

EVANGELIA (EVINA) GONTIKAKI

Senior Researcher

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Research interests

Marine microbial ecology

Benthic biogeochemistry

Oil spill remediation

Deep-sea ecosystem function

Marine carbon cycle

Marine pollution

Blue Carbon Ecosystems

Work experience

2026-present

Senior Researcher

Foundation for Research and Technology – Hellas, Institute of GeoEnergy

2021-2026

Assistant Researcher

Foundation for Research and Technology – Hellas, Institute of GeoEnergy

2018-2021

Research Fellow (HFRI)

Technical University of Crete, School of Chemical and Environmental Engineering

2010-2017

Research Fellow (MASTS)

University of Aberdeen, School of Biological Sciences

Education

2006-2010 PhD in Biological Sciences

University of Aberdeen & Scottish Association for Marine Science

2002-2003 MSc in Oceanography

University of Southampton, School of Ocean and Earth Science & National Oceanography Centre

1997-2002 BSc (Hons.) in Biology

Aristotle University of Thessaloniki, School of Natural Sciences, Department of Biology

Grants/Awards

NERC Oil & Gas catalyst fund (NE/L00819X/1; 2014-2015; £98,871) “The natural capacity for oil degradation in marine environments: towards developing DNA-based biosensors for monitoring low-level oil pollution” (Co-I), University of Aberdeen.

NERC UK Oil & Gas CDT studentship (2014-2018; estimated value £80,000) “Using the intrinsic recovery capabilities of deep-sea and polar ecosystems to reduce the impact of accidental oil release” (Co-supervisor, Amy Bode PhD candidate), University of Aberdeen.

NERC CASE studentship (2014-2018; £82,680) “Site-specific DNA- and RNA- based biomarkers to monitor low-level oil pollution and test the effectiveness of bioremediation approaches” (Co-supervisor, Lloyd Potts PhD candidate), University of Aberdeen.

MASTS MBF grant (2016-2017; £2000) “Photochemical and microbial degradation of particulate terrigenous organic matter in intertidal sediments” (Personal grant), University of Aberdeen.

Hellenic Foundation for Research and Innovation (ΕΛΙΔΕΚ), 1st call to support Postdoctoral Researchers (2018-2021; €155,000) “HEALMED - Determination of the self-healing capabilities of the Eastern Mediterranean Sea to accidental deep-sea oil releases” (PI), School of Environmental Engineering, Technical University of Crete.

Hellenic Foundation for Research and Innovation (ΕΛΙΔΕΚ), 2nd call to support Faculty Members and Researchers (2022 – 2025; €175,000) “X-PRESS - EXTreme environments: High PRESsure Sampling and experimentation system for deep sea hydrocarbon releases” (Co-I), FORTH/IG

HORIZON-WIDERA-2021-ACCESS-03 (2022-2025; €1.400.000) “TWINN2SET – Twinning to Sustainable Energy Transition” (WP Leader), FORTH/IG

Green Fund - Ministry of Environment & Energy “NATURAL ENVIRONMENT AND INNOVATIVE ACTIONS 2022” (2022-2025; €300.000) “Restoration of ecological processes of the Keri Lake wetland in Zakynthos: Sealing of three (3) old hydrocarbon drilling wells and monitoring of the results – Pilot Implementation. (coordinator Management Body of Zakynthos)

Interreg VI - B IPA Adriatic Ionian Cooperation Programme 2024-2027 “IPA ADRION”, First call for proposals for Priority Axes 1, 2 and 3 (2024- 2027; €1.450.000) “BLUEQ - Applied Solutions for Monitoring Coastal Habitats and Quantifying Blue Carbon Storage: An Integrated Approach for Sustainable Ecosystem Management”, (PP Leader), FORTH/IG

Awards & Distinctions

European Commission Seal of Excellence for the project proposal 744158 “MARZYMES-Marine enzymes in support of a sustainable cellulosic biofuels industry”, call H2020-MSCA-IF-2016 by Evangelia Gontikai and the University of Aberdeen, U.K (score 86.4%).

European Commission Seal of Excellence for the project proposal 798548 “HEALMED – Determination of the self-healing capabilities of the Eastern Mediterranean Sea from accidental deep-sea oil releases”, call H2020-MSCA-IF-2017 by Evangelia Gontikai and the Technical University of Crete, Greece (score: 90.4%).

Peer-reviewed publications

Trimi, P.-M.; Bellas, S.; Vakalas, I.; Gholami, R.; Gaganis, V.; **Gontikaki, E.** Stamatakis, E.; Yentekakis, I.V. A Review of Caprock (2025) Integrity in Underground Hydrogen Storage Sites: Implication of Wettability, Interfacial Tension, and Diffusion. *Hydrogen* 6, 91.

Charalampous G, Fragkou E, Kalogerakis N, Antoniou E, **Gontikaki E** (2024) Diversity Links to Functionality: Unraveling the Impact of Pressure disruption and Culture medium on crude oil-enriched microbial communities from the deep Eastern Mediterranean Sea. *Marine Pollution Bulletin* 202, 116275.

Charalampous G, Kormas KA, Antoniou E, Kalogerakis N, **Gontikaki E** (2024) Distinct Communities of Bacteria and Unicellular Eukaryotes in the Different Water Masses of Cretan Passage Water Column (Eastern Mediterranean Sea). *Current Microbiology* 81:381

Wang Q, **Gontikaki E**, Stenzel P, Louca V, Kupper FC, Spiller M (2024) How to decarbonize Greece fast and economically: wind versus solar. *Energies* 17(3), 567.

Antoniou E, Fragkou E, Charalampous G, Marinakis D, Kalogerakis N, **Gontikaki E** (2022) Emulating deep-sea bioremediation: Oil plume degradation by undisturbed deep-sea microbial communities using a high-pressure sampling and experimentation system. *Energies* 15(13), 4525 (Special Issue: [Frontiers in Marine Carbon Cycle](#)).

Charalampous G, Fragkou E, Kormas KA, De Menezes AB, Polymenakou PN, Pasadakis N, Kalogerakis N, Antoniou E, **Gontikaki E** (2021) Comparison of Hydrocarbon-Degrading Consortia from Surface and Deep Waters of the Eastern Mediterranean Sea: Characterization and degradation potential. *Energies* 14(8), 2246 (Special Issue: [Marine Biotechnology: Applications and Challenges](#))

Gontikaki E & Witte U (2019) No strong evidence of priming effects on the degradation of terrestrial plant detritus in estuarine sediments. *Frontiers in Marine Science* 6: article 327.

Perez-Calderon LJ*, **Gontikaki E***, Potts LD, Shaw S, Gallego A, Anderson JA, Witte U (2018) Pressure and temperature effects on deep-sea hydrocarbon-degrading microbial communities in subarctic sediments. *MicrobiologyOpen* 2018;e768 (*equal contribution authors)

Perez-Calderon LJ, Potts LD, **Gontikaki E**, Gubry-Rangin C, Cornulier T, Gallego A, Anderson JA, Witte U (2018) Bacterial community response in deep Faroe-Shetland Channel sediments following hydrocarbon entrainment with and without dispersant application. *Frontiers in Marine Science* 5: article 159.

Gontikaki E, Anderson JA, Witte U (2018) Hydrocarbon-degrading bacteria in deep-water subarctic sediments (Faroe-Shetland Channel). *Journal of Applied Microbiology* 125, 1040—1053

Potts LD, Perez Calderon LJ, **Gontikaki E**, Keith L, Gubry-Rangin C, Anderson JA, Witte U (2018). Effect of spatial origin and hydrocarbon composition on bacterial consortia community structure and hydrocarbon biodegradation rates. *FEMS Microbiology Ecology* 94: fiy127.

Ferguson R, **Gontikaki E**, Anderson JA, Witte U (2017). The variable influence of dispersant on degradation of oil hydrocarbons in subarctic deep-sea sediments at low temperatures (0-5°C). *Scientific Reports* 7:2253; doi:10.1038/s41598-017-02475-9

Gontikaki E, Thornton B, Cornulier T, Witte U (2015). Occurrence of priming in the degradation of lignocellulose in marine sediments, *PLoS ONE* 10(12): e0143917.

Gontikaki E, Thornton B, Huvenne VIA, Witte U (2013). Negative Priming Effect on Organic Matter Mineralisation in NE Atlantic Slope Sediments. *PLoS ONE* 8(6): e67722.

Serpetti N, **Gontikaki E**, Narayanaswamy BE, Witte U (2013). Macrofaunal community inside and outside of the Darwin Mounds Special Area of Conservation, NE Atlantic. *Biogeosciences*, 10, 3705–3714.

Gontikaki E, Polymenakou PN, Thornton B, Narayanaswamy BE, Black K, Tselepidis A, Witte U (2012). Microbial response to organic matter enrichment in the oligotrophic Levantine Basin (Eastern Mediterranean). *Geomicrobiology Journal* 29: 648-655.

Gontikaki E, van Oevelen D, Soetaert K, Witte U (2011). Food web flows through a sub-arctic deep-sea benthic community: modelling an isotope tracer experiment. *Progress in Oceanography* 91: 245-259.

Gontikaki E, Mayor DJ, Thornton B, Black K, Witte U (2011). Processing of ¹³C-labelled algae by a bathyal community at sub-zero temperatures. *Marine Ecology Progress Series* 421: 39-50.

Gontikaki E, DJ Mayor, BE Narayanaswamy, U Witte (2011). Feeding strategies of deep-sea sub-Arctic macrofauna of the Faroe-Shetland Channel: combining natural stable isotopes and labelling techniques. *Deep-Sea Research I* 58:160-172

Gontikaki E, Antoniadou C & Chintiroglou CC (2003). "Population Structure of *Cerastoderma glaucum* and *Abra ovata* in Vouliagmeni Lagoon (Attiki). *Journal of the Marine Biological Association of the U.K*, 83: 1095-1097.

Teaching/Supervisory responsibilities

Undergraduate and postgraduate courses/lectures

Demonstrator in BI25Z4 Ocean Biology course (1st year), School of Biological Sciences, University of Aberdeen (2007).

Teaching assistant in Benthic Ecology (3rd year) and BUGS Biology for undergraduates course (1st year), School of Biological Sciences, University of Aberdeen (2012).

Teaching assistant in BI39Z5 Mediterranean Marine Biology Field course, School of Biological Sciences, University of Aberdeen (2018).

Guest Lecturer, "Research Lectures" MSc course, School of Environmental Engineering, Technical University of Crete (2019).

Guest Lecturer, "Deep-Sea Biology" BSc course, Biology Department, University of Crete (course instructor: Prof. A. Tselepidis). Topic: "Oil spills in the deep sea" (2024, 2025)

Guest lecturer, ZO4540 Sustainable Management of Marine Resources, BSc in Zoology, School of Biological Sciences, University of Aberdeen. Topic: "Posidonia seagrass meadows: the blue carbon champions of the Mediterranean" (2026)

Invited lecturer, 8th European Summer School on Industrial Biotechnology "Sustainable solutions for local challenges: In situ valorization of side streams utilizing local biodiversity". Topic: "Nature's first responders: indigenous microbes and the bioremediation of deep-sea oil spills" (2026)

PhD Student supervision

2014-2018 **Lloyd Potts** (co-supervisor), "Site-specific DNA- and RNA- based biomarkers to monitor low-level oil pollution and test the effectiveness of bioremediation approaches", University of Aberdeen

2019-2024 **Georgia Charalambous**, "Determination of the self-healing capabilities of the Eastern Mediterranean Sea to accidental deep-sea oil releases", Technical University of Crete

2020-2026 **Efsevia Fragkou**, "Integrated Approach for hydrocarbon degradation in deep sea environments using different bioremediation agents", Technical University of Crete

- 2024 – 2027 **Ioannis Kefalas**, *"Quantification and assessment of ecosystem services provided by marine angiosperms and restoration approaches for fragmented populations in the coastal areas of the Northern Aegean"*, Harokopio University.
- 2025 – 2028 **Katerina Triantafyllidi**, *"Comparative study of regulatory ecosystem services related to Blue Carbon sequestration in coastal ecosystems of the Adriatic Sea and the Ionian Sea"*, Harokopio University

Conference contributions

- MikroBioKosmos Society & The Central and East Europe Symposium of Microbial Ecology (#mbkceesme2025), Thessaloniki, Greece, 22-24 September 2025
- HNAT 2025, Paris, France, 13 – 14 November 2025.
- 9th European Bioremediation Conference, Chania, Greece, 15 – 19 June 2025
- 10th Conference of the Hellenic Scientific Society MIKROBIOKOSMOS, Larissa, Greece, 30 November- 2 December 2023
- 13th International Congress on Extremophiles, Loutraki, Greece, 18-22 September 2022
- 13th FORTH Scientific Retreat, Heraklion, Greece, 15-16 July 2022
- European Bioremediation Conference, Chania, 12-17 June 2022
- EGU General Assembly, Vienna, 2022, <https://doi.org/10.5194/egusphere-egu22-10236>
- 9th Conference of MikroBiokosmos, 16 – 18 December 2021, Athens, Greece
- ISMOS⁸ – 8th International Symposium on Applied Microbiology and Molecular Biology in Oil Systems, June 2021, virtual conference
- 12th European Conference of Chemical Engineering and the 5th European Congress of Applied Biotechnology, September 2019, Florence, Italy
- 12^o Hellenic Scientific Conference of Chemical Engineering, May 2019, Athens, Greece
- 8th MikroBiokosmos Symposium, April 2019, Patras, Greece
- 6th International Symposium on Applied Microbiology and Molecular Biology in Oil Systems, 2017, San Diego, California, Oral and Poster presentation.
- 14th Deep Sea Biology Symposium, September 2015, Aveiro, Portugal, Poster presentation
- 6th National Conference of "Microbiokosmos", May 2015, Athens, Greece, Poster presentation
- MASTS Annual Science meeting, September 2014, Oral presentation
- Gulf of Mexico Oil Spill & Ecosystem Science Conference 2014, Mobile, AL, USA
- EGU, Vienna, April 2013, Oral presentation
- 2nd World Conference on Marine Biodiversity, Aberdeen, September 2011, Poster presentation
- 12th Deep-Sea Research Symposium, Reykjavik, June 2010, Oral presentation
- HERMIONE meeting, Malta, April 2010, Poster presentation
- HERMES meeting, Faro, March 2009. Oral presentation.
- ASLO Aquatic Sciences Meeting, Nice, January 2009. Oral presentation.
- 1st National Conference of "Microbiokosmos", Athens, Greece, December 2008. Poster presentation.
- Challenger Society conference, Bangor, September 2008. Poster presentation.
- 9th ICZEGAR, Thessaloniki, Greece, 2002. Oral presentation.

Professional activities

- **Conference organisation**

Co-convener of session "Biogeochemistry of coastal seas and continental shelves, with a special focus on Sedimentary Carbon in the Coastal Ocean (including Vladimir Ivanovich Vernadsky Medal Lecture)" at the EGU General Assembly (Vienna, 2016 and 2017).

Co-convener and chair of the session "Diversity and Function of Deep-Sea Ecosystems" at the 2nd World Conference on Marine Biodiversity (Aberdeen, 2011)

Organising Committee of the 13th FORTH Scientific Retreat (Heraklion, 15-16 July 2022)

Organising Committee of the 14th FORTH Scientific Retreat (Ancient Olympia, 11-13 October 2024)

Scientific committee of the 10th Conference of the Hellenic Scientific Society MIKROBIOKOSMOS of the thematic «Environment» (2023)

Scientific Committee of the 3rd International Electronic Conference on Biodiversity (15–17 October 2024), organized by the MDPI journal Diversity.

Chair of **Session - 2A-I: Marine Pollution and Blue Biotechnology** of the 8th European Bioremediation Conference (EBC-VIII; Chania, 2022)

Chair of **Session – 5B: Molecular biology applications** of the 9th European Bioremediation Conference (EBC-IX; Chania, 2025)

- **Reviewing & Editing activities**

Reviewer for the following peer-reviewed journals: Deep-Sea Research I, Science of the Total Environment, Polar Biology, Biogeosciences, Scientific Reports, Limnology and Oceanography, Applied Sciences, FEMS Microbiology Ecology, Journal of Applied Microbiology, Journal of Environmental Management, Journal of Fungi, Biomolecules, PeerJ, Microorganisms, Toxicological and Environmental Chemistry, Journal of Marine Science, Sustainability, Biomolecules, Journal of Marine Science, Environmental Research, Environmental Pollution, Marine Life Science and Technology, Microbiology Spectrum, MDPI Toxics, MDPI Journal of Marine Science and Engineering, Journal of Hazardous Materials

Guest editor MDPI *Energies* Special Issue “Frontiers in Marine Carbon Cycle”

Guest editor MDPI *Microorganisms* Special Issue "Interaction Between Microorganisms and Environment, 2nd Edition"

Review editor for the Frontiers journals Frontiers in Aquatic Microbiology και Frontiers in Marine Biogeochemistry

- **Professional committees/memberships**

Member of the steering group of the MASTS Marine Biogeochemistry Forum (2014-2016).

Member of the Hellenic Scientific Society “MikroBioKosmos” since 2019

- **Invited talks**

Scientific Symposium "Hydrocarbons in the Energy Transition, Data, and Policies" 25 October 2021, organised by the Institute of Energy of Southeast Europe (IENE). Title of presentation: “State-of-the-art technologies for addressing environmental impacts and safety issues in hydrocarbon exploitation.”

BlueBIO COFUND project MARICAT workshop on “Circular bioeconomy and sustainable development” (9th July 2022). Title of presentation: “Hydrocarbon degradation in the deep Eastern Mediterranean Sea at *in situ* pressure”.

Invited speaker and panelist at the event 'Hydrocarbons, Green Transition, Hydrogen: Crete as an Energy Hub', organised by the Technical Chamber of Eastern Crete (16 & 17 December 2023). Title of presentation: 'Monitoring the Environmental Impacts of Deep-Sea Hydrocarbon Exploitation.'

Invited speaker at the European High Pressure Research Group 2026 conference (Montpellier, France, August 23-28, 2026). Title of presentation: “Simulating the Deep Sea: High-Pressure Experiments on Indigenous Microbial Bioremediation of Hydrocarbons”

- **Outreach activities:**

Organising Committee of the central event for the celebration of FORTH’s 40 years anniversary (Heraklion, 17th December 2023).

Organising Committee of FORTH/IG’s public event for the celebration of FORTH’s 40 years anniversary in Chania (28 September 2023). The program included talks, a 30-min piano concert accompanied by parts of Charlie Chaplin’s silent film “City Lights

Panel participant at the conference of the **Technical Chamber of Eastern Crete**, titled “Hydrocarbons, Green Transition, Hydrogen: Crete as an Energy Hub” (16–17 December 2023).

Participation at the **Researchers’ Night 2024 & 2025**

Exhibit at the **InnoDays Crete 2024 & 2025**

Member of the judging panel for the **POPRI Youth 2025** youth entrepreneurship competition (<https://popri.si/en/>).

Article contribution for the blog of **Crete University Press** entitled: “What is Posidonia and what does it actually do?”, <https://cup.gr/blog/ti-einai-kai-ti-kanei-telika-i-poseidonia/>
Contribution to FORTH’s social media posts and local mass media dedicated to the celebration of World Days relevant to clean energy and the environment (e.g. World Seagrass Day, 1st March).