytic efficiency via slow photons

Bachelor's Degree in Physics **Sep 2008 - Feb 2013**
Department of Physics, University of Patras Degree:8,35/10

WORK EXPERIENCE

Sep 2025- present
Epitaxy and Surface Science Lab, INN, N.C.S.R. Demokritos
Researcher
"2D-ENGINE – Engineering of New 2D Material Phases Not Existing in Nature"
Development of two-dimensional nanomaterials using liquid catalyst–assisted synthesis approaches

Jan 2025- Jul 2025
Epitaxy and Surface Science Lab, INN, N.C.S.R. Demokritos
Postdoctoral Researcher
"Development of efficient third-generation PV materials and devices to enhance the competitiveness of the green energy production sector"

Monolithos Catalysts & Recycling Ltd. **Oct 2023 - May 2024**
Research and Innovation engineer
Catalyst development and critical raw materials recovery

Study Center **2022-2023**
Educational support on high school students in Physics, Chemistry and Mathematics

Doctoral Student, Physicist **2020-2022**
Research project entitled "Advanced photocatalytic Slow Photon nanostructures" funded by the Special Account for Research Funds of EKPA
http://users.uoa.gr/~vlikodimos/SlowPhoton/

Research Assistant (Undergraduate Internship) **3 months (2012)**
"Nanofunctional and Nanocomposite Materials Laboratory", NCSR Demokritos
Electrochemical techniques in the characterization of supercapacitors based on graphitic materials.

TECHNICAL AND ANALYTICAL SKILLS

- Materials synthesis/Fabrication Techniques
- Extraction of critical raw materials/Hydrometallurgical leaching/Precipitation methods
- Surface/Materials Characterization Techniques: Optical spectroscopy (transmission, reflection, and absorption measurements) in (UV-Vis-NIR), Raman spectroscopy, Inductively Coupled Plasma Optical Emission spectroscopy (ICP-OES)
- Photocatalytic measurments using techniques such as UV-Vis spectroscopy and electrochemical methods
- Photoelectrochemistry: electrochemical impedance spectroscopy (EIS) for evaluating charge transfer processes and reaction kinetics.
- Catalyst Modification and Optimization: modifying and photocatalysts to enhance their activity.
- Office, Origin, Canvas, Zoom