



Charikleia Lily Oikonomou

c.oikonomou@hcmr.gr |

Institute of Oceanography, 46.7 km Athens Sounio ave. 19013, Anavyssos, Attiki, Anavyssos Attiki, Greece

About me:

Researcher/Ocean Engineer with a background in Oceanography and a PhD in Engineering (Wave Energy Conversion) from Lancaster University. I have experience in wave data processing and wave energy conversion systems R&D (numerical and experimental methods). Currently, I am involved in the Copernicus Marine Service through HCMR, evaluating the wave model for the Mediterranean Sea.

● WORK EXPERIENCE

25/10/2021 – CURRENT – Anavyssos, Greece

OCEAN ENGINEER – HELLENIC CENTRE FOR MARINE RESEARCH (HCMR), INSTITUTE OF OCEANOGRAPHY

Wave model performance evaluation for the Mediterranean Sea (Copernicus Marine Environment Monitoring Service, MED MFC). Scientific responsible: Dr Gerasimos Korres.

04/10/2021 – 31/01/2022 – Larissa, Greece

ADJUNCT PROFESSOR – UNIVERSITY OF THESSALY, DEPARTMENT OF MECHANICAL ENGINEERING (FORMER TEI OF THESSALY)

- Teaching the mandatory module Renewable Energy (Theory & Laboratory classes),
- Topics covered: Solar collectors, Photovoltaics, Wind Power, Wave Power,
- Responsible for the preparation of module material (lecture notes, exercises & exams) and for marking.

07/05/2020 – 01/10/2021

RENEWABLE ENERGY CONSULTANT

- R&D of stand-alone floating wave energy conversion systems and wave energy conversion arrays through my own consultancy Ocean Science Services (contract with Kymaner Tecnologias Energéticas - collaboration with Instituto Superior Técnico),
- Preparation of lecture notes for MSc programs (e.g. Civil Engineering Department, NTUA),
- Solar power plant monitoring.

19/10/2018 – 18/10/2019 – Lisbon, Portugal

RESEARCH FELLOW – INSTITUTO SUPERIOR TÉCNICO, UNIVERSIDADE DE LISBOA

- Numerical modelling of arrays of floating oscillating-water-column wave energy converters and model validation with experimental results (funded through H2020 OPERA project),
- Experimental modelling of a low-power wave energy converter for powering oceanographic equipment (experimental set-up, experimental data acquisition, and analysis). Supervisors: Prof Luís Gato and Dr Rui Gomes,
- Development of an independent project on extreme wave analysis.

01/03/2013 – 30/06/2013 – Utrecht, Netherlands

RESEARCH INTERN – INSTITUTE FOR MARINE AND ATMOSPHERIC RESEARCH, UTRECHT UNIVERSITY

Project exploring the effect of wave rollers on the formation and evolution of morphodynamic patterns in the nearshore zone (transverse sandbars), through the modification of an in-house nonlinear morphodynamic model. Supervisors: Prof Huib de Swart and Dr Abdel Nnafie.

EDUCATION AND TRAINING

01/10/2014 – 08/08/2019 – United Kingdom

PHD IN ENGINEERING - WAVE ENERGY CONVERSION – Engineering Department, Lancaster University

PhD thesis title: “Hydrodynamic analysis of wave energy converter arrays with inter-body mooring connections with the spar-buoy OWC as a case study”. Supervisor: Prof George Aggidis. Project developed in collaboration with Instituto Superior Técnico Wave Energy Group (Universidade de Lisboa).

01/02/2016 – 29/07/2016 – Lisbon, Portugal

ADVANCED FORMATION DIPLOMA IN MARINE RENEWABLE ENERGIES – Instituto Superior Técnico, Universidade de Lisboa

Postgraduate diploma completed in parallel with PhD studies (30 ECTS). Modules included: Ocean Energy Resources, Modelling and Control of Ocean Energy Systems, Ocean Energy Systems technologies, Economics Policy & Environment.

01/10/2013 – 30/09/2014 – Gwynedd, Wales, United Kingdom

MSC IN PHYSICAL OCEANOGRAPHY – School of Ocean Sciences, Bangor University

Modules: Key concepts and techniques, Practical Oceanography, Geophysical fluid dynamics, Climate and climate change, Estuaries and shelf sea processes

Thesis: Hybrid events in the Aberystwyth grits group, an evaluation based on process models

01/10/2008 – 23/02/2013 – Lesvos, Greece

DEGREE IN OCEANOGRAPHY – Department of Marine Sciences, School of Environment, University of the Aegean

Thesis: Dynamical systems for population dynamics: mathematical ecology, Supervisor: Prof John Miritzis

LANGUAGE SKILLS

Mother tongue(s): **GREEK**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
PORTUGUESE	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Python | WAMIT | MATLAB | Microsoft Office | LAtex

● PUBLICATIONS

Peer-reviewed Journal Publications

Oikonomou, C.L.G., Gomes, R.P.F. and Gato, L.M.C., 2021. "Unveiling the potential of using a spar-buoy oscillating-water-column wave energy converter for low-power stand-alone applications". *Applied Energy*, 292, 116835. <https://doi.org/10.1016/j.apenergy.2021.116835> (Impact factor: 9.746, Q1)

Oikonomou, C.L.G., Gradowski, M., Kalogeri, C. and Sarmento, A.J.N.A., 2020. "On defining storm intervals: Extreme wave analysis using extremal index inferencing of the run length parameter". *Ocean Engineering*, 217, 107988. <https://doi.org/10.1016/j.oceaneng.2020.107988> (Impact factor: 3.795, Q1)

Oikonomou, C.L.G., Gomes, R.P.F., Gato, L.M.C. and Falcão, A.F.O., 2020. "On the dynamics of an array of spar-buoy oscillating water column devices with inter-body mooring connections". *Renewable Energy*, 148, 309-325. <https://doi.org/10.1016/j.renene.2019.11.097> (Impact factor: 8.001, Q1)

Peer-reviewed Conference Papers

Oikonomou C.L.G., Gomes R.P.F., Gato L.M.C. and Falcão A.F.O., 2021. "Numerical modelling validation for an array of floating OWC wave-energy-converters with shared moorings in regular waves". Proceedings of the 14th European Wave and Tidal Energy Conference (EWTEC2021), Plymouth, UK, September 2021.

Oikonomou C., Gomes R.P.F., Gato L.M.C. and Falcão A.F.O., 2017. "Analysis of a triangular array of floating oscillating water column devices with inter-body mooring connections in regular waves". Proceedings of the 12th European Wave and Tidal Energy Conference (EWTEC2017), Cork, Ireland, August 2017.

Oikonomou, C. and Aggidis, G.A., 2015. "Wave energy resource assessment in the seas around Greece: estimation and prospects". Proceedings of SCACR2015 – International Short Course/Conference on Applied Coastal Research, Italy, Florence, September 2015.

Conference Announcements

Oikonomou C.L.G. 2021. "An off-grid floating oscillating-water-column for powering oceanographic instruments". SuperGen Offshore Renewable Energy Hub Third Annual Assembly, 18-22 January 2021, Plymouth, UK.

Oikonomou, C., Gradowski, M., and Kalogeri, C. 2018. "Extreme wave analysis using runs de-clustering via extremal index estimation: a location dependence study". 3rd International Conference on Renewable Energies Offshore (RENEW), 8-10 October 2018, Lisbon, Portugal.

Book Chapter Contributions (peer-reviewed)

Oikonomou C.L.G., Gomes R.P.F., Gato L.M.C. and Falcão A.F.O., 2020. "Preliminary experimental results of a 1:10th scale model of a spar-buoy OWC for oceanographic purposes". (Chapter, Part Oscillating Water Columns). Guedes Soares, C. (Ed.), *Developments in Renewable Energies Offshore*, CRC Press. <https://doi.org/10.1201/9781003134572-22>

Datasets

Oikonomou C.L.G., Gomes R.P.F., and Gato L.M.C. "Experimental data: spar-buoy OWC wave energy converter for low-power applications", Mendeley Data, v1 (2021), <https://doi.org/10.17632/s9cg4b8n83.1>

Monographs

Oikonomou C. (2018). Numerical hydrodynamic analysis of wave energy converter arrays with inter-body mooring connections with the spar-buoy OWC as a case study. PhD Thesis, Lancaster University, 200 pages. <https://doi.org/10.17635/lancaster/thesis/654>

Oikonomou C. (2014). Hybrid event beds within the Aberystwyth Grits Group: an evaluation based on process models. MSc Thesis, Bangor University, 108 pages.

Oikonomou C. (2013). The influence of wave rollers on the dynamics of sandbars in the nearshore zone, a model study, Institute for Marine and Atmospheric Research, Utrecht University, the Netherlands, 67 pages.

Oikonomou C. (2013). Dynamical systems for population dynamics: mathematical ecology, Dissertation, University of the Aegean, 53 pages.

● OTHER ACTIVITIES

Peer-reviewer

Renewable Energy (Elsevier)
International Journal of Green Energy (Taylor & Francis)
European Wave and Tidal Energy Conference (EWTEC)

Memberships

Hellenic Graduates' Association of Department of Marine Sciences - Director
International Network on Offshore Renewable Energy (INORE) - Member
Geotechnical Chamber of Greece - Member

Other Qualifications

PADI Rescue Diver
PADI Enriched Air Diver
PADI Drysuit Diver
RYA Sailing Skills, level 2
Emergency First Response (EFR) primary and secondary care