

NIKOLETA CHOUCHOUMI**MATERIALS SCIENTIST****Location**Athens, Greece **Telephone**+30 6942258399 (cell) **Email**chouchouminikoleta@mail.ntua.gr **Education****Oct 2023 – present****PhD Student**, [Dept. of Electrical and Computer Engineering](#), National Technical University of Athens.**Oct 2021 – Oct 2023****Master of Science Degree in Materials Science and Technology**, Dept. of [Chemical Engineering](#), National Technical University of Athens, Grade: 9.08/10.**Sep 2017 – Jul 2021****Bachelor of Science Degree in Materials Science and Technology**, Dept. of [Materials Science and Technology](#), University of Crete, Grade: 8.03/10.**Project Participation****Oct 2022 – Oct 2023****Master dissertation**. [Fabrication of Microelectronic and Optoelectronic devices, utilizing ZnO nanostructures growth techniques](#).**Keywords**: Hydrothermal growth, Photolithography, Sputtering, PL, FTIR, Solid – State microcapacitors MIS/MIM type, Porous Silicon.**Jan 2021 – Jun 2021 (INCOMPLETE)****Undergraduate dissertation**. Optical and electronic properties of MoS₂ single – layers.**Keywords**: 2D materials, Transition metal dichalcogenides (TMDs), Mechanical Exfoliation, Raman Spectroscopy, Photoluminescence (PL), Reflectivity (ambient conditions & Temperature dependent).**Experience****Jan 2025 – Apr 2025**

Academic Researcher in Materials for Nanolithography and Organic Electronics group during PhD in Institute of Nanoscience and Nanotechnology (INN), NCSR “DEMOKRITOS”.

Group Leaders: Research Director, Dr M. Vasilopoulou

Mar 2024 – presentTeaching assistant in [Dept. of Electrical and Computer Engineering](#), National Technical University of Athens.“Structural and Electrical properties of materials (3.2.3375.2)” (2nd semester)“Sensors and Microsystems technology (3.5.3345.8)” (8th semester)**Jan 2024 – Feb 2025****Academic Researcher in photonics for nano – applications group** during PhD in Theoretical and Physical Chemistry Institute (TCPI), National Hellenic Research Foundation (NHRF).[Laser structuring and functionalization of materials and devices](#)

Group Leaders: Dr M. Kandyla

Jyl 2023 – presentBoard member in [HYPERION](#) energy community.

Nov 2022 – Oct 2023	Master Experience: Institute of Nanoscience and Nanotechnology, NCSR “DEMOKRITOS” <u>Energy Harvesting and Autonomous Sensors Group</u> Group Leaders: Dr C. Tsamis, Post- doc E. Hourdakis
Jan 2021 – Jun 2021	Undergraduate Experience: Institute of Electronic Structure & Laser, Foundation for Research and Technology – Hellas (IESL – FORTH) <u>Ultrafast Laser Micro- and Nano- processing Group</u> Group Leaders: Dr. Stratakis Emmanuel, Prof. G. Kioseoglou

Research Interests – About

My main fields of interest and expertise are (i) Solid State Physics & Chemistry, (ii) Nanotechnology, (iii) Semiconductor Physics, (iv) Optoelectronics – Photonics and (v) Microelectronics. My research interests focus on 2D, magnetic and nano materials. What drives my passion for research and development, is the ambition that through the fusion of innovation and discovery, science and technology can illuminate the path towards a brighter interconnected sustainable society.

Motivated and detail-oriented individual with strong organizational and analytical skills. Passionate about driving impactful work and creating positive change. Experienced in both self – managed and team projects, adaptable to any challenge.

Skills & Qualifications

Languages	English: Certificate of Proficiency in English, University of Michigan C2 German: Zertifikat Deutsch als Fremdsprache, Goethe Institut B1
Programming / Software	Scientific Programming: Fortran 90/95, Matlab, Comsol Multiphysics Analysis Software: Origin Pro, Fityk, Chem Draw
Scientific Equipment	RF magnetron sputtering UV/Vis, FTIR and PL spectroscopies Profilometry Optical microscopy Clean room Electrical Characterization
Materials growth	Hydrothermal growth sol – gel thin film deposition, spin coating Photolithography, lift – off & etching processes

Honors & Distinctions

Sept 2024	<u>Thomaidios award</u> for presentation in conference during 2023.
Jul 2024 – present	PhD fellowship from Special Account for Research Funding (ELKE) of National Technical University of Athens (NTUA), Dept. of ECE.

Jul 2021 | Award “Ioannis Tamiolakis” given to the first graduate student of the Dept. of Materials Science and Technology, University of Crete.

Conference Contributions

- [1] N. Chouchoumi, E. Hourdakis, C. A. Krontiras and C. Tsamis, “3D micro – capacitors based on ZnO nanostructures”, 2023, 37th annual Panhellenic Conference on Solid State Physics and Materials Science ([Book of Abstracts p. 249](#)).
- [2] N. Chouchoumi, S. V. Starinskiy, O. Tsilipakos, M. Kandyla “Laser - driven photonic nanojet functionalization of 2D materials for energy harvesting applications”, 2024, Photonics Hellenic symposium (PHOS) [LINK](#).

Publications

Journal Articles

- [1] S. Skorda, A. Bardakas, A. Segkos, N. Chouchoumi, E. Hourdakis, G. Vekinis, and C. Tsamis, “Influence of SiC doping on the Mechanical, Electrical, and Optical properties of 3D – Printed PLA”, Journal of Composites Science, (2024), 79, 8(3). <https://doi.org/10.3390/jcs8030079>
- [2] S.V. Starinskiy, T. Giannakis, N. Chouchoumi, V.S. Sulyaeva, O. Tsilipakos, M. Kandyla “Subwavelength Photonic Nanojet Processing of Thin Metal Films Using Optical Tweezers”, Journal of Surfaces and Interfaces, (2025) <https://doi.org/10.1016/j.surfin.2025.107192>

Conferences & Courses

- 11 – 14 Dec 2019** 34th annual Panhellenic Conference on Solid State Physics and Materials Science.
- 30 Nov 2020** Online workshop for entrepreneurship organized by the Employment & Career Structure of the University of Crete in collaboration with Bizrupt organization.
- 10 Dec 2020** Online workshop for entrepreneurship organized by the Employment & Career Structure of the University of Crete in collaboration with Bizrupt organization.
- 19 – 20 Dec 2020** Online workshop on Computational Materials Science co-organized by the Department of Materials Science and Technology, University of Crete and the Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM).
- 12 – 16 Jul 2021** 56th Summer School organized by National Centre for Scientific Research “DEMOKRITOS” (Online)
- 18 Dec 2021** Online workshop on Computational Materials Science co-organized by the Department of Materials Science, University of Patras and the Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM).

11 – 15 Jul 2022	<u>57th Summer School</u> organized by National Centre for Scientific Research “DEMOKRITOS”.
26 – 28 Sep 2022	<u>36th annual Panhellenic Conference</u> on Solid State Physics and Materials Science.
17 – 20 Sep 2023	<u>37th annual Panhellenic Conference</u> on Solid State Physics and Materials Science.
09 – 10 Dec 2023	<u>Online workshop on Computational Materials Science</u> co-organized by the Department of Physics, National Kapodistrian University of Athens, the Physics Laboratory Department of Education, ASPETE and the Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM).

Memberships

[2021 - ...] Hellenic Society for the Science and Technology of condensed matter (HSSTCM)