

## Personal Information



Dr. Alexandra – Eleni Spyropoulou

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 <https://www.civ.uth.gr/staff/researchers>

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 Skype [alexandra.spyropoulou](https://www.skype.com/people/alexandra.spyropoulou)

 [@aespyropoulou](https://twitter.com/aespyropoulou)

## CURRENT POSITION

08 /02/2017 – to date

Post-doctoral researcher, Department of Civil Engineering, University of Thessaly, Volos, (Greece)

## RESEARCH ASSOCIATE

AE4RIA: Alliance of Excellence for Research and Innovation of Aephoria  
<https://ae4ria.org/>

Sustainability Research and Modeling Solutions – AMARANTHUS  
<https://www.amaranthus.org/>

## EDUCATION AND TRAINING

01/12/2018–  
30/06/2021

Postdoctoral Research, “Origin, speciation and mobility mechanisms of mercury in groundwater: Investigating methods for suppressing its mobility and for suitable drinking water purification technologies–environmental and public health impact”.

Stavros S. Niarchos Foundation Fellowship  
Department of Civil Engineering, University of Thessaly, Volos, (Greece)

01/01/2009–  
17/07/2015

PhD, “3-D circulation, impact of the terrestrial loading and atmospheric conditions on seasonal and climatic time scales in Eastern Mediterranean Gulfs: A case study in Kalloni Gulf, Lesvos Island, Greece”.

01/02/2010–  
30/08/2010

Department of Marine Sciences, University of the Aegean, Lesvos Island (Greece)  
Placement during the 2<sup>nd</sup> year of the Ph.D thesis: Application of a 3-d hydrodynamic model for scenario testing of future meteorological conditions.

National Oceanography Center of Southampton (NOCS), United Kingdom (UK)  
Application of the 3D Hydrodynamic Model (HYCOM)

01/09/2006–  
01/06/2007

MSc, Integrated Coastal Zone Management  
Thesis of Specialization: Dynamics of the seawater exchange between a semi-enclosed bay and the open sea and its effects on eutrophication.  
Department of Marine Sciences, University of the Aegean, Lesvos Island (Greece)

01/09/1997–  
01/06/2004

BSc, Physics,  
School of Physics, Department of Applied and Environmental Physics, Aristotle University  
of Thessaloniki (Greece)

## LANGUGES

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Ελληνικά: Native language

Αγγλικά: Michigan Proficiency in English Michigan (fluent written and oral)

Γαλλικά: Initial level

## SOMPUTER SKILLS

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Microsoft Office (ECDL Certificate- internet- word, excel, presentations, database)

Scientific Software: ArcGIS, Phreeqc, Epanet, Origin, SPSS, Statgraphics, Microfit E,  
Mathematica

Programming language: FORTRAN, MATLAB, LINUX

## TEACHING EXPERIENCE

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2023 - 2024

Teaching: "Environmental engineering"

Undergraduate study program, Department of Civil Engineering, University of Thessaly

2022 - 2023

Teaching: "Oceanography and Marine Ecosystems"

Undergraduate study program, School of Technology, Department of Environmental  
Science, University of Thessaly

2021 - 2022

Teaching: "Oceanography and Marine Ecosystems"

Undergraduate study program, School of Technology, Department of Environmental  
Science, University of Thessaly

2020 - 2021

Teaching: "Oceanography and Marine Ecosystems"

Undergraduate study program, School of Technology, Department of Environmental  
Science, University of Thessaly

2021 - 2022

Teaching Assistant: Teaching within the course: "Sewage Treatment and Ecological  
Engineering"

Undergraduate study program, Department of Civil Engineering, University of Thessaly

2020 - 2021

Teaching: "Oceanography and Marine Ecosystems"

Undergraduate study program, School of Technology, Department of Environmental  
Science, University of Thessaly

2021 - 2022

Teaching Assistant: Teaching within the course: "Biodiversity and Threatened  
Species"

Postgraduate program, Department of Agriculture, Ichthyology and Aquatic Environment,  
University of Thessaly

- 2020 – 2021 **Teaching Assistant:** Teaching within the course: "Hygiene of Water Resources"  
Postgraduate program, Department of Agriculture, Ichthyology and Aquatic Environment, University of Thessaly.
- 2020 – 2021 **Teaching Assistant:** Teaching within the course: "Biodiversity and Threatened Species"  
Postgraduate program, Department of Agriculture, Ichthyology and Aquatic Environment, University of Thessaly.
- 2018 – 2019 **Teaching Assistant:** Teaching within the course: "Sewage Treatment and Ecological Engineering"  
Undergraduate study program, Department of Civil Engineering, University of Thessaly

## RESEARCH ASSOCIATE / WORK EXPERIENCE

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- 11/2023 - 08/2028 **Research Programme:** "Accelerating and mainstreaming transformative NATure Based solutions to enhance resiliEence to climate change for diverse bio-geographical European regions-NATALIE", *EU: HORIZON research and innovation programme, 2021- 2027*  
  
Coordinator: Dr. Sonia Siauve, International Office for Water (OIEau) , France
- 11/2023 – 31/12/2027 **Research Programme:** "Mitigating transport-related air pollution in Europe – MI-TRAP", *HORIZON EUROPE, European Commission, 2023-2026*  
  
Coordinator: Dr. Konstatinos Eleftheriadis, NCSR DEMOKRITOS National center for scientific research, Athens, Greece
- 10/2021 - 9/2025 **Research Programme:** "Climate resilient – regions through systemic solutions and innovations—ARSINOE", *EU: HORIZON2020 – Climate – resilient Innovation Packages for EU regions, <https://arsinoe-project.eu/>*  
  
Hydrology and Aquatic Systems Analysis Laboratory, Department of Civil Engineering, University of Thessaly, Pedion Areos, 38334, Volos, Greece  
  
Coordinator: Professor Chrysi Laspidou, UTH, Greece
- 9/2021 - 8/2025 **Research Programme:** "Facilitating the next generation of effective and intelligent water –related policies utilizing artificial intelligence and reinforcement learning to assess the water-energy –food –ecosystem (WEFE) nexus—NEXOGENESIS", *EU: HORIZON2020 –RIA, <https://nexogenesis.eu/>*  
  
Coordinator: Dr. J. Susnik, IHE Delft, NL
- 9/2021 - 9/2025 **Network on water – energy – food nexus for a low – carbon economy in Europe and beyond—NEXUSNET, EU: COST, <https://nexusnet-cost.com/>**  
  
Hydrology and Aquatic Systems Analysis Laboratory, Department of Civil Engineering, University of Thessaly, Pedion Areos, 38334, Volos, Greece  
  
Coordinator: Professor Chrysi Laspidou, UTH, Greece

- 5/2021-4/2024      Research Programme: Mediterranean wAtEr management solutions for a sustainable agGriculture supplied by an Online collaborative platform—MAGO, EU: HORIZON2020 –PRIMA -Water Management, <https://www.mago-prima.eu/>  
Coordinator: Dr. L. Pouget, Cetaqua, ES
- 3/2021 - 2/2023      Research Programme: Serious gaMes for digitAl Readiness of waTer EducatioN—SMARTEN, EU: Erasmus+ Strategic partnership, <https://smartenproject.eu/>  
Hydrology and Aquatic Systems Analysis Laboratory, Department of Civil Engineering, University of Thessaly, Pedion Areos, 38334, Volos, Greece  
Coordinator: Dr. Z. Maletskyi, NMBU, NO
- 9/2017 - 6/2021      Research Programme: Integrated nanotechnologies for sustainable sensing water and sanitation—NanoSWS, EU: ERANETMED II  
Hydrology and Aquatic Systems Analysis Laboratory, Department of Civil Engineering, University of Thessaly, Pedion Areos, 38334, Volos, Greece  
Coordinator: Dr. F. Arduini, University of Rome Tor Vergata, IT
- 3/2017 - 2/2021      Research Programme: Holistic Surface Water and Groundwater Management for Sustainable Cities—Water4Cities, EU: Horizon2020 Water-2b, <http://www.water4cities.eu/>  
Hydrology and Aquatic Systems Analysis Laboratory, Department of Civil Engineering, University of Thessaly, Pedion Areos, 38334, Volos, Greece  
Coordinator: Professor Chrysi Laspidou, UTH, Greece
- 06/2015 – 01/2017      Research Program: “Sustainable Integrated Management for the Nexus of water-land-food-energy-climate for a resource-efficient Europe SIM4NEXUS”, EU: Horizon2020 Water-2b, <https://www.sim4nexus.eu/>  
Hydrology and Aquatic Systems Analysis Laboratory, Department of Civil Engineering, University of Thessaly, Pedion Areos, 38334, Volos, Greece  
Coordinator: Dr. Floor Brouwer, Wageningen-LEI, The Netherlands
- 03/2017 – 10/2021      Research Programme: “Integrated Support System for Efficient Water Usage and Resources Management (ISS-EWATUS)”, funded by the EU 7th Framework Programme, Specific programme Cooperation Information and Communication Technologies, <http://www.issewatus.eu/>  
Principal Investigator for partner Center for Research and Technology Hellas (CERTH)  
Coordinator: Dr. Ewa Magiera, University of Silesia, PL
- 10/2011 – 06/2013      Research Programme: Ecological quality assessment of Gerakas bay and proposal of management schemes. Financed by the Municipality of Zarakas, Greece.  
Department of Marine Sciences, University of the Aegean, Lesvos Island, Greece  
Scientific Responsible: Professor Michalis Karydis
- 07/2006 – 12/2010      Research Programme: “Monitoring of seawater and shellfish quality of the gulfs of Kalloni and Gera (Lesvos Island) and Moudros (Limnos Island)”. Financed by the Prefecture of Lesvos, Greece  
Department of Marine Sciences, University of the Aegean, Lesvos Island, Greece

- 08/2009 – 09/2009 Scientific Responsible: Professor Michalis Karydis  
 Research Programme: Solute dispersion measurements at DHI - 'Man' days. Memorandum of Understanding between DHI Water Environment Health (DHI) and University of Warwick User Group (UWUG) concerning co-operation under Integrated Infrastructure Initiative HYDRALAB-III. Access to major experimental facilities in Copenhagen, Denmark. DANISH HYDRAULIC INSTITUTE (DHI Water Environment Health)
- 06/2006 – 12/2007 Scientific Responsible: Assistant Professor Jonathan Pearson, University of Warwick, School of Engineering  
 Research Programme: "Investigation of the causes of cadmium accumulation in the havara (*Modiolus barbatus*) of the gulf of Kalloni, island of Lesbos"  
 Department of Marine Sciences, University of the Aegean, Lesbos Island, Greece  
 Scientific Responsible: Professor George Tsirtsis
- 07/2006 – 07/2007 Research Programme: Assessment of seawater quality for the supply of the public aquarium of Loutraki. Financed by the Municipality of Loutraki, Greece  
 Department of Marine Sciences, University of the Aegean, Lesbos Island, Greece  
 Scientific Responsible: Professor Michalis Karydis
- 06/2006 – 07/2007 Field trip (cruise) with the Research Vessel «AEGEAN» of the Hellenic Center for Marine Research (HCMR) "Exploring the role of Coastal Anemogenous spurt in N. Aegean"  
 Department of Marine Sciences, University of the Aegean, Lesbos Island, Greece  
 Scientific Responsible: Professor Vasilis Zervakis
- 06/2006 – 07/2007 Research Programme: DITTY, Development of an Information Technology Tool for the Management of European Southern Lagoons under the influence of river-basin runoff. Research Project financed by the Research Directorate of the European Union  
 Department of Marine Sciences, University of the Aegean, Lesbos Island, Greece  
 Scientific Responsible: Professor Michalis Karydis
- 10/2007 – 06/2010 GREEK SECONDARY PUBLIC EDUCATION: Teaching in Public High School Fields: Physics, Chemistry, Mathematics, Geography
- 09/2006 – 12/2010 Teaching in private Sector: Teaching of Physics, Mathematics, Chemistry, Biology

## SCIENTIFIC PUBLICATIONS

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1. Spyropoulou, A. E., Lazarou, Y. G., Sapalidis, A. A., Laspidou, C. S. 2021. Geochemical modelling of mercury in coastal groundwater. *Chemosphere*, 131609.
2. Spyropoulou, A., Laspidou, C., Kormas, K., Lazarou, Y. G. 2020. The Impact of Possible Mercury Source-Point Contamination in the Coastal Area of Skiathos Island. In *Environmental Sciences Proceedings* (Vol. 2, No. 1, p. 50). Multidisciplinary Digital Publishing Institute.
3. Laspidou, C. S., Mellios, N. K., Spyropoulou, A. E., Kofinas, D. T., Papadopoulou, M. P. 2020. Systems thinking on the resource nexus: Modeling and visualisation tools to identify critical

interlinkages for resilient and sustainable societies and institutions. *Science of The Total Environment*, 717, 137264.

4. Rizou, S., Kenda, K., Kofinas, D., Mellios, N., Pergar, P., Ritsos, P. D., Vardakas, J., Kalaboukas, K., Laspidou C., Senožetnik, M., Spyropoulou, A. 2018. Water4Cities: An ICT Platform Enabling Holistic Surface Water Management for Sustainable Cities. In *Multidisciplinary Digital Publishing Institute Proceedings Vol. 2, No. 11*, p. 695.

5. Spyropoulou, A., Lazarou, Y. G., Laspidou, C. 2018. Mercury Speciation in the Water Distribution System of Skiathos Island, Greece. In *Multidisciplinary Digital Publishing Institute Proceedings Vol. 2, No. 11*, p. 668.

6. Kofinas, D. T., Spyropoulou, A., Laspidou, C. 2018. A methodology for synthetic household water consumption data generation. *Environmental Modelling & Software*, 100, 48-66.

7. Rizou, S., Kenda, K., Kofinas, D., Mellios, N., Pergar, P., Ritsos, P. D., Vardakas, J., Kalaboukas, K., Laspidou, C., Senozetnik, M., and Spyropoulou, A. (2018). Water4Cities: An ICT Platform Enabling Holistic Surface Water and Groundwater Management for Sustainable Cities. *Proceedings*, 2(11), pp. 695, doi:10.3390/proceedings, 2110695

8. Ioannou, A. E., Kofinas, D., Spyropoulou, A., Laspidou, C. 2017. Data mining for household water consumption analysis using self-organizing maps 58: 443-448.

9. Contributing author in: Charalambous B. and Laspidou C. 2017. *Dealing with the Complex Interrelation of Intermittent Water Losses*, IWA Publishing, London.

10. Papantoniou, G., Danielidis, D.B., Spyropoulou, A., Fragopoulou, N. 2014. Spatial and temporal variability of small sized copepod assemblages in a shallow semi-enclosed embayment (Kalloni Gulf, NE Mediterranean Sea). *Journal of the Marine Biological Association of the United Kingdom* doi.10.1017.

11. Tamvakis, A., Miritzis, J., Tsirtsis, G., Spyropoulou, A., Spatharis, S. 2012. Effects Of Meteorological Forcing On Coastal Eutrophication: Modelling With Model Trees. *Estuarine, Coastal and Shelf Science* doi.org/10.1016.3.

12. Spyropoulou, A., Spatharis, S., Tsirtsis, G. 2011. Potential response of a semi-arid coastal ecosystem to climate change. *Hydrobiologia* doi. 10.1007/s10750-012-1384-6.

13. Tsirtsis, G., Spatharis, S., Sampatakaki, A., Spyropoulou, A. 2008. Thresholds of terrestrial nutrient loading for the development of eutrophication episodes in a coastal embayment in the Aegean. *Transitional Water Bulletin* 3, 25-37.

## CONFERENCE PROCEEDINGS

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1. Spyropoulou, A, Tseva, G, Laspidou, C. 2024. Tackling Environmental Risks with Nature-Based Solutions in EU Policies: Insights from the NATALIE project. 10<sup>th</sup> Anniversary ENVECON Conference, 6-7 December 2024, Volos.

2. Spyropoulou, A. (speaker) 2024. Co-producing the Nexus: Stakeholder-Driven Exploration of the Water-Energy-Food-Ecosystem Interconnections. Sustainability Research and Innovation Congress SRI/SSD, Helsinki, Finland.

3. Spyropoulou, A., Tseva G., Medina B., Causse, K., Laspidou, C. 2024. Enabling NBS co-creation and co-governance: a transdisciplinary methodological framework for the identification and analysis of stakeholders. Conference on Nature-Based Solutions for Water Security and Climate Adaptation, Belgrade, Serbia, July 3-5, 2024.

5. Tseva, G., Spyropoulou, A., Loisel, A., Laspidou C. 2024. The Integration of NbSs in NDCs: towards an Evidence-based Assessment Framework at the EU Level. 11th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2024) & SECOTOX Conference, June 16-June 20, 2024.
6. Spyropoulou, A., Adamos, G., Laspidou, C. 2023. Citizen Science as a tool to enhance co-creation activities and support policy making processes. 10th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference, Skiathos Island, Greece, June 5 - 9, 2023.
7. Spyropoulou, A., Mellios, N., Laspidou, C. 2023. Reorganization of Higher Education Institutions as an effect of the pandemic period. 10th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference, Skiathos Island, Greece, June 5 - 9, 2023.
8. Spyropoulou, A., Lazarou, Y. G., Laspidou, C. 2022. Potable Water Mercury contamination - Cause and Treatment. ACS Research Conference: Chemistry and Chemical Engineering in MENA, 09 - 11 May 2022, Qatar, Doha.
9. Spyropoulou, A., Lazarou, Y. G., Laspidou, C. 2022. Modeling the mercury speciation in coastal aquifer. 9th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference, Mykonos Island, Greece, June 5 - 9, 2022.
10. Pouliaris, C., Spyropoulou, A., Sarris, I., Laspidou, C., Kallioras, A., Assessment of hydrogeochemical processes and geogenic mercury pollution in coastal karstic aquifers in semi-arid environments, 22nd EGU General Assembly, held online 4-8 May, 2020, id.13242.
11. Spyropoulou, A., Kormas, K., Laspidou, C. 2020. Chemical Contamination Assessment in the Coastal waters of Skiathos Island, Aegean Sea, Greece. 4th EWaS International Conference: Valuing the "Water, Carbon, Ecological" footprints of human activities. 24-27 Ιουνίου, Κέρκυρα, Ελλάδα.
12. Spyropoulou, A., Lazarou, Y. G., Laspidou, C. 2018. Mercury speciation in the water distribution system of Skiathos Island, Greece. 3rd EWaS International Conference on "insights on the Water-Energy-Food Nexus". 27-30 Ιουνίου, Λευκάδα, Ελλάδα.
13. Spyropoulou, A., Lazarou, Y.-G., Tsiropoulos, N., Laspidou, C. 2018. Investigation of the Mercury contamination in the urban water system. The case study of Skiathos Island, Aegean Sea, Greece. Fifth International Symposium on Green Chemistry, Sustainable Development and Circular Economy, Σκιάθος 30 Σεπτεμβρίου-03 Οκτωβρίου 2018.
14. Ioannou, A., Laspidou, C., Spyropoulou, A., Kofinas, D. 2017. Data Mining for Household Analysis using Self-Organizing Maps. 10th World Congress on Water Resources and Environment "Panta Rhrei", Athens, Greece, 5-9 July 2017.
15. Spyropoulou, A., Tsiertsis, G., Kostopoulou, E. 2013. The Role of Teleconnection Patterns on Climate Variability in the Aegean Sea, Eastern Mediterranean. 40th CIESM Congress, Marseille, France, 28 October - 1 November 2013.
16. Spyropoulou, A., Spatharis, S., Tsiertsis, G. 2011. Pontetial response of a semi-arid coastal ecosystem to climate change. ASLO Aquatic Sciences Meeting 1, San Juan, Puerto Rico, USA, 13-18 February 2011.
17. Spyropoulou, A. and Tsiertsis, G. 2010. Effects of the recent climate changes to the water budget of a semi-enclosed gulf in Eastern Mediterranean. 39th CIESM Congress—Venice, Italy, 10-14 May 2010.

18. Spyropoulou, A. and Tsirtsis, G. 2009. Trends in Climate change at the Eastern Aegean and the effects at the water budget–nutrient in a semi-enclosed gulf. 9th Panhellenic Symposium on Oceanography & Fisheries. Patra, Greece, 13-16 May 2009.
19. Pearson, J.M., Guymer, I., Karambas, T.V., Spyropoulou, A. 2009 A. Solute dispersion in the nearshore due to oblique waves. Proceedings of the HYDRALAB III Joint User Meeting, Hannover, February 2010.
20. Spyropoulou, A. and Tsirtsis, G. 2009. Effects of the climate change on the water budget of a small watershed in Eastern Aegean: Modelling the run – off and the erosion processes. AQUA, Athens, Greece, 16-19 October 2008.
21. Spyropoulou, A. and Tsirtsis, G. 2008. Modelling the effects of anthropogenic activities and climate change on a small catchment in an Aegean Island. International Conference 'Studying, Modeling and sense making of planet Earth', Mytilene, Greece, 1-6 June 2008.
22. Tsirtsis, G., Spyropoulou, A., Sampatakaki, A. 2008. Development and application of an integrated methodology for the assessment of the contribution of terrestrial sources on the development of eutrophic episodes in coastal waters. 4th Panhellenic Conference 'Management and Improvement of the coastal zone', Mytilene, Greece, 23-27 September 2008.
23. Tsirtsis, G., Spatharis, S., Sampatakaki, A., Spyropoulou, A. 2007. Thresholds of terrestrial nutrient loading for the development of eutrophication episodes in a coastal embayment in the Aegean. 3rd European Conference on Lagoon Research: Conservation and Management in Coastal Ecosystems, 19-23 November 2007, Naples, Italy, p. 110.
24. Spyropoulou, A. 2007. Integrated Management of the coastal zone of the Kalloni Gulf 13th Panhellenic Conference of Greek Ichthyologists, Mytilene, Greece, 17-20 September 2007.

## ADDITIONAL SKILLS & INTERESTS

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Car driving license

Scuba diving diploma -PADI Open Water Diver, 9/09/2007

Offshore sailing school –Sailing Certificate, 19/07/2002