

Marilaure Grégoire

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Head of the MAST group · Director of the FOCUS research unit

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RESEARCH PROFILE

Focus	Environmental forecasting, biogeochemical and physical modelling, data assimilation, marine ecosystems and biogeochemical cycles, ocean deoxygenation, traits modelling.
Publications	More than 80 peer-reviewed papers, 18 special issues and 7056 citations (Google Scholar). Full list available on Google Scholar, ORBI and ResearchGate.
Seniority	24 years of scientific seniority, as estimated from the ERC Starting Grant rules (years since PhD in 1999, minus 18 months per child for 3 children).

ACADEMIC APPOINTMENTS

2023 – present	Full Professor, University of Liège
2021 – 2022	Professor, University of Liège
2015 – 2021	Research Director, F.R.S.-FNRS
2010 – 2015	Senior Research Associate, F.R.S.-FNRS
2002 – 2010	Research Associate, F.R.S.-FNRS
2002 – 2004	Marie Curie Fellow, European Union Netherlands Institute of Ecology (NIOZ).
1999 – 2002	FNRS Postdoctoral Researcher (Chargée de recherches)

EDUCATION

1995 – 1999	PhD in Applied Sciences, University of Liège “Three-dimensional modelling of the Black Sea physics and ecosystem”. Obtained summa cum laude with the congratulations of the board of examiners.
1995 – 1996	European Diploma Eruditionum Altarum in the Modelling of the Marine Environment Summa cum laude.
1990 – 1995	MSc in Civil Engineering (Mechanics and Physics), University of Liège Summa cum laude every year; congratulations of the board of examiners in 1992, 1994 and 1995; 92% in 1995, ranked first of the section.
Career breaks	Three maternity leaves (2000, 2003, 2006) and two parental leaves (2003, 2006).

EDITORIAL ACTIVITIES

Journals	– 2012 – 2024: Associate Editor for Biogeosciences. – Guest editor of 18 special issues in peer-reviewed journals. – Member of the editorial board of the Marine Copernicus Ocean State Report since 2018. – Since 2022: Chair of the Copernicus Ocean State Report, published in State of the Planet (Copernicus).
EVALUATION AND REVIEWING	
Panels and boards	– June 2025: Member of the Advisory Board of the Institute of Marine Sciences of Andalusia, Spanish National Research Council (ICMAN-CSIC). – Expert for the European Commission: evaluation of Horizon Europe, H2020 (proposal evaluation and project monitoring), ERC Consolidator, FP7, FP6 and COST (list on demand). – March 2018: Member of the Evaluation Panel of the Ocean and Lake Master programme handled by UA, UGent and VUB. – May – June 2022: Selection committee for a Fedtwin position, “Abiotic and Biotic sediment dynamics along estuarine-marine Gradients in times of global change”, University of Antwerp (Biology Department) and the Royal Belgian Institute of Natural Sciences. – February 2022: Evaluation of a Full Professor promotion, University of Maryland, United States. – June 2018: Reviewer for the IPCC Special Report on the Ocean and Cryosphere (SROCC). – Expert for research councils and national science foundations in the United Kingdom, France, United States, Switzerland, Romania and Peru.
Journals	Reviewer for Nature Communications, Nature Geoscience, Progress in Oceanography, Journal of Geophysical Research, Biogeosciences, Journal of Sea Research, Dynamics of Atmospheres and Oceans, Deep Sea Research, Journal of Marine Systems and Ocean Science, among others.

ADVISORY BOARDS AND EXPERT TEAMS

Advisory boards	– Member of the WMO ET-EOSDE group. – Since 2018: Member of the Scientific and Technical Advisory Committee (STAC) of the EU Marine Copernicus Service. – Member of the advisory board of the EU H2020 SEAMLESS project (2020 – 2023). – Member of the Scientific Committee of the UN Ocean Decade initiative “Coast Predict”. – Member of the NEMO Scientific Advisory Committee. – 2018 – 2021: Member of the Board of the Fridtjof Nansen Medal Committee of the European Geosciences Union. – Since 2017: Member of the Scientific Committee of GMMC (Groupe Mission Mercator Coriolis), part of the LEFE programme of CNRS INSU. – Member of the Scientific Advisory Board of the European MyOcean Phase 1 project (EU GMES programme). – Member of the Steering Committee and work package leader in several EU projects, including NECCTON, BRIDGE, CE2COAST, Copernicus and SESAME.
Expert teams	– Chair of the European Marine Board Oxygen expert panel for the “Navigating the Future” policy brief (Oxygen working group). – 2021 – 2022: Member of the High-Level Guidance working group of the World Meteorological Organization, for the guidance document towards the implementation of the WMO WIGOS vision. – Since 2020: Member of the Joint Expert Team on Earth Observing System Design and Evolution (JET-EOSDE) of the World Meteorological Organization. – Since 2017: Member of the Marine Ecosystem Analysis and Prediction Task Team, GODAE Ocean Predict.

- Since 2016: Member of the IOC-UNESCO Global Ocean Oxygen Network (GO2NE).
- Since 2016: Member of the Network of EU Experts for Redeveloping Models of the European Marine Environment (DG-ENV, DG-JRC).

Network chair

2016 – 2023: Co-chair of GO2NE, the Global Ocean Oxygen Network launched by the IOC-UNESCO.

EUROPEAN RESEARCH PROJECTS

2025 – 2030

- PI in the Horizon Europe RIVIERA project, “Improving modelling methods to produce climate services for resilient European seas and coasts in a decadal to multi-decadal horizon” (2026 – 2030).
- Co-PI in the Horizon Europe COMEDI project, “Copernicus Marine Service with enhanced data assimilation and improved interoperability” (2026 – 2030).
- PI in the Horizon Europe BioGeoSea project, “Enhancing biogeochemical essential ocean variables for European and global assessments” (2025 – 2029).

2020 – 2025

- PI of the ESA project MiTHO, “Multiple Threats on Ocean Health” (2023 – 2025), building a deep-learning emulator of ocean deoxygenation, in collaboration with Prof. Gilles Louppe (ULiège).
- PI and leader of the work package “New capability in benthic habitat modelling” in the Horizon Europe NECCTON project, New Copernicus Capability for Trophic Ocean Networks (Horizon-CL4-2022-SPACE-01-41).
- Co-PI of the ODESSA project, “Optimal Design of Ensemble-based Simulation Systems for Applications to marine forecasting”, call 21036-COP-INNOSCI, Service Evolution R&D projects (2022 – 2024).
- PI in the European project BS-MFC, Copernicus 2, Black Sea Marine Forecasting Centre (2022 – 2024).
- PI and leader of the work package “Ecosystem Dynamics under multiple stressors” in the H2020 BRIDGE project, Advancing Black Sea Research and Innovation to Co-Develop Blue Growth within Resilient Ecosystems (2021 – 2025).
- PI, work package leader “Regional Ocean: downscaling past changes and climate projections” and Belgian representative in the JPI Ocean and Climate CE2COAST project (2020 – 2023).
- Co-PI in the H2020-SPACE FORCOAST project, Earth observation services for fishery, bivalve mariculture and oyster ground restoration along European coasts (DT-SPACE-01-EO-2018-2020).

Before 2020

- Coordinator of the ESA project EO4SIBS, “Earth Observation for Science and Innovation in the Black Sea” (2019 – 2021).
 - PI in the European project BS-MFC Phase 2, Black Sea Marine Forecasting Centre (2018 – 2021).
 - PI in the European project BS-MFC Phase 1 (2016 – 2018); deputy leader for the Black Sea in the product quality working group and representative for Black Sea biogeochemistry in the Ocean State Report.
 - PI in the EU FP7 IP PERSEUS, Policy-oriented Marine Environmental Research in the Southern European Seas (2012 – 2015).
 - Associate partner in the EU FP7 IP HYPOX, In situ monitoring of oxygen depletion in hypoxic ecosystems of coastal and open seas and land-locked water bodies (2009 – 2012).
 - PI and work package leader in the EU FP6 IP SESAME, Southern European Seas: Assessing and Modelling Ecosystem Changes.
 - Marie Curie Reintegration Grant (2004 – 2005) on “Mathematical modelling of marine ecosystems: model development, parameterisation and simplification using data assimilation”.
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- Scientific coordinator of the EU ARAL-KUM project (INCO), devoted to the desertification process in the Aral Sea basin.
- Coordinator of the EU INTAS project, Study of the Nitrogen Cycling in the Oxidic/Anoxic Environment of the Black Sea (2000 – 2002).
- Scientific coordinator of the EU VENTIL project (INCO), devoted to the ventilation process in the Black Sea (1997 – 2000).

NATIONAL AND REGIONAL PROJECTS

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| Coordination | <ul style="list-style-type: none"> – Coordinator of the FullContinuum project (FNRS PDR, 2021 – 2024) on the seamless coupling of the ocean and river systems. Budget: 390 k€. – Coordinator of the BENTHOX project (FNRS PDR, 2015 – 2019) on the understanding of hypoxia in the Black Sea. Budget: 400 k€. – PI in the FACE-IT project (BRAIN call, BELSPO) on functional biodiversity in a changing sedimentary environment, and its implications for biogeochemistry and food webs in a managerial setting, the North Sea (2015 – 2019). Budget: 175 k€. – PI of an “Action de recherches concertées” from the French-speaking Community, RACE: Rapid Assessment of the Marine Coastal Environment (2005 – 2010). – Co-PI of a “Mandat d’impulsion scientifique” from the FNRS, Understanding the carbon cycle in the coastal zone (2005 – 2008). – Involved in the Belgian Science Policy project PEACE, on the role of pelagic calcification and export of carbonate production in climate change (2005 – 2009). |
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CONFERENCES, WORKSHOPS AND PANELS

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| Organisation | <ul style="list-style-type: none"> – Organiser of the International Liège Colloquium on Ocean Dynamics in 2001, 2011, 2013, 2014, 2021 and 2022 (around 200 participants). – Member of the Scientific Organizing Committee of the GO2NE webinars on ocean deoxygenation (monthly events). – Member of the Scientific Organizing Committee of the WMO Scoping Workshop on Earth System Modelling, Geneva, 9 – 11 December 2019 (discussion leader for the ocean session). |
| Panels | <ul style="list-style-type: none"> – November 2014, Barcelona: Co-chair with R. Feely of a session on low pH and O₂ environments during the 2nd International Ocean Research Conference, organised by UNESCO/IOC and The Oceanography Society. – December 2015: Panellist at the round table of the final meeting of the EU PERSEUS project, “Where do we go from here in the SES?”. – October 2019: Panellist at the workshop on the use of Marine Copernicus data for assessing the Marine Strategy Framework Directive (invited by Mercator Ocean International). – October 2020: Panellist at the 7th European Marine Board Forum on the use of big data in marine science, the European Green Deal, the EU Biodiversity Strategy and the Digital Twin of the Ocean. – June 2024: Panellist at the Digital Ocean Forum, Brussels. – June 2025: Panellist at the IOC-UNESCO Ocean Science Day. |

TEACHING

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| University of Liège, since 2019 | <ul style="list-style-type: none"> – INFO0956: Introduction to biological data analysis, 5h lectures, 20h exercises (with P. Meyer). – BIOL0030-1: Modelling dynamical biological systems, 15h lectures, 15h exercises (with P. Meyer). – OCEA0014-1: Méthodes mathématiques d’analyse et de modélisation appliquées à l’environnement, 20h lectures, 20h practicals. |
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- OCEA0057-7: Marine Ecology, part “Introduction to Marine Ecosystem Modelling”, 15h lectures, 15h practicals.
- OCEA0089-1: Introduction to Marine Ecosystem Modelling, 15h lectures, 15h practicals.
- OCEA0090-1: Dynamique des écosystèmes marins, 20h lectures, 20h practicals.
- OCEA0096-1: Modélisation des écosystèmes et des cycles biogéochimiques, 15h lectures, 30h practicals (with G. Munhoven).
- OCEA0224-1: Analyse statistique des données océanographiques, 15h lectures, 15h practicals (with P. Meyer).

Summer schools

Co-Director of the IOC-UNESCO GO2NE Summer School (Xiamen University, September 2019).
Teaching at various international summer and winter schools.

AWARDS AND DISTINCTIONS

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| 2002 | <ul style="list-style-type: none"> – Scientific Award of the Association des Ingénieurs de Liège (AILg) for the best PhD in Applied Sciences. – André Leroux Award for the best PhD in Applied Sciences, delivered by Les Amis de l’Université de Liège. – Marie Curie Individual International Fellowship of the European Community. – CGRI travel grant for a two-week stay at the University of Grenoble (LEGI), France. |
| 1998 | <ul style="list-style-type: none"> – Laureate of the American Geophysical Union Student Travel Grant programme. – IRMA award (Jeunes Océanographes) for the best PhD student presentation. |

COMMUNITY SERVICE

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| University of Liège | <ul style="list-style-type: none"> – Since February 2019: Elected Director of the Freshwater and Oceanic Science Unit of Research (FOCUS). – Since 2020: Member of the University Research Council (Science and Technology sector). – Since January 2019: Member of the FNRS Council of Administrators. – President of the Doctoral College in Oceanography, University of Liège. – Since 2016: Member of the Research and Teaching-Research commissions of the Faculty of Science. – Member of the Council of Studies in Oceanography. – Participation in the round table on PhD training organised by the University. |
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SCIENCE COMMUNICATION AND OUTREACH

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| Recent | <ul style="list-style-type: none"> – June 2024: World Ocean Deoxygenation Day, “L’océan, acteur majeur dans la régulation de notre oxygène, est à bout de souffle”. – Coordinator of a lecture series for the Collège de Belgique on “L’Océan à travers les temps: mécanismes d’une épopée passionnante perturbée par l’Homme”, with A.-C. Da Silva, X. Fettweis, F. Primeau, F. Gemenne and P. Vincent. – November 2019: Speaker at the colloquium of the Société des Sciences de Liège, “Le changement climatique: des outils diagnostiques aux solutions technologiques”. – August 2019: Interview on Jour Première (S. Léonard) on eight urgent measures to preserve the role of the ocean in sustaining life on Earth, commenting the conclusions of the IPSO report. – May 2019: Lectures at the Université du Temps Libre, Paris, and at U3, Liège. |
| Earlier | <ul style="list-style-type: none"> – June 2018: Publication of a 15-page technical brief for decision makers and the general public on ocean deoxygenation, IOC-UNESCO, Paris (Breitburg, Grégoire and Isensee, and the GO2NE group). |

- June 2018: Organisation of a Café des Sciences, “Le Grand Bleu et l’Homme”.
- March 2018: Printemps des Sciences.
- March 2018: Participation in the France Culture programme “La Méthode Scientifique”, hosted by Nicolas Martin, on ocean chemistry modifications.
- January 2018: Interviews on ocean deoxygenation following the Science paper (Soir Première with N. Vandenschrick, Le Soir, RTL TVI 19h news, La Meuse).
- June 2017: UN Ocean Conference, New York. Organisation with the GO2NE group of a side event on ocean deoxygenation.