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Professional Experience

- 2024 – ····  **Research Associate**, Dept. of Environmental Engineering, DUTH
- 2023 – 2024  **Research Associate**, Dept. of Marine Sciences, University of the Aegean
- 2016, 2017, 2018, 2021  **Teaching Assistant**, Dept. of Marine Sciences, University of the Aegean
- 2015 – 2023  **Research Assistant**, Dept. of Marine Sciences, University of the Aegean
- 2013 – 2015  **Physics Tutor**, Self-Employed
- 2011 – 2012  **Research Assistant**, Royal Netherlands Meteorological Institute (KNMI)
- 2003 – 2009  **Administrative Assistant**, AKMON Construction Company LTD.
- 2004 – 2005  **Research Assistant**, Dept. of Physics, Aristotle University of Thessaloniki
- 2003  **Telecommunication-systems maintenance**, Int. Airport of Thessaloniki

Education



- 2023  **Ph.D. in Physical Oceanography** University of the Aegean
Thesis title: *Development of a Hydrodynamic Simulation for the study of Climate Change and Variability in the Aegean Sea*
- 2012  **M.Sc. in Meteorology, Physical Oceanography & Climate** Utrecht University
Thesis title: *Assessing the response of vegetation energy fluxes to heat-waves using the H-TESSEL land surface scheme.*
- 2009  **B.Sc. in Physics** Aristotle University of Thessaloniki
Thesis title: *Study on the response of He-3 proportional counter with Monte Carlo.*

Teaching

-  **Introduction to Physics (BSc lvl.)** - Semester-long standalone tutoring as teaching asst.
-  **Climate Change & the Ocean (BSc lvl.)** - Semester-long standalone tutoring as teaching asst.
-  **Descriptive Oceanography (BSc lvl.)** - Semester-long standalone tutoring as teaching asst.
-  **Dynamical Oceanography (BSc lvl.)** - Semester-long standalone tutoring as teaching asst.
-  **Oceanography of the Mediterranean (BSc lvl.)** - Individual lectures as guest lecturer
-  **Operational Oceanography & Hydroacoustics (MSc lvl.)** - Individual lectures as guest lecturer

Research

Interests

-  Physical Oceanography of the eastern Mediterranean Sea & interactions with the Black Sea
-  Ocean influence on local climate through air-sea interactions

Research (continued)

- Hydrodynamic simulations, wave modeling & numerical methods in geophysical fluid dynamics
- Observational and numerical dataset analysis
- Lagrangian methods in monitoring & predicting tracers in the ocean (oil spills, search & rescue, etc.)
- Climate change, variability & extreme events

Projects

- DesirMED - Demonstration and mainstrEaming of nature-based Solutionsfor cLIimate Resilient transformation in the MEDiterranean, financed by EU Program 2021-2027, Horizon 2022.
- ILIAD Ocean Digital Twin - INTEGRATED Digital Framework FOR Comprehensive MARITIME DATA AND INFORMATION SERVICES, financed by EU Program 2014-2020, Horizon 2020.
- "My Blue Home", an Erasmus+ project promoting Ocean Literacy education and encouraging the implementation of Sustainability practices by primary school children. Funded by the European Union.
- Extention of the infrastructure "Coastal environment observatory" (AEGIS+), financed by the Partnership Agreement for the Development Framework 2014-2020, and the European Structural and Investment Funds (ESIF).
- "Evaluation, control and Mitigation of the EnviRonmental impacts of shippinG Emissions" (EMERGE), financed by EU Program 2014-2020, Horizon 2020.
- Infrastructure development to support Blue Growth in the North Aegean: Coastal environment observatory (AEGIS), 2018-2020, co-financed by Greece and the European Union (European Social Fund-ESF) through the Operational Programme "Human Resources Development, Education and Lifelong Learning 2014-2020".
- Hellenic Integrated Monitoring, Innovation and Operational Forecasting of Seas and Internal Waters (HIMIOFoTS), coordinated by the Hellenic Centre for Marine Research (HCMR), co-financed by Greece and the European Union (European Social Fund- ESF) through the Operational Programme "Human Resources Development, Education and Lifelong Learning 2014-2020".
- Model Oceanographic System for the monitoring of Kalloni Gulf (Model Kalloni), co-financed by Greece and the European Union (European Social Fund- ESF) through the Operational Programme "Human Resources Development, Education and Lifelong Learning 2014-2020" in the context of the project "Model Oceanographic System for the monitoring of Kalloni Gulf (Model Kalloni)" (MIS 5004239).
- Greek infrastructure for the autonomous ocean observing system ARGO (ARGO), funded by the European Roadmap of Research Infrastructures, by ESFRI-European Strategic Forum For Research Infrastructures.

Selected Publications

Journal Articles

- 1 **Petalas, S.**, Tragou, E., Mamoutos, I. G., & Zervakis, V. (2022). Simulating the interconnected eastern mediterranean–black sea system on climatic timescales: A 30-year realistic hindcast. *Journal of Marine Science and Engineering*, 10(11). <https://doi.org/10.3390/jmse10111786>
- 2 Bourma, E., Perivoliotis, L., Petihakis, G., Korres, G., Frangoulis, C., Ballas, D., Zervakis, V., Tragou, E., Katsafados, P., Spyrou, C., Dassenakis, M., Poulos, S., Megalofonou, P., Sofianos, S., Paramana, T., Katsaounis, G., Karditsa, A., Petrakis, S., Mavropoulou, A.-M., ... Zisis, N. (2022). The hellenic marine observing, forecasting and technology system – an integrated infrastructure for marine research. *Journal of Marine Science and Engineering*, 10(3). <https://doi.org/10.3390/jmse10030329>

- 3 Mamoutos, I. G., Potiris, E., Tragou, E., Zervakis, V., & **Petalas, S.** (2021). A high-resolution numerical model of the north aegean sea aimed at climatological studies. *Journal of Marine Science and Engineering*, 9(12). <https://doi.org/10.3390/jmse9121463>
- 4 **Petalas, S.**, Mamoutos, I., Dimitrakopoulos, A.-A., Sampatakaki, A., & Zervakis, V. (2020). Developing a pilot operational oceanography system for an enclosed basin. *Journal of Marine Science and Engineering*, 8(5). <https://doi.org/10.3390/jmse8050336>

Books and Chapters

- 1 Tragou, E., **Petalas, S.**, & Mamoutos, I. (2022). *Air-sea interaction: Heat and fresh-water fluxes in the aegean sea*. Springer Berlin Heidelberg. https://doi.org/10.1007/698_2021_841

Skills

Languages	<ul style="list-style-type: none"> 📖 Greek (Mother tongue) 📖 English (Excellent - C2) 📖 German (Very good - B2)
Coding & Data Handling	<ul style="list-style-type: none"> 📖 Python, FORTRAN, BASH/Unix, R, Matlab, NCO/CDO
Numerical Modelling	<ul style="list-style-type: none"> 📖 ROMS, SWAN, Lagrangian Methods
HPC/Cluster	<ul style="list-style-type: none"> 📖 Beowulf-cluster setup & administration 📖 Setup of numerical simulations on Tier-1 HPC systems (GRNET) 📖 Slurm (workload manager)
Web Dev	<ul style="list-style-type: none"> 📖 HTML, CSS, PHP, Python
Misc.	<ul style="list-style-type: none"> 📖 Academic Research, Teaching, Training, Consulting, Big-data analysis & management, Office management software, L^AT_EX typesetting and publishing, GIS methods, CAD software & 3D printing

Miscellaneous Experience

2018	<ul style="list-style-type: none"> 📖 Documentary Production Assistant, on-set "<i>The Remains</i>" documentary, Navigator Film Production & Co. KG
2017	<ul style="list-style-type: none"> 📖 Movie Production & Set-Design Assistant, on-set "<i>Meltem</i>" movie, Blonde Film Production & Co.
2012 – 2013	<ul style="list-style-type: none"> 📖 Crew Managing Officer (Corporal), Corps of Engineers, Hellenic Army

References

Available on Request