

# ASSEMBLE



ASSOCIATION OF EUROPEAN MARINE BIOLOGICAL LABORATORIES EXPANDED

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***Title: Association of European Marine Biological Laboratories Expanded***

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## Abstract

**This deliverable describes the outcomes of the trans-national access programme (TNA) offered at EMBRC Portugal, in terms of: installations available, applications received and user's projects performed (through on-site and / or remote access), users' profile and other stats (country of origin, career profile, type of organization, satisfaction of the services used).**



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## 1. Introduction

Transnational Access in ASSEMBLE Plus is provided to a total of 36 marine stations in 15 countries. In the whole consortium, the stations provide access to a high diversity of marine environments; from the high Arctic (IOPAN) and Antarctic (UKRI-BAS) to the tropics (IUI and NIOZ-CNSI) and the mid-Atlantic ridge (CCMAR and IMAR). Within mainland Europe, access is provided to the Mediterranean, the Atlantic and the Baltic seas. Habitats comprise estuaries (e.g., SZN, ISMAR, CCMAR, AWI, IOPAN, UG), mega-tidal seas (SBR), cold-water coral reefs (KMRS, NUIG, SAMS), brackish seas and sea ice communities (IOPAN, TSZ, ARI, HBS), near-shore deep sea (HCMR, IMEV, NUIG, UGOT, SAMS) and volcanic seeps (high CO<sub>2</sub> – low pH; HCMR, SZN, IMAR). The TA-providing stations (access providers) have modern research laboratories and a wide array of specialized research facilities to support internal and external users. Several of these also have technological backup of nearby university institutions.

This deliverable describes the outcomes of the trans-national access programme (TNA) offered at EMBRC Portugal, in terms of: installations available, applications received and user's projects performed (through on-site and / or remote access), users' profile and their stats (country of origin, career profile, type of organization, satisfaction of the services used).

## 2. Objective

This deliverable intends to show the outcomes of the transnational access programme executed at EMBRC Portugal, hence contributing to the ASSEMBLE Plus objectives:

- Enhance transnational access to a coordinated set of state-of-the-art European infrastructures for marine biology and ecology;
- Improve service provision by these infrastructures in line with their areas of excellence in marine biology and ecology, with emphasis on developing novel key enabling technologies and data solutions;
- Strengthen complementarity and interoperability within the consortium and with related infrastructures;
- Lay the logistical and strategic foundations to expand the coverage of the European Marine Biological Resource Centre (EMBRC) in both its scope and its geographical distribution and to consolidate its long-term sustainability.

## 3. Outcomes of the Transnational Access programme

### 3.1 Overview of the access providers

The EMBRC Portugal node is integrated as a national RI with a single-entry point led by CCMAR. It offers research vessels and smaller boats supported by diving and underwater vehicles for ecosystem access to Atlantic ecosystems - Gulf of Cadiz and saline lagoons, Northern Portuguese Coast and mounts and mid- Atlantic subtidal, oceanic, and deep-sea ecosystems, all with largest retches of classified or

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protected status. It provides access to arrange of cultured and non-cultured organisms (microalgae, fungi, seaweeds, seagrasses, fishes, cephalopods, copepods, rotifers, corals, deep sea mussels, etc). Specialized research service platforms are available for discovery of bioactive compounds, imaging and “omics”. Aquaria for marine organism maintenance and experimentation are offered at the 3 stations.

### **3.2 Installations offered**

EMBRC Portugal offered access to three marine stations with a specific set of installations:

#### **3.2.1 Algarve Centre for Marine Sciences (CCMAR)**

##### **3.2.1.1 CCMAR\_1, Ramalhete marine station-CCMAR (Faro)**

Rearing of aquaculture organisms, Aquaria and tanks at from 50L to 9m3 flow through and recirculated filtered natural seawater; access to aquatic cultivated organisms’ facilities; climate-controlled rooms, thermostatic baths, mesocosm of 100L tanks (24) to simulate oceanic acidification scenarios and to support marine ecology experiments. Wide range of aquaculture fish species, invertebrates, macroalgae and model organisms available under request.

##### **3.2.1.2 CCMAR\_2, Boats/vessels-CCMAR (Faro)**

Research boat (9 meters and up to 30 miles range) and small boats operating in Algarve Atlantic coast (South Portugal). Organisms/Samples can be collected in the Algarve Atlantic coast (South Portugal) and nearby estuaries (intertidal, subtidal areas). Sampling equipment at CCMAR – Faro: Sampling (Niskin bottles, nets, etc.); in situ environmental monitoring (CTD, multiparameter probes, etc.), submersibles.

##### **3.2.1.3 CCMAR\_3, Labs-CCMAR (Faro)**

Laboratories and research services platforms at CCMAR - Structural and chemical: mass spectrometry (GC, HPLC, LC), SWITCHSense DNA nanolever biosensor (chemical interactions, Kd, etc.), RMN, micro FTIR, Carbon/Nitrogen analyser, Segmented Flow Analyzers, isothermic calorimetry, atomic emission spectrometry, others under request; Molecular biology and omics: High Throughput PCR, Sanger sequencing, Recombinant protein production, protein structural and functional characterization, qPCR, Typhoon Trio; Electrophysiology (extracellular and patch-clamp), cell culture (fish and mammals); Imaging: Light, inverted microscopy with image acquisition, Confocal, fluorescence and light sheet microscopes, others under request; Bioassays: Cell-based bioassays and biosensors for small molecule and protein function and biodiscovery.

##### **3.2.1.4 CCMAR\_4, Diving-CCMAR (Faro)**

Scientific diving -Technical and logistic support for diving in the Algarve Atlantic Coast (South Portugal).

#### **3.2.2 Interdisciplinary Centre for Marine and Environmental Research (CIIMAR)**

##### **3.2.2.1 CIIMAR\_6, Aquarium CIIMAR (Porto)**

Aquaria and tanks; Mesocosms; Climate controlled rooms; Dry and Wet laboratories to support aquaculture, ecotoxicology and ecological experiments.



### 3.2.2.2 CIIMAR\_7, Labs/platforms-CIIMAR (Porto)

Bioassays; Imaging; Molecular biology and omics, Structural and chemical analysis; Access to the CIIMAR Biodiscovery and Biorefinery Platform; Access to Bioinformatics Platform: genomics and transcriptomics software, genome assembly, sequence databases.

Culture collections: LEGE culture collection (400 Cyanobacterial strains); Access to cultures of Actinobacteria, Planctomycetes and bacteria from different phyla (Proteobacteria, Firmicutes and Bacteroidetes); Species collected upon request; Marine model organisms.

### 3.2.2.3 CIIMAR\_8, Access Ecosystem-CIIMAR (Porto)

Coastal research vessels; Scuba diving facilities; Sampling equipment.

## 3.2.3 Institute of Marine Research (IMAR)

Research Vessels and sea observatories (low depth hydrothermal vent obs. and a seamount obs.). Vessels and observatories provide access to coastal and oceanic ecosystems in the Azores. Access to Laboratories are also available

### 3.2.3.1 IMAR\_9, RV\_archipelago (Horta)

RV Archipelago (25m RV - operates at a regional scale), RV Águas Vivas (11m - operates at a local scale).

### 3.2.3.2 IMAR\_10, RV aquas\_vivas (Horta)

Research Vessel and sea observatories (low depth hydrothermal vent obs. and a seamount obs.). Vessels and observatories provide access to coastal and oceanic ecosystems in the Azores.

### 3.2.3.3 IMAR\_11, RHIBS (Horta)

Access to RHIBS (support diving and other coastal work).

### 3.2.3.4 IMAR\_5, Labs-IMAR (Horta)

Wet and dry: 2 wet general biological sampling labs., oceanography lab., genetics and molecular biology lab., ecotoxicology and analytical chemistry lab., histology and sclerochronology lab and optical microscopy lab.





## 4. Applications received

### 4.1 Origin country of applicants

EMBRC Portugal has received a total of 108 applications (140 users from 21 countries) in the nine calls of TNA. Among these, 76 main applicants were based in European countries (70,4%) while 32 main applicants came from other non-European countries (29,6%).

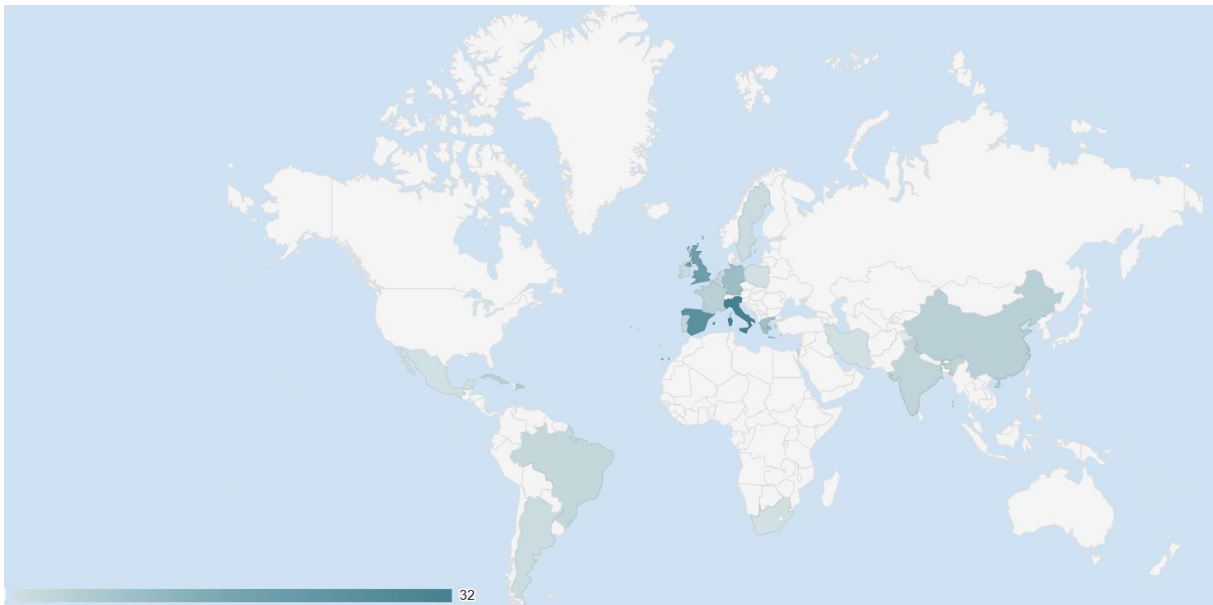


Figure I – EMBRC.PT Origin country of applicants: 21 countries (AR, BE, BR, CN, CU, DE, DO, ES, FR, GR, IE, IL, IN, IR, IT, MX, NL, PL, PT, SE, ZA)

### 4.2 Applicants profile

#### 4.2.1 Home institution type

Applicants were mostly based in academic institutes (universities: 50,9%; research organizations: 47,2%).

#### 4.2.2 Career status

The career profiles of the applicants were PhD student (38%) and early career scientists (23,1%), Postdoc (21,3%) and senior researchers (16,7%).

#### 4.2.3 Scientific domains

The most recurring Scientific domain of the applications was that of Life Sciences & Biotechnology (66,7%) followed by Earth and Environmental Sciences (29,6%) and Chemistry (4%).



## 5. User hosted and their stats

### 5.1 Projects completed

Overall, EMBRC Portugal has hosted 52 projects for a total of 69 users. All the projects were carried out on-site.

- CCMAR had hosted 33 projects for a total of 44 users.
- CIIMAR had hosted 15 projects for a total of 19 users. Due to the time constraints, the User of project 13151 – CIIMAR requested to convert to remote access, but CIIMAR was not able to provide the requested services as remote, due staff availability constraints to conduct the requested assays.
- IMAR had hosted 4 projects, for a total of 6 users.

The list of projects completed at EMBRC Portugal is available in "[Appendix 1 – List of user-projects completed](#)" further below.

### 5.2 Installations used

CCMAR has provided 47 access units of boats (user group.day), 32 access units Diving (user.day), 635 access units of Labs and Platforms (user.day), 489 access units of Ramalhete Marine Station (tank.week).

CIIMAR provided 240 Units of Access (tank/week) to installation 6. Aquarium, 339 Units of Access (user/day) to installation 7. Labs/Platforms, and 20 Units of Access (user group/day) to installation 8. Ecosystem.

The IMAR installations used were the RV Arquipelago (installation 9, 1 unit), RV Águas Vivas (installation 10, 3 units), RHIBs (installation 11, 6 units) and Laboratories (installation 5, Wet, Optical microscopy and Analytical Chemistry laboratories, 30,5 units).

### 5.3 User satisfaction

Overall, users have positively evaluated the services offered (Very good: 54,3% and Good: 32,6%). In general, comments from the users were "it was an extremely positive experience", "researchers and the technical services were very friendly and welcoming", "Technical support at the station was brilliant and it felt very safe despite Covid!", "It was a great experience", "Work conditions were excellent", "I am most grateful for this research opportunity". We would like to thank hospitality and support on our research projects". Most of complains are regarding administrative and financial bureaucracy namely during User Access Contract between both Parties and reimbursement procedures.



## 5.4 Projects not completed or cancelled

### CCMAR

- 244 Giulia Furfaro and 12788 Riccardo Pieraccini: Cancelled by the user due to job change;
- 11259 Ulisse Cardini: cancelled by the User due to time constrains;
- 13296 Maryam Maccorquodale: cancelled by the user due to Covid-19;
- 13455 Laura Núñez Pons: cancelled by the User and home Institution due to Covid-19 and time constrains;
- 13478 Ida Orefice: cancelled by the User due personal leave;
- 13515 Michiel Kwantes: cancelled by home institution due Nathional Authorities sampling permit delays due to Covid-19.

### CIIMAR

- 220 Robyn Jones: cancelled by the User due to time constrains;
- 245 Gothandam K.M.: cancelled by the Users due to VISA limitations – reapplied in the 6th call (PID:10737);
- 281 Manuel Nande 281: cancelled by the Home Institution (lack of contractual bond);
- 9779 Sebastian Giulianelli: cancelled by the User – reapplied in the 6th call (PID:11109);
- 11256 Angelina Lo Giudice: reapplied in the 8th call (PID:13151 - Assunta Saide);
- 11819 Carlos Fajardo Quiñones: resubmission project 9377 - perfomed on May 2022;
- 11109 Sebastian Giulianelli: Cancelled. Once the pandemic restrictions were eased, the User had funding constrains as the price of flights and accommodation sky rocketed in May-July. Therefore, the User requested to schedule the access in November/December 2022 when an additional scholarship for mobility will be available and prices will be lower. This will be out of the scope of ASSEMBLE Plus;
- 12880 Renato Ferraz: Cancelled by the User due to financial constrains - prices of flights and accommodation too high in May-Jul, considering the amount CIIMAR made available through ASSEMBLE Plus;
- 13151 Assunta Saide: The User requested to convert to remote access, but CIIMAR is not able to provide the requested services as remote.

### IMAR

In IMAR, the main reason for the cancelation of the projects were directly related with the COVID. Along 2020 and 2021 several different restrictive measures were implemented, either by our institution and by the government. These measures have impacted and introduced delays on the execution of all the running projects and on the routine and programmed use and maintenance of vessels, laboratories, and equipment.

Besides the 4 cancelled projects, 3 other projects passed scientific evaluation but were rejected by IMAR, because it was impossible to schedule the vessels and/or human resources time for them. These are not mentioned on the list below.

- 401 A new approach to monitoring the Slipper lobster (*Scyllarides latus*) using MaVRIC the benthic crawler ROV. This project was postponed due to problems on the transport of scientific equipment from the user home institution and cancelled later;
- 9671 Cave sponges in the Azores Archipelago: bridging biogeographic gaps for a unique refuge habitat
- 13237 Chaetognat eye development and evolution;



- 13261 Going beyond associations: using prey availability to explain seabird habitat-use.

9th Call projects were not received due to funding constrains.

## 6. Use of resources

Beneficiary / Linked Third Party	PM	short name of the installation(s)	explanations of tasks
CCMAR	0.753	4- Diving -CCMAR	Scientific and technical support
CCMAR	3.75	3- Labs -CCMAR ; 1- Ramalhete marine station -CCMAR ; 2- Boats/vessels CCMAR; 4- Diving - CCMAR	Scientific, Technical and administrative support
CIIMAR	2.150	6-Aquarium-CIIMAR	Scientific and technical support
CIIMAR	0.625	6-Aquarium-CIIMAR	Administrative Support
CIIMAR	0.825	7-Ecosystem -CIIMAR	Scientific and technical support
CIIMAR	0.525	7-Ecosystem - CIIMAR	Administrative Support
CIIMAR	8.950	8-Labs/Platforms -CIIMAR	Scientific and technical support
CIIMAR	5.850	8-Labs/Platforms - CIIMAR	Administrative Support
IMAR	0.32	9-RV Arquipelago; 10-RV Aguas Vivas; 5-Labs IMAR	Scientific and administrative support
IMAR	0.25	9-RV Arquipelago; 10-RV Aguas Vivas; 5-Labs IMAR	Technical and administrative support
IMAR	0.19	11-RHIBS-IMAR	Technical support
IMAR	0.10	11-RHIBS-IMAR	Technical support

## 7. Conclusion

Assemble Plus Project was very fruitful in terms of harmonization of host procedures between installations and improve better technical conditions and services. ASSEMBLE Plus project allowed CIIMAR and IMAR to acquire experience in the hosting of research visits of external users in the context of a TNA programme.

Overall users were very pleased with facilities and scientific support, as the visit provided valuable insights to the development of their research.



- *Difficulties encountered and overcome*

Uncertainty brought by COVID-19 pandemic led to a series of constrains when managing access from both sides, compromising some of the projects.

COVID-19 had a huge impact on the utilization of vessels and consequently on projects requiring access to the ecosystems. In case of IMAR, the realization of the TNAs projects was highly reduced and most of those that were executed required opportunistic insertion on time schedule.

Travel and subsistence costs in Porto were increasingly higher after the ease of the pandemic restrictions (and the return of the tourism), which made on-site access unfeasible for some users.

TNA access had revealed to be particularly difficult in matter of financial management regarding the process of reimbursement of travel and subsistence costs between Parties. These difficulties are based on the tax and accountability laws discrepancies among the User countries. Also, the researchers revealed to have major difficulties in dealing with the administrative process within their employment institutions.

- *Reflections on collaborations or strict service use in terms of benefits for institute and in-house scientists, future collaborations with users*

Independent users had the opportunity to give a presentation about the TNA Project to an audience of staff and students at the Access Provider's installation to stimulate discussions and interactions with local scientists. Some TNA projects were also executed with the participation of local researchers focused in specific related scientific areas. This cooperation, in most of the cases, remains active, and probably some will be established for a longer time. Joint scientific publications and new research projects are expected.



## 8. Appendices

### 8.1 List of user-projects completed at EMBRC Portugal

#### 8.1.1. Algarve Centre for Marine Sciences (CCMAR)

(33 projects, 44 users)

##### 1st Call

- Project title: Bone cell culture of Gilthead Seabream cell lines for analysis of mineralization and differentiation with different minerals (code: 47). Project leader: David Domínguez from University of Las Palmas de Gran Canaria, Spain. Period: 2018. Services provided: Access to experimental dry laboratories.
- Project title: Effects of Oestradiol on the adaptive immune system of sea bass (code: 72). Project leader: Tiphaine Monsinjon and users Catarina Moreira and Matthieu Paiola from Université Le Havre Normandie, France. Period: 2018. Services provided: Access to molecular biology and omics facilities.

##### 2nd call

- Project title: Light regulates the physiological activities of the caudal neurosecretory system in flat fish (codes: 176). Project leader: Weiqun Lu and 2nd User Mingzhe Yuan from Shanghai Ocean university, China. Period: 2019. Services provided: CCMAR - Electrophysiology platform, Access to molecular biology and omics facilities.
- Project title: Influences of Bait Type and Bait Weight for BRUV use in Europe (code: 219.1). Project leader: Robyn Jones from Swansea University, UK. Period: 2019. Services provided: Access to intertidal and subtidal areas at Algarve Atlantic coast using boats and Dive center of CCMAR, Sampling facilities and equipment's to support access to Algarve Atlantic coast and adjacent estuaries, Access to laboratories.
- Project title: Expansion in times of decline: insights from the macroalgae *Cystoseira elegans* (Code 260). Project leader: Alba Medrano from University of Barcelona, Spain. Period: 2019. Services provided: Access to molecular biology and omics facilities: Access to experimental dry laboratories.

##### 3rd Call

- Project title: Coastbusters: Seagrass for coastal stabilisation (CB-PT19) (Code 328). Life Sciences and Biotechnology area. Riccardo Pieraccini from The Institute for Agricultural and Fisheries Research (ILVO), Belgium. Period: 2019. Services provided: Species collected upon request, Coastal research vessels, Scuba diving facilities, Sampling equipment, Dry laboratories, Wet laboratories, Aquaria facilities.
- Project title: Adaptation of the seagrass circadian clock to latitudes (Code 347). Earth Sciences and Environment area. Project leader: Emanuela Dattolo and 2nd User Miriam Ruocco from Stazione Zoologica Anton Dohrn, Italy. Period: 2019. Services provided: Scuba diving facilities, Sampling equipment, Wet laboratories, Coastal research vessels.
- Project title: How genotype and feeding regime interactions regulate leptin in fish (Code 351). Life Sciences and Biotechnology area. Project leader: Eleni Galliopoulou from University of Thessaly, Larissa, Greece. Period 2019. Services provided: Dry laboratories, Access to molecular biology and omics facilities.



#### 4th Call

- Project title: Genetic Diversity of Irish Kelp (*Laminaria hyperborea*) from a European View (Code 8268). Life Sciences and Biotechnology area. Project Leader: Kathryn Schoenrock from Ryan Institute, NUI Galway, Ireland. Period: 2019. Services provided: Access to molecular biology and omics facilities.
- Project title: Comparative effects of climate change and water pollution on the stress response, metabolic performance and growth of *Batrachoidiformes* and *Scorpaeniformes* fish (Code 8307). Life Sciences and Biotechnology area. Project leader Juan Molina from Leibniz Centre for Tropical Marine Research, Bremen, Germany. Period: 2020. Services provided: Access to fish and holding facilities. Access to a wetlab and a chemlab for water quality analysis and respiration measurements.
- Project title: Genetic structure and connectivity of eastern Mediterranean seagrass meadows (Code 8403). Life Sciences and Biotechnology area. Project leader Viktoria Litsi Mizan from Hellenic Centre for Marine Research, Greece. Period: 2020. Services provided: Access to molecular biology and omics facilities.
- Project title: Expression analysis of genes related with sexual determination/differentiation and reproduction in the sole (*Solea senegalensis*) (Code 8412). Life Sciences and Biotechnology area from. Project leader Silvia Portela Bens from University of Cadiz, Spain. Period: 2019. Services provided: Access to molecular biology, omics and microscopy facilities.

#### 5th call

- Project title: Creating a DNA reference database to reveal non-indigenous species' cryptic identities (Code 9932). Life Sciences and Biotechnology area from. Project Leader Eirini Gratsia and 2nd user Ioannis Rallis from Hellenic Centre for Marine Research (GR). Period: 2019. Services provided: Ecosystem access, Coastal research vessels, Scuba diving facilities, Sampling equipment, Technology platforms, namely Molecular biology and omics.
- Project title: Valuation of ecosystem services provided by seagrasses (Code 9863). Project Leader Irene Olivé from Universidad de Cádiz, Spain. Period: 2020. Services: Technology platforms namely Analytical instrumentation.

#### 6th Call

- Project title: POTential of AntaRctic Sponges *Mycale acerata* and *Dendrilla antarctica* Mucus layer (Code 11145). Life Sciences and Biotechnology area. Project Leader: Carmen Rizzo from Stazione Zoologica Anton Dohrn, Italy. Period: 2020. Services provided: Technology platforms namely support in chemical and structural analysis and bioactivity.
- Project title: PRIMing seagrass SEEDs against rapid environmental changes (Code 10427). Life Sciences and Biotechnology area. Project Leader Jessica Pazzaglia and 2nd user Gabriele Procaccini from Stazione zoologica Anton Dohrn, Italy. Period 2020. Services provided: Access to aquaria facilities and laboratories.
- Project Title: Recombinant Lipoxigenase from Diatoms (Code 11187). Life Sciences and Biotechnology area. Project Leader: Ida Orefice from Stazione Zoologica Anton Dohrn, Italy. Period 2020. Services provided: Access to molecular biology, omics facilities.
- Project title: *Skeletonema marinoi* cyclooxygenase characterization (Code 9752). Life Sciences and Biotechnology area. Project leader: Valeria Di Dato from Stazione Zoologica Anton Dohrn, Italy. Period 2020. Services provided: Access to molecular biology, omics facilities.
- Project title: Genetic and ecological drivers of successful bioinvasion by *Agarophyton vermiculophyllum* (Code 11238). Life Sciences and Biotechnology area. Project Leader: Luisa Düsedau Florian from GEOMAR Helmholtz Centre for Ocean Research, Kiel, Germany. Period 2020. Services provided: Access to ecosystem and laboratories.





- Project title: Reception of chemical cues by *Carcinus maenas* in pH-fluctuating environments and future ocean conditions (Code 11295). Project Leader: Christina Roggatz and 2nd User Jennifer James from University of Hull, UK. Period: 2021. Services provided: Access to electrophysiology platform and aquaria facilities.
- Project title: Effects of phytoestrogens and 17 $\beta$ -estradiol on gilthead sea bream (*Sparus aurata*) skeleton: in vitro and in vivo approaches (Code 11241). Project leader Sara Balbuena Pecino from University of Barcelona, Spain. Period: 2021. Services provided: Access to dry labs and Molecular biology and omics platform and aquaria facilities.

#### 7<sup>th</sup> call

- Project title: Evaluation of nutraceutical compounds from microalgae in the intestine permeability, architecture and immune system of marine-cultured fish (NutrInFish) (Code 11917). Project leader Andre Barany Ruiz and 2nd User Juan Antonio Martos-Sitcha from University of Cádiz, Spain. Period: 2020. Services provided: access to laboratories and platform namely Molecular biology and omics.
- Project title: Effect of shellfish farming on the blue carbon stocks in intertidal seagrass meadows (Code D11547). Project leader: Marta Román Geada from Universidade de Vigo (SP), (SP). Period: 2020. Services provided: access to ecosystem, namely ecosystem access: Access on small research boat to intertidal soft bottom shores and general laboratories for sample processing.

#### 8th call

- Project title: TRANSLATES: Trace Gases in Selected Aquaculture Sites in Southern Portugal (Code 12809). Chemistry area. Project leader Riel Carlo Ingeniero and 2nd User Guanlin Li from GEOMAR Helmholtz Centre for Ocean Research, Germany. Period: 2021. Services provided: -Coastal research vessels/ research boat for sampling at the selected aquaculture sites. -Access to nearby estuaries and aquaculture sites -Sampling and in situ environmental monitoring (CTD, multiparameter probes, equipment) and access to Dry laboratory.
- Project title: Impacts of marine HEATwaves on RHODolith performance and potential interactions with eutrophication (Code 13035). Earth sciences & Environment area. Project leader: Manuel Bercovich from Universidad Autónoma de Baja California, México. Period: 2022. Services provided: access to aquaria facilities namely mesocosm for acidification studies and labs.
- Project title: Microplastics in the Ocean: Vertical transfer through intertidal food webs (Code 13047). Earth sciences & Environment. Project leader Felicitas ten Brink from University of Hull, UK. Period: 2021. Services provided: Ecosystem access and laboratories.
- Project title: Endocrine regulation of mucus exudation and composition in a marine fish model: The role of prolactin (Code 13105). Life sciences & Biotech. Project leader Ignasi Sanahuja and 2nd User Laura Fernández Alacid from University of Barcelona, Spain. Period: 2022. Services provided: Access to Laboratories and aquaria facilities.
- Project title: Some sponges like heavy meals: the role of the Microbiota in trace metals bioaccumulation (Code 13130). Earth sciences & Environment. Project leader: Camilla Roveta from Università Politecnica delle Marche, Italy. Period: 2021. Services provided: Ecosystem access, Scuba diving facilities, laboratories.
- Project title: *Skeletonema marinoi* cyclooxygenase kinetic studies for biotechnology application (Code 13228). Life sciences & Biotech. Project leader Valeria Di Dato from Stazione Zoologica Anton Dohrn, Italy. Period: 2021. Services provided: General and specialized laboratories Bioassays, Cell-based bioassays and biosensors for small molecule and protein function and biodiscovery, electrophysiology, imaging and Structural and chemical analysis.





- Project title: Illuminating NUDibranch BIOdiversity in an Atlantic hotspot (Code 13242). Life sciences & Biotech. Project leader Kara Layton from University of Aberdeen, UK. Period: 2021. Services provided: access to intertidal and subtidal habitats within the Ria Formosa lagoon and surrounding coastal ecosystems, Boat, and Diving support.
- Project title: Cosmetic toxicity in Marine ecosystem (Code 13390). Life sciences & Biotech. Project leader Sofia Letsiou from APIVITA SA, Greece. Period: 2021. Services provided: Access to platforms and laboratories, namely chemistry, cell culture and image facilities.
- Project title: Role of Hexokinase 2 in cancer cell stemness and dissemination (Code 13425 ). Life sciences & Biotech. Project leader Benoit Miotto and 2nd User Manon Watzky from Institut Cochin, France. Period: 2021. Services provided: access to cell culture and zebrafish facility, laboratories, and Imaging facilities.
- Project title: Endocrine and Metabolic alterations induced by tributiltin (TBT), a potent environmental endocrine disruptor, in crustaceans (Code 13536). Life sciences & Biotech. Project leader Anapaula Vinagre and 2nd User Leonardo Airton Ressel Simões from Universidade Federal do Rio Grande do Sul, Brazil. Period: 2022. Services provided: access to biological resources, Experimental facilities as Aquaria and tanks, Climate-controlled room, facilities for bioassays, molecular biology and structural and chemical analysis.

### 8.1.2 Interdisciplinary Centre for Marine and Environmental Research (CIIMAR)

(15 projects, 19 Users)

#### 2nd Call

- Project title: Tropicalization of marine forest in NW Iberia: From kelp forest to algal turf assemblages (code: 217). User(s): Cristina Piñeiro-Corbeira, University of A Coruña (ES). Period: 16/04/2019 – 05/05/2019. Services provided: Access to intertidal and subtidal areas of the Atlantic Western coast of Portugal and adjacent estuaries, Sampling facilities and equipment to support access to Atlantic Western coast of Portugal and adjacent estuaries.
- Project title: Detection of toxigenic cyanobacteria and their toxins by multi- approach methods in a Cuban estuary (code: 264). User(s): Angel Ramon Moreira Gonzalez, Centro de Estudios Ambientales de Cienfuegos (CU). Period: 19/10/2019 – 20/11/2019. Services provided: Provision of cyanobacteria from the LEGE culture collection, Access to molecular biology and omics platform, Access to structural and chemical analysis platform, Access to imaging platform.
- Project title: Cyanobacteria diversity in marine and freshwater ecosystems of Dominican Republic. Toxicity and Biotechnological potential (code: 268). User(s): Alfaniris Vargas de Jimenez and Adrián Gutiérrez Cepeda, Universidad Autonoma de Santo Domingo (DO). Period: 02/05/2019 – 30/06/2019. Services provided: Provision of cyanobacteria from the LEGE culture collection, Access to molecular biology and omics platform, Access to biodiscovery and biorefinery platform.
- Project title: The transcriptome of the heat organ of the swordfish, *Xiphias gladius*: new insights into the evolution of the molecular machinery (code: 274). User(s): Oliana Carnevali and Luca Marisaldi, Università Politecnica delle Marche (IT). Period: 01/07/2019 – 31/07/2019. Services provided: Access to bioinformatics platform.
- Project title: Incorporation of microalgae mass into the feed of sea bass fish (code: 278). User(s): Marianna Dourou, University of Patras (GR). Period: 03/02/2019 – 04/03/2019. Services provided: Access to aquaculture and animal experimentation experimental platform: Aquaria and tanks, Access to experimental dry laboratories.

#### 3rd Call

- Project title: Combined effects of seawater acidification, elevated temperatures and salinity on the growth and calcification in the clam *Chamelea gallina* in face of climate change (code: 419). User(s):



Arianna Mancuso, University of Bologna (IT). Period: 11/09/2020 – 11/10/2020. Services provided: Access to aquaculture and animal experimentation platform: Aquaria and tanks, Access to experimental dry laboratories.

#### 4th Call

- Project title: Investigating diversity and biochemical composition of calcareous marine microalgae: novel insights for coccolithophore biology and ecology (code: 8420.2). User(s): Naomi Villiot, Heriot-Watt University (UK). Period: 28/10/2019 – 08/11/2019. Services provided: Access to biodiscovery and biorefinery platform, Access to structural and chemical analysis platform.

#### 5th Call

- Project title: Application of Effect Directed Analysis (EDA) to hospital effluents (code: 9698). User(s): Belén Gonzalez-Gaya and Naroa Lopez, Marine Station Plentzia – University of Basque Country (ES). Period: 01/03/2020 – 27/03/2020. Services provided: Access to molecular biology and omics facilities, Access to cell culture and laboratory facilities.
- Project title: Generation of microalga *Chlamydomonas reinhardtii* expressing shrimp antiviral dsRNA (code: 9377). User(s): Carlos Fajardo Quiñones, University of Cadiz (ES). Period: 16/05/2022 – 14/06/2022. Services requested: Access to molecular biology and omics platform.

#### 6th Call

- Project title: Studies on various biological activities of bioactive molecules isolated from Marine actinomycetes (code: 10737). User(s): K.M. Gothandam and Raja Sudhakaran, Vellore Institute of Technology (IN). Period: 01/06/2022 – 30/06/2022. Services requested: Access to biodiscovery and biorefinery platform.
- Project title: The transcriptome of the dendritic organ of the marine catfish, *Plotosus lineatus*: new insights into convergent rewiring of ion regulatory molecular networks (code: 11109). User(s): Salman Malakpourkolbadinezhad, Iranian Fisheries Sciences Research Institute - IFSRI (IR). Period: 24/05/2022 – 22/06/2022. Services requested: Access to molecular biology and omics facilities, Access to bioinformatics platform.

#### 8th Call

- Project title: Shedding light in the depth: Providing a baseline for sponge identification within Marine Protected Areas of the Mediterranean and nearby areas (code: 12899). Project leader Andreu Santín Muriel, Institut de Ciències del Mar (ES). Period: 01/09/2021 – 30/09/2021. Services requested: Access to molecular biology and omics facilities, Access to imaging facilities.
- Project title: Transcriptomics as a tool to investigate the effects of environmental factors on the endogenous production of essential fatty acids in *Gammarus locusta* (code: 13183). User(s): Alberto Ribes, Instituto de Acuicultura de Torre de la Sal (IATS-CSIC) (ES). Period: 01/09/2021 – 01/10/2021. Services requested: Access to bioinformatics platform.
- Project title: Otolith microstructure and microchemistry analyses to evaluate the population structure of the thicklip grey mullet, *Chelon labrosus*, in the Southern Bay of Biscay (code: 13350). User(s): Anthony Nzioka Mutua, PiE-UPV/EHU (ES). Period: 31/05/2021 – 30/06/2021. Services requested: Access to imaging facilities, Access to structural and chemical analysis platform: IPC-MS.
- Project title: Physiological responses of marine macrophytes to ocean warming and desiccation stress (code: 13435.2). User(s): Rosa M. Chefaoui, Universidad Rey Juan Carlos (ES). Period: 01/09/2021 – 01/10/2021. Services requested: Access to ecosystems; Access to aquaculture and animal experimentation platform: Aquaria and tanks, Access to experimental wet laboratories.



### 8.1.3 Institute of Marine Research (IMAR)

(4 projects, 6 users)

- Project title: Combining Topographical and Current Information to Identify Important Foraging Habitats for Seabirds Across Coastal Environments (PID 271). Users: James Waggit (Bangor University, United Kingdom) and Shaun Fraser (University of Highland and Islands (United Kingdom)). Services requested: Access to ecosystems using RV Águas Vivas.
- Project title: Biodiversity and ecology of sea turtle-associated diatoms (PID 10887.2). User: Roksana Majewska (Northwest University, South Africa). Services requested: Access to ecosystems using RHIBs, and access to Laboratories.
- Project title: Comparative study of the evolution of brain anatomy and adult neurogenesis in the central nervous system in deep water Chondrichthyes (PID 11298). Users: Eva Tozzini and Sergio Steffany (Stazione Zoologica di Napoli Anton Dohr, Italy). Services requested: Access to ecosystems (sampling of Chondrichthyes) using RV Arquipelago and access to Laboratories.
- Project title: Genetic diversity and connectivity of Gastrotricha of the Azores (PID 13165). User: Alexander Kieneke (Senckenberg am Meer-Deutsches Zentrum für Marine Biodiversitätsforschung). Services requested: Access to ecosystems using RHIBs and access to Laboratories

