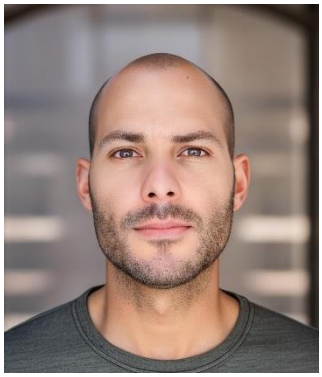
JON LAPEYRA MARTIN

Curriculum Vitae

Personal Details



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Academic Qualifications

- Ph.D. in Biological Engineering, Université Libre de Bruxelles (2018–2022). Thesis: Mixoplankton spatial-temporal diversity and its environmental drivers in the North Sea. Marie Skłodowska-Curie Actions Fellowship.

- MSc in Marine Environment and Resources (2014–2016). National Oceanography Centre (UK), Plentzia Marine Station (Spain), University of Liège (Belgium), STARESO (France). Thesis: Edge-effects in Posidonia oceanica seagrass meadows.

- BSc in Environmental Sciences, University of the Basque Country (2010–2014), with mobility at University of Valparaíso, Chile.

Employment History

- **Research Scientist**, Ocean Science & Solutions Applied Research Institute (OSSARI), NEOM, Saudi Arabia (2023–2025).

- **Predoc Researcher**, Plentzia Marine Station, University of the Basque Country, Spain (2017–2018).

- **Scientific Diver & Freediving Instructor**, Indonesia and Maldives (2022).

Professional Membership & Activities

- AAUS (American Academy of Underwater Sciences) – Dive Safety Officer.

- SSI International Scuba – diving Advanced Instructor

- Molchanovs Freediving Instructor

- Marie Skłodowska-Curie Alumni Association.

- European Marine Biological Resource Centre (EMBRC) collaborator.

Teaching Experience

1 **Training of OSSARI technical staff** to enable independent deployment of marine instruments in future missions (2023-present).

2 **Scuba and Freediving Instructor** in **Indonesia** and the **Maldives** (2022), training a wide range of students from diverse international backgrounds, and fostering safe and effective underwater skills across various levels of proficiency.

Assisted in teaching the following courses at the Science Faculty, University of Brussels (2018-2022): Structure, Evolution and Functioning of Aquatic Ecosystems

Mathematical Modelling of Aquatic Ecosystems

Supervised lab and fieldwork of:

Master's thesis of Florian Szymczak (2018–2019) on *"Comparison of toolchains for the characterization and analysis of bacterial and phytoplankton communities in the North Sea, and spatial and temporal analysis."*

Master's thesis of Simon Kin (2018–2019) on *"Development of a dynamic web application for the visualization of environmental and molecular biology data of plankton collected in the North Sea."*

Master's thesis of Myriam Faure (2019–2020) on *"Dimethylsulfoniopropionate and methane as structuring molecules of the plankton community in the North Sea."*

Conferences & Workshops

1. **Cookie-cutter shark kleptoparasitism on blue whales – an understudied threat?** November 2024. DOI: 10.13140/RG.2.2.19853.14564. Conference: 25th Biennial Conference on the Biology of Marine Mammals

2. **Fantastic Beasts: Mixoplankton spatial variability and succession in The North Sea revealed by metabarcoding** ICYMARE International Conference for Young Marine Researchers. 21–24 September 2021.

3. **Characterization of the dominant mixoplankton in the Belgian Coastal Zone (BCZ) based on molecular biology data**. VLIZ Marine Science Day. VLIZ Special Publication 84. Vlaams Instituut voor de Zee – Flanders Marine Institute (VLIZ): Oostende, Belgium.

4. The role of mixotrophy in ecosystem dynamics.

MixITiN International Conference (19–20 January 2021)

1. **Multisensory analysis of biotic and abiotic samples collected during the JericoNext – LifeWatch** VLIZ JericoNext – LifeWatch workshop. VLIZ Oostende, Belgium (5–6 March 2020). VLIZ 'Noordzee' – Ostend.

2. **From seascape level to functional ecology: A case study over P. oceanica seagrass meadows in Calvi, Corsica** [2017]. http://hdl.handle.net/2268/210310. CARHAMBAR 2017 (France)

3. **Assessing edge-effects in Posidonia oceanica seagrass meadows: A multidisciplinary approach** [2016]. http://hdl.handle.net/2268/207224. ZOOLOGY 2016 23rd edition Nature conservation in a changing world (University of Antwerp, Belgium)

Research Interests

- Marine microbial ecology and mixoplankton diversity.

- Coral reef resilience and thermal stress experiments.

- Molecular monitoring with eDNA/eRNA and metagenomics.

- GIS and marine spatial planning for ecological applications.

- Megafauna conservation strategies.

- Seagrass ecology and ecosystem services.

- Marine conservation and restoration strategies.

Research Publications (Books, Journals & Conferences papers)

1. **Lapeyra Martin, J., Santi, I., Pitta, P., John, U., & Gypens, N.** (2022). *Towards quantitative metabarcoding of eukaryotic plankton: an approach to improve 18S rRNA gene copy number bias*. Metabarcoding and Metagenomics, 6, e85794.

2. **Lapeyra Martin, J., John, U., Royer, C., & Gypens, N.** (2022). *Fantastic Beasts: unfolding mixoplankton temporal variability in the Belgian coastal zone through DNA-metabarcoding*. Frontiers in Marine Science, 9, 786787.

3. **Mitra, A., Flynn, K. J., Maselli, M., Hansen, P. J., Gypens, N., Lapeyra Martin, J., Romano, F., & Pitta, P.** (2021). *Report of seasonal distribution of non-constitutive mixoplankton across Arctic, Temperate and Mediterranean coastal waters*. Zenodo. http://doi.org/10.5281/zenodo.5055707

4. **Mitra, A., Gypens, N., Hansen, P. J., Flynn, K. J., Pitta, P., Martin, J. L., Mansour, J., Maselli, M., Romano, F., & Not, F.** (2021). *Guide for field studies and environmental monitoring of mixoplankton populations*. Zenodo. http://doi.org/10.5281/zenodo.5054915

5. **Royer, C., Borges, A. V., Lapeyra Martin, J., & Gypens, N.** (2021). *Drivers of the variability of dimethylsulfoniopropionate (DMSP) and dimethylsulfoxide (DMSO) in the Southern North Sea*. Continental Shelf Research, 216, 104360.

6. **Schneider, L. K., Anestis, K., Mansour, J., Anschütz, A. A., Gypens, N., Hansen, P. J., Lapeyra Martin, J., & Stolte, W.** (2020). *A dataset on trophic modes of aquatic protists*. Biodiversity Data Journal, 8, e56648.

7. **Flynn, K. J., Mitra, A., Anestis, K., Anschütz, A. A., Calbet, A., Ferreira, G. D., ... & Traboni, C.** (2019). *Mixotrophic protists and a new paradigm for marine ecology: where does plankton research go now?* Journal of Plankton Research, 41(4), 375–391.

8. **Borges, A. V., Royer, C., Lapeyra Martin, J., Champenois, W., & Gypens, N.** (2019). *Response of marine methane dissolved concentrations and emissions in the Southern North Sea to the European 2018 heatwave*. Continental Shelf Research, 190, 104004. https://doi.org/10.1016/j.csr.2019.104004

Peer Review Activities

- Reviewer for Frontiers in Marine Science.

- Reviewer for Metabarcoding and Metagenomics.

- Reviewer for Continental Shelf Research.

Research, Teaching Grants

MixITiN: *Project involved under the context of my Ph.D. Thesis.*

The main objective of this H2020 project consists of bringing the paradigm for marine pelagic production into the 21st century; incorporating mixotrophy into mainstream marine research. MixITiN brings together world-class European research and training centres from 9 different countries, with skillsets from molecular biology, physiology and computer modelling to marine and coastal zone management, public and media engagement (mixotroph.org).

MarOMEGA: *Project involved under the context of the predoc researcher contract.*

The main objective of MAROMEGA project is the identification of new production sources of omega-3 fatty acids, based on the search the marine microorganisms located in two different ecological niches: marine microplancton and the microbiota associated to fish. The aim is to identify microorganisms able to produce these above-mentioned fatty acids and develop new biotechnological tools that would permit to obtain a sustainable production from marine origin. Eventually, the knowledge acquired would be applied in the industrial sector and developed in different fields (nutritional, aquaculture, pharmaceutical), given the worldwide current demand of this compounds.

STARECAP-MED: *Project involved under the context of the MSc thesis.*

The STARECAPMED project, multidisciplinary, articulates itself around these two main features. Its objective is to understand how human activities can interact with the fundamental processes that govern the functioning of the different coastal ecosystems of a Mediterranean bay. The understanding of these interactions involves: (i) the identification of the anthropogenic pressures; (ii) the quantification of their impacts on the ecosystems; (iii) the prioritization of these impacts. STARECAPMED also aims to confirm the relevance of the use of the Calvi Bay as a reference in the study of local and global pressures and the changes they may cause on the structure and the functioning of Mediterranean coastal ecosystems (http://hdl.handle.net/2268/189135).

Awards and Recognitions

1. **Marie-Curie, Early-Stage Researcher Fellowships 2018-2021**: Awarded the prestigious Marie-Curie Fellowship under the European Commission's Horizon 2020 program to conduct advanced research training and professional development at an international level, focusing on mixotrophy im marine ecosystems.

2. **EMBO Short-Term Fellowship award:** The European Molecular Biology Organization [embo.org/] awarded me a short-term fellowship to support my visit to the lab of Tom Gilbert, at the Natural History Museum in Copenhagen for 90 days. The award was financially sponsored by the 32 governments which contribute to the General Programme of the EMBC.

3. **ERASMUS MUNDUS Master Grant:** Awarded full scholarship for a two-year international master's program focusing on marine sciences, environment, and sustainable resource management, with coursework and research conducted across leading European universities.

4. **UPV/EHU-AMÉRICA LATINA Mobility Grant:** Awarded a competitive grant by the University of the Basque Country to study at the Faculty of Marine Biology, Universidad de Valparaíso, Chile. Focused on coursework in Marine Ecology and Molecular Biology, combined with extensive fieldwork involving scientific diving.

University & Community Services

1. **Underwater Photography & Videography:** Over 10 years' experience producing marine imagery to support research and conservation.

2. **Social Media Ocean Science Outreach:** Use of social media (Instagram 5k followers) to communicate ocean science through visual storytelling and public engagement.

3. Article (2016): **Inmersión en los bosques de *Posidonia*.** *Europa Azul*, Revista de la Mar Nº 153, pg. 50-52.

4. Article (2015): **Acuicultura a escala, desde proyectos europeos a la Costa Vasca.** *Europa Azul*, Revista de la Mar Nº 150, pg. 54-56.