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 Salaminos street, 48, Chalandri, Athens, Greece. P.C. 15232

Date of birth: 10 February 1996

Nationality: Hellenic

Education

January 2014 – July 2020: Undergraduate studies in the Department of Physics of the School of Sciences, National and Kapodistrian University of Athens.

- B.Sc. in Physics.
- Section of Condensed Matter Physics, material science.
- Diploma Thesis title: Photocatalysis on Mesoporous films.

September 2020 – June 2022: Postgraduate studies in the School of Applied Mathematics and Physical Science, National Technical University of Athens.

- M.Sc. in Physics and Technological Applications.
- Diploma Thesis on perovskite materials.

September 2022 – Present: PhD student at the School of Applied Mathematics and Physical Science, National Technical University of Athens.

- PhD Thesis: “ Perovskite and Chalcogenide light emitting diodes”.

Professional Experience

September 2021 – 2022: National Centre for Scientific Research “Demokritos”:

- MSc student at the Institute of Nanoscience and Nanotechnology (INN).
- Working on fabrication and characterization of perovskite solar cells.

March 2022 – 2023: Alpha Informatics A.E. – NTUA SEMFE:

- RAMAN specialist.
- Raman analysis of biological samples.

September 2022 – Present: National Centre for Scientific Research “Demokritos”:

- PhD student at the Institute of Nanoscience and Nanotechnology (INN).
- Working on fabrication and characterization of perovskite and chalcogenide Solar Cells and Light Emitting Diodes.

Conference Presentations

- K. Gkini, L. Givalou, S. Orfanoudakis, C. Kouzios, M. Konstantakou, T. Stergiopoulos, **Perovskite Layer Optimization by $ZrCl_4$ introduction within functional interfaces**, Poster Presentation, 13rd Panhellenic Scientific Conference in Chemical Engineering, 2-4 June 2022, UPATRAS, Patras,GR.
- L. Theofylaktos, L. Givalou, K. Gkini, C. Kouzios, S. Orfanoudakis, M. Konstantakou, T. Stergiopoulos **Exploiting the Sb^{3+} -Thiourea complex for smooth and homogeneous Sb_2S_3 polycrystalline films**, Poster Presentation, 13rd Panhellenic Scientific Conference in Chemical Engineering, 2-4 June 2022, UPATRAS, Patras, GR.

- Konstantina Gkini, Spyros Orfanoudakis, Polychronis Tsiapas, Lida Givalou, Christos Kouzios, Lazaros Theofylaktos, Athanasios Dimoulas, Polycarpus Falaras, Maria Konstantakou, Thomas Stergiopoulos, **Improved electron extraction at the perovskite/TiO₂ interface using insulating ZrCl₄ as interlayer**, Poster Presentation, Athens Conference on Advances in Chemistry 2022, June 26 to July 1, 2022, Department of Chemistry, Athens, GR.
- Christos Kouzios, Spyros Orfanoudakis, Konstantina Gkini, Lazaros Theofylaktos, Lida Givalou, Maria Konstantakou, Thomas Stergiopoulos, **Chemical passivation of imperfections in methylammonium lead iodide perovskite solar cells**, Poster Presentation, Athens Conference on Advances in Chemistry 2022 June 26 to July 1, 2022, Department of Chemistry, Athens, GR.
- Spyros Orfanoudakis, Ellas Spyratou, Maria Karnachoriti, Maria Lambropoulou, Ioannis Seimenis, Efstathios P. Efstathopoulos, Yannis S. Raptis, Athanasios G. Kontos, **Demonstration of spectroscopy measurements using a portable biophotonic system**, Oral Presentation, Lasers in Medicine - Advanced clinical applications and safety issues, 22 April 2023, SCHOOL OF MEDICINE (NKUA), Athens, GR.
- Spyros Orfanoudakis, Filippus Harlaftis, Konstantina Gkini, Lazaros Theofylaktos, Apostolos Kalafatis, Georgia Basina, Lida Givalou, Maria Konstantakou, Athanasios G. Kontos, Thomas Stergiopoulos, **A thiol-based salt for surface passivation in perovskite solar cells**, Poster Presentation, International Conference on Nanotechnologies and Bionanoscience (NanoBio), September 11 to September 15, 2023, Heraklion, Crete, Greece.
- Konstantina Gkini, Spyros Orfanoudakis, Thomas Stergiopoulos, **Improving stability of α -FAPbI₃ solar cells by tailoring SnO₂/perovskite interface with 2D g-C₃N₄**, Poster Presentation, International Conference on Nanotechnologies and Bionanoscience (NanoBio), September 11 to September 15, 2023, Heraklion, Crete, Greece.
- L. Theofylaktos, L. Gkivalou, K. Gkini, S. Orfanoudakis, A. Kalafatis, G. Basina, P. Dallas, P. Tsiapas, V. Psycharis, and T. Stergiopoulos, **Emerging Sb₂S₃ absorber for planar chalcogenide solar cells via optimized SbAc₃ · Thiourea · DMF route**, Poster presentation, International Conference on Nanotechnologies and Bionanosciences (NanoBio), September 11 to 15, 2023, Heraklion, Crete, Greece.
- L. Theofylaktos, A. Kalafatis, S. Orfanoudakis, P. Dallas, G. Basina, K. Gkini, P. Tsiapas, E. Sekelis, V. Psycharis, T. Stergiopoulos and D. Sazou, **Novel synthetic route to Stibnite-Bismuthinite BiSbS₃ solid solution series as a candidate material for energy applications**, 37th Panhellenic Conference on Solid State Physics and Materials Science, 17 to 20 September 2023, Thessaloniki, Greece.
- Spyros Orfanoudakis, Filippus Harlaftis, Athanasios G. Kontos, Thomas Stergiopoulos, **Thiol-bearing Tertiary Amine passivation enables FAPbI₃ perovskite light emitting diodes with air stability**, Poster Presentation, PSCO 2024, September 16-18, 2024, Perugia, IT.

Publications

- Konstantina Gkini, Spyros Orfanoudakis, Polychronis Tsiapas, Maria-Christina Skoulikidou, Athanasios Dimoulas, Polycarpus Falaras, Maria Konstantakou, Thomas Stergiopoulos, **Insulating ZrCl₄ interlayer to control energy level alignment at the perovskite/TiO₂ interface**, Electrochimica Acta, 2022.
- Sanja Mahović Poljaček, Tamara Tomašegović, Stamatina Theohari, Dominik Kapović, and Spyros Orfanoudakis, **Adhesion and colorimetric analysis of acrylate resin-based screen-printed inks on anodized aluminium substrate**, Journal of Adhesion Science and Technology, 2022.
- M. Karnachoriti, E. Spyratou, S. Orphanoudakis, M. Lambropoulou, I. Seimenis, E. Efstathopoulos, Y. Raptis, A. Kontos, **Raman Scattering as a tool for diagnosis of colorectal cancer current status and practical experimental solutions**, Physica Medica, 2022.
- E. Spyratou, M. Karnachoriti, I. Stathopoulos, M. Kouri, N. Arkadopoulos, S. Orphanoudakis, E. Efstathopoulos, A. Kontos, **Discrimination of cancerous colorectal tissues by advanced Raman Spectroscopy**, Physica Medica, 2022.
- Dimitris Kalatzis, Ellas Spyratou, Maria Karnachoriti, Maria Anthi Kouri, Spyros Orfanoudakis, Nektarios Koufopoulos, Abraham Pouliakis, Nikolaos Danias, Ioannis Seimenis, Athanasios G. Kontos and Efstathios P. Efstathopoulos, **Advanced Raman Spectroscopy Based on Transfer Learning by Using a Convolutional Neural Network for Personalized Colorectal Cancer Diagnosis**, Optics 2023.
- M. Karnachoriti, I. Stathopoulos, M. Kouri, E. Spyratou, S. Orfanoudakis, D. Lykidis, M. Lambropoulou, N. Danias, N. Arkadopoulos, E.P. Efstathopoulos, Y.S. Raptis, I. Seimenis, A.G. Kontos, **Biochemical differentiation between cancerous and normal human colorectal tissues by micro-Raman spectroscopy**, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 2023.
- Maria Anthi Kouri, Maria Karnachoriti, Ellas Spyratou, Spyros Orfanoudakis, Dimitris Kalatzis Athanasios G. Kontos, Ioannis Seimenis, Efstathios P. Efstathopoulos, Alexandra Tsaroucha, and Maria Lambropoulou, **Shedding**

Light on Colorectal Cancer: An in Vivo Raman Spectroscopy Approach Combined with Deep Learning Analysis, Int. J. Mol. Sci. 2023.

- Dimitris Kalatzis, Ellas Spyratou, Maria Karnachoriti, Maria Anthi Kouri, Ioannis Stathopoulos, Nikolaos Danias, Nikolaos Arkadopoulos, Spyros Orfanoudakis, Ioannis Seimenis, Athanassios G. Kontos and Efstathios P. Efstathopoulos, ***Extended Analysis of Raman Spectra Using Artificial Intelligence Techniques for Colorectal Abnormality Classification***, J. Imaging 2023.
- Varvara Marazioti, Antonios M. Douvas, Evangelia C. Vouvoudi, Dimitrios Bikiaris, Kyriaki Papadokostaki, Dimitrios Nioras, Evangelos Gogolides, Spyros Orfanoudakis, Thomas Stergiopoulos, Stamatios Boyatzis and Yorgos Facorellis, ***The Condition of Contemporary Murals in Sun-Exposed Urban Environments: A Model Study Based on Spray-Painted Mock-Ups and Simulated Light Ageing***, Heritage 2024.
- Sanja Mahović Poljaček, Tamara Tomašegović, Stamatina Theohari, Isidoros Iakovidis, Spyros Orfanoudakis, Eleni Ntaflou, ***Optimization of the interfacial properties between mechanically and electrochemically treated aluminium and nano-modified coatings for printed outdoor applications***, International Journal of Adhesion and Adhesives, Volume 135, December 2024, 103840.
- Lida Givalou, Eleftherios Christopoulos, Michalis K. Arfanis, Spyros Orfanoudakis, Polychronis Tsipas, Athanasios Dimoulas, Thomas Stergiopoulos, Polycarpus Falaras, ***ETL/perovskite interface engineering using cadmium and lead chalcogenide quantum dots***, Electrochimica Acta, 2024.
- P. Dallas, K. Gkini, A. Kaltzoglou, L. Givalou, M. Konstantakou, S. Orfanoudakis, N. Boukos, E. Sakellis, P. Tsipas, A. Kalafatis, A.G. Karydas, A. Lagogiannis, P. Falaras, V. Psycharis, T. Stergiopoulos, ***Exploring the potential of powder-to-film processing for proof-of-concept BaZrS₃ perovskite solar cells***, Materials Today Communications, 2024.
- Panagiota Bika, Vasileios K. Tzitzios, Elias Sakellis, Spyros Orfanoudakis, Nikos Boukos, Saeed M. Alhassan, Polychronis Tsipas, Vasileios Psycharis, Thomas Stergiopoulos and Panagiotis Dallas, ***Electron transfer and energy exchange between a covalent organic framework and CuFeS₂ nanoparticles***, Journal of Materials Chemistry C, 2024.
- Konstantina Gkini, Spyros Orfanoudakis, Filippos Harlaftis, Panagiotis Dallas, Christos Kouzios, Polychronis Tsipas, Athanassios G. Kontos, Maria Konstantakou and Thomas Stergiopoulos, ***Influence of TFSI post-treatment on surface doping and passivation of lead halide perovskites***, Journal of Materials Chemistry A, 2024.

Skills

- Familiarity with a wide range of material characterization and analysis techniques (SEM/EDX, AFM, XRD, TGA, UV-vis, PL and Raman spectroscopy).
- Practical laboratory skills, including the handling of hazardous chemicals, manipulation of air- or moisture-sensitive materials and various methods and procedures for chemical synthesis.
- Excellent communication and teamwork skills, owing to an extensive history of working as part of a wider research group.
- Experience with a variety of programming languages and software packages (C, Python, MATLAB, LaTeX, Origin, Microsoft Office).

Languages

English – Excellent user:

- Michigan University's Certificate of Advanced in English (2013)