

# Welcome to the MER Newsletter

It is with great pleasure that I contribute to this third edition of the MER Newsletter by sharing some of my thoughts. Having first started as teaching staff in 2007/2008, I have served as the local coordinator in Bordeaux throughout the past 14 years. As such I have had many interactions with most of you, students (not only Pathway A), teaching and administrative staff. Obviously, in the beginning I did not expect that this adventure would last for so many years, but probably I was not the only one. Every year, the MER community develops by integrating new students and staff, and by spreading Alumni all over the World, generating new collaborations with new colleagues and friends.

The MER Newsletter, essentially coordinated by Belen and Johan, is a recent and valuable tool to keep this growing and rich community in touch. As such, it complements and completes various Consortium-supported activities that are specific to this Master programme, such as the so-called 'social events', including among others the Welcome snacks, Cider house evenings, the Diploma and awards ceremony, followed by 'Pintxos and Wine' on the PIE terrace and the impressive MER community Summit held in Bilbao in 2022.

Besides, the planning of the 2026 MER Community Summit in Bordeaux has already started... Each of these events is a highlight by itself, an opportunity to have a good time (in addition to the good time we have during the lectures, practicals and field work), make friends and develop professional networks supporting your careers. Some of these events also remind us those who have contributed to the success of this unique programme and who are not with us anymore for various reasons. Being part of the MER staff and the community is certainly one of the most challenging, surprising and rewarding activities in my own professional career.

All this relies on an outstanding team, built and led by The Boss (I bet you guess who), who has been investing an incredible amount of motivation, patience, work, energy and creativity in this programme during the past 20 years. As in every day's business, there is rarely enough space, I would like to close this editorial by expressing my gratitude to all the MER staff from the different partner institutions, past and present, working on stage or behind the curtain, and especially to Ionan. **ESKERRIK ASKO**.

Jörg Schäfer Professeur HDR, Université de Bordeaux

July 1<sup>st</sup>, 2024

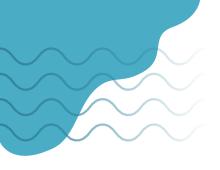




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# Women in Marine Science Day May 13th, 2024. PiE-UPV/EHU

Tiffanie Briaudeau and Belén González-Gaya

In Plentzia, at PiE-UPV/EHU, the WOMEN in MARINE SCIENCE DAY was organised and coordinated by Tifanie Briaudeau and Belén Gonzalez–Gaya (PiE-UPV/EHU) as part of the RiMER 2024+. After a general introduction to the state of the art of the Women general situation in the scientific sphere and in particular at PiE-UPV/EHU as well as in MER, a brunch with 11 women marine scientist was organised. Those were:

- · Olatz Ortega (UPV/EHU, Basque Country), Biologist and Outreaching researcher
- Anabella Mirtha Massa (UPV/EHU, Basque Country), PhD student in Ecotoxicology
- · Rebecca Von Hellfeld (UoA, UK), Ecotox postdoc researcher
- · Clara Lachetti (HABs, Argentina), Researcher in Marine Resources
- · Olatz Zuloaga (UPV/EHU, Basque Country), Analytical Chemistry Dept. director
- · Iciar Martinez (UPV/EHU, Basque Country), Ikerbasque Research Professor
- Eveliny Tomás Nery (UH, Finland), Molecular and Cell Biology postdoc
- · Sabiha Akter (UAntwerpen, Belgium), PhD student in Biology
- · Dalia Kellou (Freelance, Germany), Climate Analytics and Advisory work
- · Zuriñe Baña (UPV/EHU, Basque Country), Microbiology Dept. researcher
- · Giulia Gorla (UPV/EHU, Basque Country), Analytic Chemistry Dept. postdoc researcher

The MER students had the chance to discuss with them about the different study cases that were given, which included how to run a lab being a woman, how to face maternity or which could be the challenges to face when other cultural and structural factors are summative to the actual female situation in the scientific world.

From here, we would like to thank the scientist to share their experiences and support to the students, and to all the groups for such amazing reflections and ideas to enhance the parity in marine science, both to all the female students and of course also to the male alleys.





# Welcoming the New Erasmus Mundus Students: EMJM MER Pre-Departure Orientation Session 2024 May 21<sup>st</sup>, 2024. Online



In May, the Erasmus Mundus Joint Master's in Marine Environment and Resources (MER2030) programme warmly welcomed the newly selected Erasmus Mundus students with a Pre-Departure Orientation Session. This event was hosted by Md. Mahamudul Hasan Mredul, the Erasmus Mundus Association (EMA) Programme Representative for the MER2023 cohort.



The session aimed to acquaint the new students with the EMA and provide a thorough guide for navigating the administrative procedures of their master's programme. The event commenced with opening remarks from the program coordinator, Ionan Marigomez, who then introduced Nikshan Paudel, EMA's Director of the Students and Alumni Relations Unit. Nikshan Paudel delivered an insightful presentation, offering an overview of EMA, its mission, vision, and current activities. His talk emphasized the benefits Erasmus students can gain by joining EMA and highlighted how EMA contributes to shaping future Erasmus programmes. Following Nikshan's presentation, Mr. Mredul shared practical tips crucial for the students' upcoming journey. His guidance covered essential topics such as VISA guidelines, accommodation options, basic transportation, and health insurance policies.

The Pre-Departure Orientation Session 2024 not only equipped the new students with vital information but also fostered a sense of community, ensuring they feel supported as they embark on their Erasmus Mundus adventure.

**Md Mahamudul Hasan Mredul,** MER Cohort 2020-2022. Program Representative EMJM MER. PhD Candidate at University of British Columbia, Canada

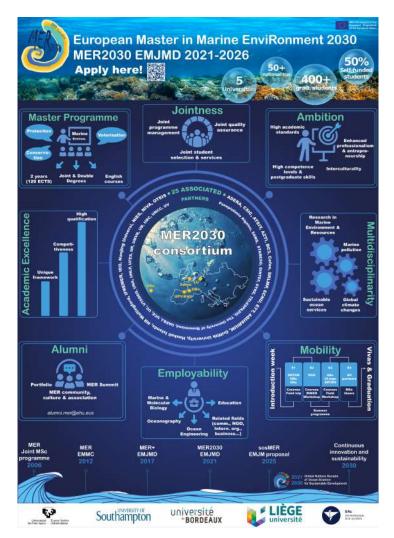


# Poster competition prize! May 27-28<sup>th</sup>, 2024. Brussels

The Erasmus Mundus 20<sup>th</sup> Anniversary conference "Beyond Borders and Boundaries" was hold by the European Education and Culture Executive Agency (EACEA) on 27-28 May, 2024, in the Plaza Hotel in Brussels. This high-level, celebratory event was the opportunity to discuss and reflect on the multi-layered impact of Erasmus Mundus and to exchange with policy-makers as well as with many experienced Erasmus Mundus Master's partners from Europe and beyond, alumni and wider stakeholder organisations.

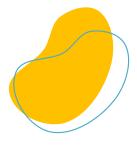
During this event, a poster competition was organized to highlight the most impactful Erasmus Mundus Master programmes. Among the 34 candidates and the 20 selected for the final stage, the **MER consortium's poster was awarded** for its outstanding and tangible way of showcasing the impact of this Erasmus Mundus Master programme at multiple levels.

This poster, designed by Johan Etourneau and Simona Camarasu, presented by Ionan Marigomez, schematically represented the Master Programme, its jointess, ambition, multidisciplinary approach, mobility, employability, academic excellence and alumni community since its beginning in 2006.





Johan Etourneau, Simona Camarasu, Ionan Marigomez

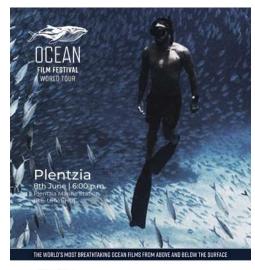




# Ocean Film Festival World Tour June 8<sup>th</sup>, 2024. PiE-UPV/EHU

On 8<sup>th</sup> June, International Ocean Day, the Marine Station of Plentzia was proud to host a private screening of the <u>Ocean Film Festival World Tour</u>. This was a unique event that brought together multiple institutions, disciplines, and perspectives. The success of the event was evident not only in the enjoyment of the audience, but also in the bringing together of people in the community, with an assistance of 96 persons.

The 7 stunning films played (see table and descriptions here), brought to the Spanish audience by Nomad Reels, capture the beauty and importance of the ocean. They tell the stories of people that spend their time in, on, and around the water. Their audiences leave inspired to enjoy the ocean environment in a sustainable, respectful way.









#### The films played were:

- · Whale dreaming from southern ocean live
- · Broken breath
- · Corners of the earth: kamchatka
- · Skin swimmer
- · The storm chaser
- · In Search of a Frozen Ocean
- · Salty sea dog: Spike

It was a pleasure to screen these films for the staff and students of the Marine Station, people who are dedicating their careers and lives to the study of the ocean and its conservation. We were proud to have the endorsement of the Plentzia Town Council, and we were pleased to welcome representatives from GOAZEN UP. Their organisation is on a mission to improve physical and emotional well-being through sporting and community events, including beach clean-ups.

Screening The Ocean Film Festival was a perfect way to celebrate something that we are all passionate about: our ocean.

Nancy Ellen Cross, MER Cohort 2023-2025 ncross001@ikasle.ehu.eus





# RiMER 2024 EMJMD Part 2: "a great way to say "see-you-soon" to classmates after an intense Semester" June 18<sup>th</sup>, 2024. PiE-UPV/EHU

The 45 MER EMJMD students of the 2023-2025 Intake concluded their Semester 2 attending the Part-2 of the RiMER 2024 in the Plentzia Marine Station (PiE-UPV/EHU) in June 18-21. RiMER 2024 had started with an intense week in the Aquarium of Donostia-San Sebastian in early February (Part-1) and was continued with two special days: the Women Marine Scientist Day in May and the Turquoise Day (careers and entrepreneurship) in mid-June.

In this last week in the PiE-UPV/EHU, fifteen prestigious scientists, from different nationalities worldwide and diverse profile, dealt with various aspects of marine biodiversity and global change, clean and healthy oceans (pollution and disease) and exploration of the sea. The programme included stimulating experiences in Antarctica and promoted vivid debates about ethics in ocean exploration and about "the extinction of taxonomists". Overall, topics along these days included hologenomic evolution in corals, microbial (Vibrio) adaptation to climate change, ecosystem responses to global warming and light pollution effects on benthos ecosystems. Lectures and round tables covered also broad aspects of ocean health such as pollution evolution in the Anthropocene and the adverse effects of nanomaterials, nanoplastics, microplastics and other emerging contaminants on marine mammals, fish and invertebrates. Likewise, they dealt with emerging concerns regarding disease in marine systems (antibiotic resistance, cryptic parasites and vaccination) and their modeling.

The RiMER 2024 programme ended with the already traditional Txakoli party organized in the PiE-UPV/EHU main terrace to say "see-you-soon" ("laster arte" in Basque) to classmates and staff before the summer break; this resulted particularly engraved in everybody's memories aided by a spontaneous multicultural karaoke that went beyond expectations in contributing to MER community building.



**Ionan Marigomez** 



#### MER on the net!

We are thrilled to announce the launch of MER's new social media profiles, designed to keep our vibrant community of marine scientists, students, and enthusiasts connected and informed. Here's a brief overview of our platforms and what you can expect:



<u>LinkedIn</u>: Our LinkedIn page is a hub for professional growth and opportunities. We regularly share job openings, PhD and fellowship opportunities tailored for marine scientists and students. Join us to stay updated on the latest career opportunities and network with professionals in the field.



<u>Facebook Community</u>: Our Facebook community is a more informal space where current and former students can interact closely. Here, we discuss ideas, share projects, announce events, and organize informal meetings. It's the perfect place to strengthen our cultural and social connections within the MER family.



<u>Instagram</u>: On Instagram, we celebrate ocean-related dates, promote marine conservation, and share our achievements. Follow us for creative and engaging posts about awards, events, and the daily activities of our students. It's a dynamic platform to showcase the life and work happening within the MER program.

If you want to make them grow you can follow them, like and reboot, and of course, be part of the content creators team! Join <u>Anna Larissa M Oliveira</u> and <u>Md. Mahamudul Hasan Mredul</u> to be an active MER member!

## **MER Mates podcast release!**

Walking home one cold Winter's night in Liege, we were reflecting on our upcoming Marine Ecology exam. Crossing the River Meuse, with the soulful cry of the gulls in our ears, it suddenly occurred to us that there just had to be a less arduous way than ours to learn all about Marine Science. And what better way, we thought, of introducing the sea and many of its diverse wonders than by means of a podcast about the marine environment.



We are Sam and Xabi, two MER students who also happen to be mates. In other words MER-Mates, the title we have chosen for this podcast project, which intends to share the wonder and mysteries of the seas and the life it is home to. Focusing not only on current investigations in the marine field but also introducing some of those many personalities who are actually carrying out the science and shining a new light into the depths.

There are a lot of individuals who have contributed their advice, expertise and active participation. It is thanks to all of them that you will now be able to learn more about the fascinating marine environment. We hope you enjoy listening to them and that they encourage you to learn even more. For, as a popular basque song says, "itsaso berriak ikusteko jaioak gara", "we are born to discover new seas". In our first podcast, available from early September 2024, our guest will be Dr. Belén González Gaya, who will be talking with us all about marine xenobiotics, life at sea and mobility as a researcher. Enjoy and stay tuned!



Samuel York & Xabi Larrinaga, MER Mates podcasts. MER cohort 2022-2024



# Next MER community summit Save the dates 2026!!

The last <u>MER Community Summit</u> was organized in 2022 in Bilbao, Spain. It was a very successful event bringing more than 200 people, including students, alumni, staff... To keep the community connected and strengthen the networking, we are pleased to announce the next Summit in Bordeaux that will be held from September 2-6, 2026. We hope that many of you will join and actively participate. The Summit will be organized at the Pey-Berland site, in the city center. We will keep you update through the next newsletters.

#### Looking forward to seeing you all!

#### Johan Etourneau, Simona Camarasu









# LIFE IN PLASTIC IS NOT FANTASTIC

Modern society is facing serious challenges related to environmental issues, amongst which is the known plastic crisis. 1950 was the year in which this environmental nightmare began: plastic production was intensified, becoming one of the most relevant industries worldwide, which would mark a before and after in the history of the Earth (literally, as their presence has been recorded in our fossil record, in a new geological era known as Anthropocene). Plastic came into the world as a super material due to their long durability, high versatility, excellent mechanical properties, long service life and low cost production. This enabled the production of cheaper goods, easier to produce and more accessible to the world's population. Therefore, almost overnight, plastic replaced glass, wood even some light alloy metals in most of the sectors and started to be applied in a wide range of areas, leading to an exponential increase in its use all over the world. However, nobody thought that this super material, precisely because of its excellent properties, could become one of nature's greatest enemy.

From the plastic produced in the last 70 years only 9% was recycled and nearly 60% of the plastics ever produced have been disposed of and are accumulating in landfills and ending up in the environment, especially in the marine ecosystems. Due to their chemical nature, plastics are exceptionally resistant to biodegradation, and therefore very persistent in the environment, and are distributed via ocean currents throughout the marine environment. In fact, the presence of plastic has been reported even in pristine locations where human presence was practically non-existent, such as polar areas and abyssal zones. Because of the interaction with environmental factors, parental plastics are transformed into microplastics. It was not until 2004 that the scientific community began to warn about the presence of microplastics in the environment, in a study led by Richard Thompson, who first coined the word microplastic; a new concept that soon began to be on everyone's lips, even to this day. The enemy was now invisible and it was becoming increasingly difficult to know its abundance and distribution in the environment. In fact, although huge efforts have been made to try to quantify the presence of microplastics in marine environments, there is still no clear consensus about their abundance.

Microplastics bring with them new properties that pose a risk to the environment. Their small size allows them to be ingested by many marine organisms, in which they can accumulate, being able to enter the food chain and lead to the biomagnification phenomena. Moreover, its large surface to volume ratio favour the interaction of microplastics with other contaminants present in the environment, being highlighted their role as pollution vectors of metals, PAHs, PCBs and other emerging pollutants. The adsorbed contaminants can be dissociated into their constituents after ingestion by biota, leading to a potential increase in toxicity and affecting the biodiversity of impacted areas.



Against this backdrop, the scientific community has been making many efforts to try to understand the dynamics of microplastics in marine ecosystems, and to assess their effects in marine biota. However, the lack of standard methodologies makes it challenging to compare results across studies, which often makes it difficult to draw clear conclusions. Furthermore, it is important to consider that the majority of studies conducted are performed under controlled laboratory conditions using commercial spherical plastics and environmentally non-relevant concentrations, which are tested on a single species, resulting in unrealistic results. Therefore, what we know may not be the whole picture! There's still so much to discover about what's going on in the environment.

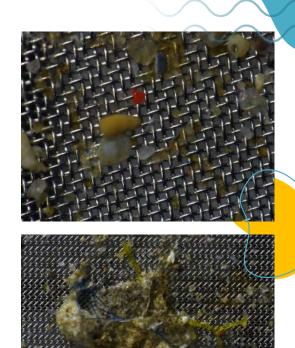
In this context, the PLASTeMER project was born, led by the Plentzia Marine Station of the University of the Basque Country (UPV/EHU), in which we try to contribute with our knowledge and scientific skills to help shed some light on these unknowns about microplastic pollution in the environment. PLASTeMER is a multi-scale approach project that tries to understand the sources, transport, interaction with trace elements and distribution of MP pollution in different environmental compartments, in order to assess their impact on biota. It tries to focus on investigating aged microplastics, which is the state in which the majority of plastics are found in the environment. Microplastics are continually subjected to a wide variety of environmental factors that contribute to their weathering (solar irradiation, salinity, temperature, and enzymatic degradation in the digestive tract by biota, among others), which can cause changes in the morphology and chemical structure of the material, and therefore, in its physical-chemical properties. In turn, this could lead to alterations in their bioavailability and that of other contaminants, increasing its potential toxicity.





Thus, part of the project consists of carrying out an environmental biomonitoring program in a pivotal place of Bizkaia, the Urdaibai's Biosphere Reserve estuary, in order to know the abundance and characteristics of potential MPs found in a real case study. For that, different samples from environmental compartments were taken (sediment, water and biota) during one year monitoring program along the estuary. Preliminary results show that, despite the protected area status, the presence of MPs can be found throughout the estuary, and extends from the inner to the outer areas without significant differences between sampling points. With regard to the MPs identified, the majority correspond to PET, PE and PS, which are the most commonly MPs found in marine environments, as evidenced by the literature.

The concentrations of MPs found here are not particularly high in comparison to other studies. However, it is important to note that many of the studies reviewed did not perform an analytical identification of the potential MPs found, only making a visual analysis of them. This can lead to an overestimation of the MPs, as demonstrated in our study, where the amount of MPs detected after visual observation was much higher than after Raman spectroscopical confirmation, with an overestimation of > 90% of the MPs. Furthermore, it is of great importance to implement quality assurance protocols when working with plastics, as the risk of cross-contamination is considerable. Therefore, the addition of blanks and controls, the filtration of the reagents prior to their usage and the meticulous cleaning of the materials are essential to consider valid a MP study.



The next step of the project aims to study what effect these aged microplastics (which are found as representative of our coasts) may have on key organisms in marine ecosystems. A study conducted by the University of the Basque Country (UPV/EHU) has demonstrated that microplastics collected from beaches along the Bay of Biscay have absorbed co-pollutants, including metals. This, along with the evidence that aged plastics have a higher capacity to adsorb contaminants due to their surface characteristics, has prompted us to study the role of aged polystyrene as vectors of Cd contamination. This will help us better understand the potential risks of microplastics in our coasts and to preserve coastal environments far from plastic to be fantastic.



Nagore Blasco
PhD student, 3rd year MER doctoral program
Adscription Cell Biology Department at PiE-UPV/EHU
LinkedIn · Research gate

#### Conversations between oceanographers at the sea

#### Helene



Hi Christineeeee! It's your physical oceanographer besties Helene & Genia!

#### Christine

Oh my gosh hii!!! Where in the world are you? I saw your location was in the Arctic and Genia in the Canary Islands!? How were your research trips? Did you have fun?

#### Helene

Yess it was incredible - so much to catch up on :)

#### Christine

Yes, indeed! But let's start from the beginning... Why did you decide to join MER and why did you decide to pursue oceanography?

#### Helene

I started as a marine biologist! For my bachelor's I studied biodiversity differences between mangroves and salt marshes in Texas to determine impacts due to climate change. However, I've always been interested in ice-ocean interactions and polar regions changes due to climate change. That's why I worked for two years in a **glaciology lab**, using remote sensing to track the retreat of marine terminating glaciers in Greenland. It made me wonder how the melt of the ice sheet would impact the ocean, which led me to applying to the MER masters.

#### Genia

My academic journey in oceanography has been a continuous exploration, marked by the desire of understanding the intricate dynamics that govern the oceans. Beginning with my bachelor's degree, I delved into the complexities of vertical mixing in the Indian Ocean, unraveling the state of oceanic processes that underpin climate variability. This experience sparked a passion for exploring the link between the ocean and the atmosphere. Building upon this foundation, I aim to willing to unravel the impact of climate change in the Atlantic Ocean.



#### Christine

Wow, that is so interesting, what interesting journeys you had to where you are now! I know that the first year MER students are starting the process of deciding their master thesis topics.

How did you find your thesis topic and do you have any advice?

#### Helene

I took the operational oceanography class at <u>AZTI</u>, which made me interested in different methods of tracking ocean dynamics. Following this, I spent a summer at the <u>UiB Geophysics</u> <u>Institute</u> working with seaglider data from off the coast of Svalbard. When looking for a master's thesis, I knew I wanted to work with different operational platforms in the Arctic. Over the summer, I emailed some professors and researchers, and had an online meeting with my current supervisor at <u>OGS</u>, which went really well. For my thesis, I should compile a dataset of over 40 years worth of Argo float, glider, satellite, CTD, and mooring data to explore how the warming Atlantic and sea ice variability is affecting the Arctic ocean. During the meeting, he brought up the potential to join on a research cruise to gather data from and maintain a mooring off the coast of Svalbard over the northern summer and then I was sold:)

#### Genia

It started with the Dynamic Oceanography class back at the <u>University of Bordeaux</u>, where we studied the Atlantic Meridional Overturning Circulation (AMOC) and its strong connection to climate change and its predicted collapse. With the skill set I acquired from the Satellite class at <u>PiE-UPV/EHU</u>, I envisioned connecting ocean parameters such as Sea Surface Temperature (SST), Sea Surface Height (SSH), and North Atlantic Oscillation (NAO) with the AMOC transport data from <u>RAPID</u>. Therefore, I contacted scientists at <u>NOCS</u> who developed RAPID-MOCHA to understand ocean heat content better and to supervise my research idea. They helped me develop these ideas, and now we are focusing on evaluating the predictive capabilities of the AMOC for sea-surface temperature anomalies (SSTAs) at 26°N.

#### Christine

So, I guess that both of you have enjoyed the MER programme... Would you recommend it to other students looking for a masters programme?

#### Genia

Absolutely!! The MER programme offers a wide range of courses that allow me to choose based on my interests. My suggestion is to determine what you want to focus on after the first semester, which consists of foundational courses. This way, you can align your classes with your interests and develop a skill set that best matches your dissertation topic later. Aside from the academic realms, the multicultural exchange in MER is what I love the most!

#### Helene

Yes, I definitely would recommend MER. Genia and I had the same pathway and I think for physical oceanography it was ideal, starting from a broad overview in Bordeaux to investigating many different topics in Plentzia, and finally going deeper into technical skills and coding in Southampton. You will meet a wide range of professors, researchers, and students to support you and rely on during the masters and after graduation!

#### Christine

Wow it really is such an incredible opportunity to study and travel in so many interesting places and to have the opportunity to meet and study with a diverse group of scientists! In any case, you both have been so lucky to have the opportunity to be a part of a scientific cruise!

Could you tell me more about the purpose and goal of your cruise?

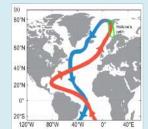
#### Genia

The purpose of my cruise was to perform a continuously RAPID mooring transect to monitor the AMOC at 26.5°N in the eastern boundary near Santa Cruz de Tenerife (Canary Islands, Spain), in the subtropical part of the AMOC. So, RAPID is basically a program developed to observe the strength and structure of the MOC. We conducted measurements across physical, biological, and chemical parameters using various instruments including CTD, Argo floats, multibeam echosounder, and moorings. Additionally, we tested pH autonomous measurement devices designed by the Marine Robotics team at NOCS that we attached to the CTD. The physical oceanography measurements aimed to obtain ocean heat content data from temperature, pressure, and salinity readings that later will be used to compute net meridional mass transport.

#### Helene

My cruise was a NATO cruise (multipurpose) for recovering and deploying moorings in the Nordic Seas. in particular for us we went to maintain OGS's mooring SI which is located off the Southwest coast of Svalbard. It's kind of fun- we both got to look at Atlantic Water, just in different locations!

#### Genia



Look, here you see the area in this map (which I based on a Johns et al., 2023 figure of the AMOC).



#### **5.** MARINE STORIES

#### Christine

Seems like a lot of work! How long was the cruise?

#### Genia

10 days.

#### Helene

2 weeks

#### Christine

Indeed, that is a lot of work to do in such a short period of time! Was there anything interesting or mandatory you had to do, to prepare for the cruise?

#### Helene

Before being approved, I had to complete a medical check- they tested my blood, eyes, ears and heart to make sure everything was in ship shape;)

#### Genia

medical check and also survival personal training in my case!

#### Christine

Were there a lot of people that were a part of the cruise and how did it work on board?

#### Genia

There were 6 scientists, 2 PhD students, 1 Master student onboard, all from the marine and physical sectors and part of the RAPID team, focusing on AMOC research within the context of dynamic oceanography. Additionally, there was 1 videographer, 1 engagement officer and deck crews of approximately 30 members. Since we were on the **RRS Discovery** research cruise from the UK, the moorings had to be handled by the crew rather than the scientists.

#### Helene

The NRV Alliance is manned by the Italian Navy, therefore there were around 40 people from the navy on board, as well as 15 researchers and technicians. There was also a videographer making a documentary for Italian TV!



#### Helene



Here's the team who works on the S1 mooring! It's a collaboration between OGS and CNR ISP

#### Christine

And with all the work you needed to do I can't imagine what your every day was like... What did your usual day to day look like on the cruise? Did you have an individual role or did you help with different activities on board?

#### Genia

My day-to-day responsibilities on the RAPID DY-174 expedition included conducting CTD watch duties, bonding carbon for chemical analysis, performing salt measurements and deploying Argo floats, further enriching my practical understanding of oceanographic processes. These offshore expeditions have not only enhanced my practical skills in survey operations but also provided invaluable observational data on the role of Eastern Boundary sites in shaping AMOC dynamics.

#### Helene



The day's activities really varied depending on the day and where we were. Because the sun never set, we worked around the clock if needed. There was a lot of waiting while in transit to mooring locations, but once at the sites it was a rush to retrieve the mooring. Then we had to download data and get everything set up for deployment. At the mooring sites, we deployed CTDs, did multibeam surveys, gathered niskin bottles for density and salinity which would be taken back to the lab and used to verify salinity and density measured by the CTD/mooring. I also worked on my thesis and helped with the data acquisition and validification from instruments.

For instance, look here a weight at the bottom of the mooring while being deployed! Fun fact-this photo was taken at 3:00am

#### Christine

Wow, you both had a lot and intensive duties on board! Did you manage to have much free time?

#### **5.** MARINE STORIES

#### Genia

In my free time on board, I had a blast doing various activities. One time, I went on deck with the captain to try navigating the ship—just a little bit because I kidded about messing it up if I took over! We had an awesome barbecue evening party with all the scientists and crew, which I absolutely loved. I also spent evenings drinking and playing games with the crew, sharing stories, and even doing some karaoke (for them). I loved going out on the front or back deck to catch the sunset or sunrise and snap some photos. Star gazing was another favorite activity, and I even got to see dolphins one time.

#### Helene



Everyone on board was Italian and most were in the navy, but luckily everyone spoke English and was very kind to me. We had breakfast, lunch, and dinner, plus snacks (normally pizza!) at 11:30 and midnight. The scientists brought wine and beer to enjoy when we had spare time. The midnight sun was a great experience and the views were incredible. We were able to go anywhere on the ship, including the bridge, for the best views of the sea ice margin. For exercise, I alternated between pacing around the upper and lower deck or using the ship's gym. After the first day, there was no phone data and wifi was limited to the dry lab, so it was a good thing to have books and my knitting to work on :) Also I bird watched because there were many Arctic birds (including puffins!!) flying around. Here's my supervisor and I enjoying the views of the sea ice:)

#### Christine

Definitely sounds like it was a great experience from both a scientific and personal experience!

Was there anything else that was interesting that you noticed while working on the cruise?

#### Genia

the scientists were even with female to male but with the deck crew there was only 1 woman

#### Helene

I would say both in the navy and in the researcher/technicians group, men outnumbered women 1:5

#### Genia

also, before starting engines, it was curious that it had to be checked for marine mammals (in regards to sonar)

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#### Helene

So nice! we had to race the north wind to arrive at a mooring site before sea ice would be pushed down covering the site- making retrieval impossible. However, by the time we got there it was already covered with ice. Then we had to wait until finally the ice moved and a work boat could go rescue the mooring!

#### Christine

Being part of a scientific cruise seems like an incredible opportunity, would you recommend it to other students?

#### Genia

yes, if free for sure, otherwise 800£ in my case, because we need to prepare for the cost of Personal Survival Training, Medical Certificate, and Flights Tickets

#### Helene

Yes I would! You will get so much hands-on training and meet interesting people :) Also the views are incredible, it makes you realize how vast the ocean is. Make sure to bring seasickness medication though, because the first day after we left the fjord was brutal.

#### Christine

Wow, it was so inspiring to learn more about the journeys that led you both to becoming oceanographers and to now being a part of scientific cruises! Wishing you both the best of luck with the rest of your thesis!

#### Helene

Yes, Christine! Thaaaaanks! <3

#### Genia

Ciao darling!



**Helene Olsen, Genia Bersha, Christine Tamara Barrow** MER students, Cohort 2022-2024



#### ■ 6. INTERVIEWS



### Florina Simona Camarasu

but please call me Simona

**Current position:** International Projects Officer at the University of Bordeaux

#### What is your relation with MER?

I'm working in the International Office at the University of Bordeaux who is a full partner since the beginning of the MER programme. I'm currently managing European projects in the training field, such as Erasmus Mundus Master programmes MER2030 and ECT+. I also help the academic community to receive the Erasmus+ and other fundings in order to build and sustain these projects.

#### What is your relation with MER?

I'm working in the International Office at the University of Bordeaux, where I manage European projects, such as Erasmus Mundus Master programmes MER2030 and ECT+. My tasks involve the administrative and financial aspect of the MER programme as well as direct contact with the MER students coming to Bordeaux to prepare their mobility, insurance and doubts. For the welcoming procedures in Bordeaux (registration, accommodation, French courses etc.) we have a direct contact at the International Students Helpdesk: int-students.helpdesk@u-bordeaux.fr

#### For how long have you been involved in the Master MER?

From 2015, so almost ten years.

#### Why have you chosen working in (marine) science?

My studies are not in the Marine Science field. I have an MSc degree in European Law and Economics. However, I have also been involved in the MER student selection and recently in creating the MER2030 poster together with Dr. Johan Etourneau, who received the Best Poster Award at the Erasmus Mundus 20th Anniversary this year!

#### Which is the best thing about working with people involved in marine science for you?

I really enjoy working on this programme and be involved in the MER community. I have participated in building this programme thorugh the renewal of the MER+ EMJMD in 2017 and 2021, as well as the awarding of the European Approach for Quality Assurance of Joint Programmes (EAQAJP) accreditation in 2023. I really hope to be able to continue to contribute to this programme in the future.

#### Which is the "B side"?

The administrative hurdles can be really demanding for students and for academic staff. Together with my colleagues at the International Student Helpdesk, the Mobility and Immigration Office, we do our best to help with accommodation and we are currently working to improve the student residence permit request procedure in the future.

#### Which do you think is your main labor achievement?

Participating in ensuring the continuity of the programme and academic collaboration as well as the direct contact with the students to make their arrival in Bordeaux as smooth as possible.

#### Which are your personal strengths and weaknesses?

Strengths: dedicated, creative, resourceful, communication skills and determination. Weaknesses: too detail-oriented

#### What would be your advice for the MER students and their future career in marine science?

Make use of their transversal skills gained in this international programme such as the intercultural experience, problem-solving, adaptability, critical thinking, improving the language skills, broaden their professional network etc. in order to positively contribute to the environment.



## **Joyanta Bir**

MER Cohort 2015-2017 joyanta.bir@ehu.eus

Currently, PhD student in the research group of Cell Biology in Environmental Toxicology+ (CBET+), has just published his recent work about the tRNA and 5S rRNA indexes in teleost gonads as a new molecular marker to identify fish sex, to rank the gonad developmental stage and the study of intersex condition. **Congratulations!** 

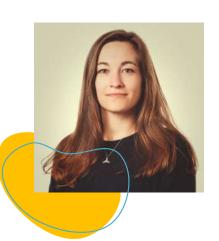
Bir, J., Rojo-Bartolomé, I., Lekube, X., de Cerio, O.D., Ortiz-Zarragoitia, M., & Cancio, I. (2023). High production of transfer RNAs identifies the presence of developing oocytes in ovaries and intersex testes of teleost fish. *Marine Environmental Research*, 186, 105907.

https://doi.org/10.1016/j.marenvres.2023.105907

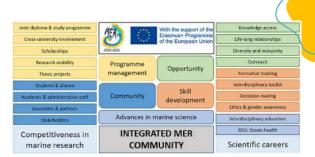


#### Rebecca von Hellfeld

MER Cohort 2014-2016 rebecca.vonhellfeld@abdn.ac.uk



In a collaborative effort, some MER-alumni got together to write a perspectives piece on the importance of degrees like this one. Thanks for all the work to all the co-authors and to Manu Soto and Ionan Marigomez-Allende for all the support, as well as all the people who have made the programme what it is over the years!



von Hellfeld, R., Sujiwo, A. S., Seeram, S., Olatunji, P. O., Parga Martinez, K., Govindankutty Menon, A., ... & Soto, M. (2024). The need for interdisciplinary research in marine sciences–A MERry outlook. Frontiers in Marine Science, 11, 1392394. <a href="https://doi.org/10.3389/fmars.2024.1392394">https://doi.org/10.3389/fmars.2024.1392394</a>

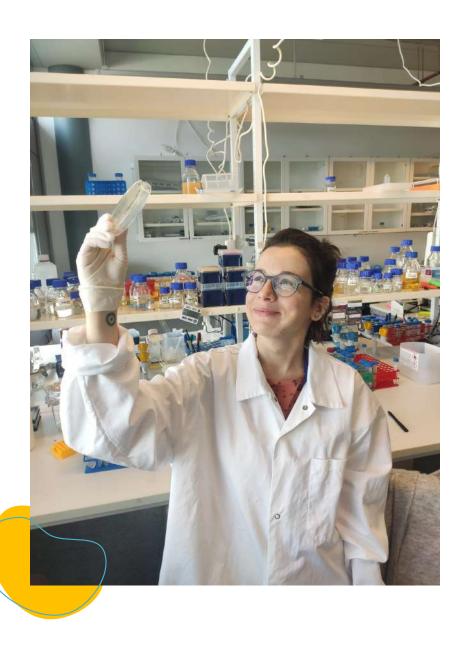
## **Eveliny Tomás Nery**

MER Cohort: 2016-2018 Birth place: Brasil

I'm currently working as a postdoc at the HiLife institute at **University of Helsinki in Finland**. Here, we study the effect of temperature on the molecular dynamics of diverse marine bacteria, including thermophiles and psychrophiles, using single-molecule tracking techniques and ultra resolution microscopy. My main role is to genetically modify these bacteria so specific proteins look fluorescent under the microscope, and we can track them. In this picture I'm wondering why there's always a weird contamination on my conjugation plates.

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in https://www.linkedin.com/in/eveliny-t-nery-1779a3182/



# **Anjaly Govindankutty Menon**

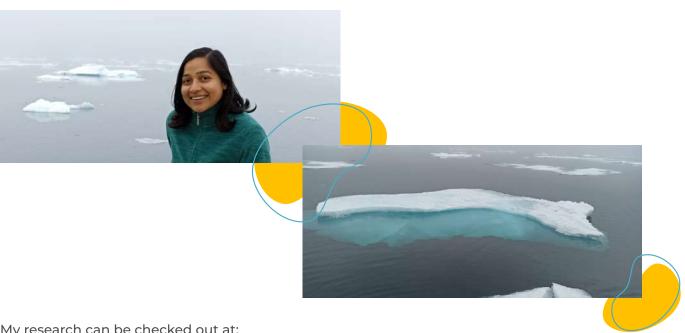
MER Cohort: 2018-2020 **Nationality:** India Birth place: India

Current status: PhD Student, University of Hamburg, Germany



After completing my undergraduate degree in 2018, I was awarded the fully-funded MER Scholarship for my Master's degree. I studied at the Universities of Bordeaux, Basque Country, and Liege, and completed my thesis at the University of Southampton. In 2021, I started working at the Institute for Geology, University of Hamburg, Germany with Dr. Nicolaas Glock and Prof. Dr. Gerhard Schmiedl. My current PhD focuses on the marine nitrogen cycle in the oxygen-deficient zones (ODZs) of the Pacific Ocean. As global warming and changes in ocean circulation contribute to ocean deoxygenation, climate models predict that ODZs will expand and intensify in the future. So far, we developed a fully automated image analysis technique to evaluate this. We applied this technique to reconstruct the nitrate in the Pacific Ocean (paper currently under review). Our results will help to understand the resilience of different Pacific ODZ ecosystems to climate change.

I also traveled recently to the Arctic, as you can see in the pictures!



My research can be checked out at:

https://scholar.google.com/citations?user=YptqRvMAAAAJ&hl=en

in https://www.linkedin.com/in/anjaly-menon-578923192/









# https://merconsortium.eu/

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