

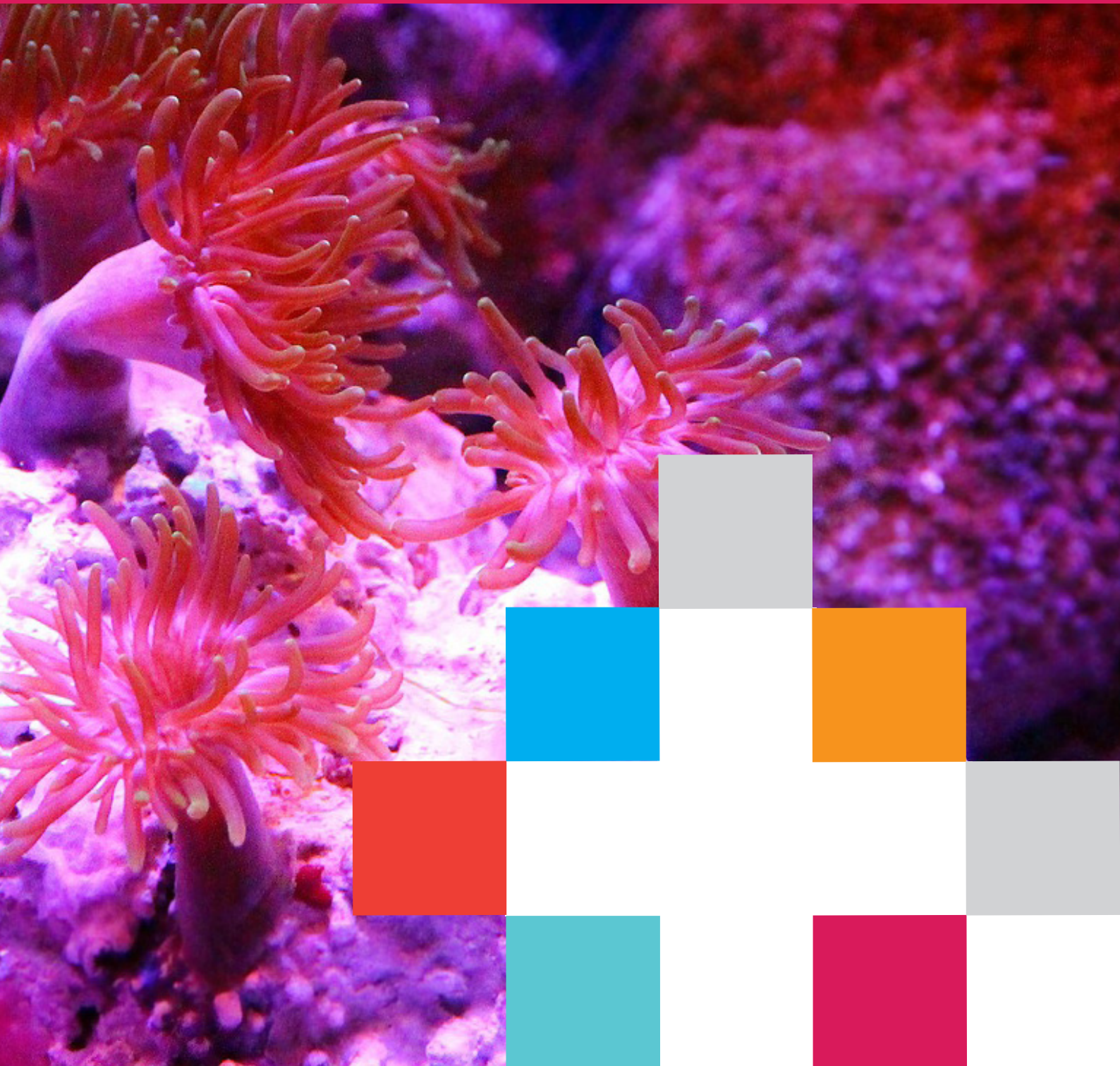
ASSEMBLE

ASSOCIATION OF EUROPEAN MARINE BIOLOGICAL LABORATORIES EXPANDED



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PROJECT NEWS



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News

- EMBRC-ERIC is launched and recognised as a landmark in the ESFRI Roadmap
- Deployment of a DNA-based monitoring network across Europe's coastal seas
- **ASSEMBLE Plus** supports a successful sampling of the world's oceans

Reports

- Event: IMBRSea "Diving into marine minds", 22 June 2018, Ghent, Belgium
- Workshop: Improving **ASSEMBLE Plus**' Transnational Access system, 12-13 July 2018, Oostende, Belgium
- Workshop: Emerging technologies to improve diving-based science, 21-24 May 2018, Oostende, Belgium
- Workshop: SWOT analysis of marine biological stations, 23 May 2018, Piran, Slovenia

Upcoming Events

- 2nd **ASSEMBLE Plus** General Assembly, 10-12 October 2018, Galway, Ireland *and more...*

This newsletter has been developed to inform and update **ASSEMBLE Plus** partners of project activity. This is the second of five editions. External news items will be shared on the website, www.assembleplus.eu.

If you have an event report, news items or article that you would like to see appear on the website or in the next issue, please contact Georgia Bayliss-Brown (georgia@aquatt.ie).



News: EMBRC-ERIC is launched and recognised as landmark in the ESFRI Roadmap

by Arnaud Delimoges

On 19 June 2018, European Marine Biological Resource Centre celebrated its adoption as a European Research Infrastructure Consortium (EMBRC-ERIC) and the onset of its operational phase. The event was held at the location of EMBRC's headquarters at Sorbonne Université, Campus Pierre et Marie Curie, in the presence of dignitaries from the European Commission, governmental delegations from nine countries and French ministerial representatives.

Key objectives of EMBRC-ERIC are to enable new marine biological technologies and models to further our investigative capabilities for groundbreaking life science discoveries, and to support a modern approach to long-term marine ecological monitoring efforts. "EMBRC-ERIC is a milestone for services to science and will help further our knowledge of marine life and its implications for human conditions" said Ilaria Nardello, EMBRC Executive Director.

"EMBRC-ERIC is a truly multidisciplinary effort and aspires to be a driver in the development of blue biotechnologies supporting both fundamental and applied research activities for sustainable solutions in the food, health and environmental sectors" says Mr. Jean-David Malo, Director of Open Innovation and Open Science from the European Commission's Directorate-General for Research and Innovation.

In July, ESFRI promoted EMBRC-ERIC into their portfolio of world-class research infrastructures for EU research excellence and competitiveness. Nardello will present at the ESFRI Roadmap Launch and the International Conference On Research Infrastructure in Vienna (10-14 September 2018) where she will share her experiences on business planning and long-term sustainability for research infrastructures.

News: Deployment of a DNA-based monitoring network across Europe's coastal seas

by Matthias Obst

After many years of pilot work and experimentation, and through contribution from previous projects, ASSEMBLE Plus started to deploy a DNA-based monitoring network across the European coastal seas during summer 2018. The network is based on Autonomous Reef Monitoring Structures (so-called ARMS) and is meant to complement the microbial samples of Ocean Sampling Day (OSD2018). The primary purpose of this observatory network is the surveillance and early detection of non-indigenous and invasive marine species in Europe.

Initially, an ARMS network for genetic surveillance of biodiversity was installed on hard-bottoms around 12 marine stations across the in the Baltic and the North Sea,

the Mediterranean and along the Atlantic coastline. During autumn 2018, the first set of samples will be collected. These will then be sequenced and analysed during the winter. The protocols for sampling and analysis were developed as part of the genomic observatories initiative (www.genomicobservatories.org), which ensures that all generated data is comparable with data from other monitoring programs across European and non-European countries.

More installations are planned during the winter in polar regions, namely at marine stations in Svalbard and the Antarctica. It is planned that the network of sites will be further expanded in 2019. For those interested in joining the network, please contact matthias.obst@marine.gu.se.



Photo credit: Jesús Troncoso

News: ASSEMBLE Plus supports a successful sampling of the world's oceans

by Georgios Kotoulas

Ocean Sampling Day (OSD) is a concurrent sampling of surface water from the world's oceans, with the first three events taking place in 2014, 2015 and 2016. Acknowledging the success of the previous OSD events, the EMBRC-ERIC infrastructure decided to offer long-term support for the continuation of OSD. The main goal is to build a global network of genomic observatories, to provide standardized long-term assessment of the structure and function of marine ecosystems.

Starting this year and targeting 21 June 2019, through the Joint Research Activity 1 (JRA1) "Genomics Observatories", the **ASSEMBLE Plus** project supported an open call for participation in a pilot Ocean Sampling Day event. The Institute of Marine Biology, Biotechnology and Aquaculture of the Hellenic Centre for Marine Research in Heraklion, Crete (IMBBC-HCMR), an EMBRC and **ASSEMBLE Plus** partner, undertook the coordination of the event for both years, 2018 and 2019, under the general oversight of Dr Georgios Kotoulas (JRA1 Work Package leader).

The response of OSD participants from all continents was vast despite the tight schedule for preparation, with research facilities representing more than 100 sampling sites expressing their interest in joining the OSD2018 event. On the day of the summer solstice, scientists from all around the world collected surface water samples to identify and compare microbes and other organisms.



Photo credit: IMBBC-HCMR, Crete, Greece

Two researchers from IMBBC, Dr Paraskevi Polymenakou and Dr Melanthia Stavroulaki, are handling the samples that are still arriving. All samples will undergo DNA isolation and subsequently be submitted for sequencing. Both OSD2018 and OSD2019 samples will be sequenced for 16S and 18S rDNA (meta-barcoding), and metagenomics. It is hoped that a database of microbial genomes, metagenomes and environmental parameters will be created. It is expected that OSD investigations will provide insights into fundamental rules describing microbial diversity and function, leading to a better understanding of environmental vulnerability and resilience. They could also contribute towards the blue economy growth through the identification of novel, ocean derived biotechnologies.

For the full map of participant sites since 2014 and to find out more about how to participate in OSD 2019, please contact osd-contact@embrc.eu and visit <http://www.assembleplus.eu/research/ocean-sampling-day-2018>.



Photo credit: Bigelow Laboratory of Ocean Sciences, USA

Event: IMBRSea "Diving into marine minds"

22 June 2018, Ghent, Belgium by Arnaud Delimoges

Marine graduates are vital for a sustainable blue economy and it is critical that the marine community, industry and funders work together towards a common vision.

Covering key societal challenges such as climate change, sustainable food production and marine plastics, more than 150 participants engaged in training workshops, exhibitions, debates and presentations during the "Diving into Marine Minds" symposium which was organised to stimulate a link between these stakeholders.

This event also marked the 10th anniversary of the University of Ghent's joint master programming in the field of marine biodiversity and conservation and the kick-off of the Erasmus+ funded international masters' programme in marine biological resources, IMBRSea (<http://www.imbrsea.eu/>). This new programme is profiling as the largest and most internationally-diverse of its kind.

Workshop: Improving ASSEMBLE Plus' Transnational Access system 12-13 July 2018, Oostende, Belgium *by Katrina Exter*

The aim of this meeting was to improve **ASSEMBLE Plus'** Transnational Access (TA) system. This includes the system used by potential users to discover the access services offered by **ASSEMBLE Plus**, and the proposal application process for applicants; from creating and submitting a proposal, all the way through to completing the visit to the access provider.

Those present were Katrina Exter, Klaas Deneudt, Amadei Martinez Luz (Flanders Marine Institute), Wiebe Kooistra, Davide Di Cioccio (Stazione Zoologica Anton Dohrn), Niklas Andersson (University of Gothenburg), Antonio Villanueva

(University of Vigo) and Cecile Cabresin (Station Biologique de Roscoff, via Skype).

The attendees reviewed and agreed on actions to improve **ASSEMBLE Plus'** glossary of terms, rules for access, and the application system and template. Future activities of this group will include reporting their activities to the European Commission and making further improvements to the tracking of documentation relating to applications.

The next call of TA will open on 29 August 2018. For more information, visit <http://www.assembleplus.eu/access>.

Workshop: Emerging technologies to improve diving-based science 21-24 May 2018, Kristineberg, Sweden *by Martin Sayer*

The Sven Lovén Centre for Marine infrastructure hosted the workshop "Emerging technologies to improve diving-based science delivery", which kicked off Joint Research Activity 5 (JRA5), Work Package 11 (WP11).

Four sessions were planned over the course of the four-day meeting, namely: An overview of the scientific diving capability and capacity within the work package; Defining the objectives and deliverables of the work package; A practical assessment of photogrammetry; and, The sub-tidal observation network.

The attendees were: Martin Sayer, Andrew Mogg (Tritonia Scientific Ltd), Karl Attard (Tvärminne Zoological Station, University of Helsinki), Maria Asplund, Eduardo Infantes, Elena Castro (Sven Lovén Centre, University of Gothenburg), Piotr Balazy (Institute of Oceanology of the Polish Academy of Sciences), Adam Sokolowski (University of Gdansk,

Institute of Oceanography) and Thanos Dailianos (Hellenic Centre for Marine Research).

It was determined that within the financial envelope available, the priority for the JRA would be to conduct a structured evaluation of underwater photogrammetry in a way that could lead to a joint publication, and also form the basis for future work, including seeking additional funding.

Furthermore, the group agreed that it would be possible to deploy only one pair of loggers at two depths (nominally at 10m and 30m) to complete sub-tidal observations. If these were in an area that was frequently dived by the dive teams then there is also scope for comparing the performance of dive computers against the static monitoring stations.

The next group meeting will take place in Crete in late March or early May 2019.



Photo credit: Martin Sayer

Workshop: SWOT analysis of marine biological stations 23 May 2018, Piran, Slovenia by Ibon Cancio

An important workshop for the project took place in Piran, Slovenia in May. Its aim was to comparatively analyse the SWOT analyses provided by 25 marine biological stations featuring in EMBRC-ERIC and ASSEMBLE Plus between December 2017 and January 2018. In total, 33 participants representing 19 marine stations and different Slovenian institutions took part in the workshop.

Ibon Cancio presented the main results of the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis exercise and pointed out the commonalities and specificities that could be used to foster greater collaboration between the marine stations and contribute towards their future sustainability (as individuals and as a cohort):

- The commonalities included funding issues, regional implication in their sustainability, the need for internationalisation, outreach capacity and the quality of infrastructures, equipment, and staff.
- Listed specificities were mainly regarding visibility, prominence and recognition, or issues regarding technology transfer in marine bioresource utilisation and valorisation (strong in some and very weak in others).
- There were some differences in the way in which each marine station was organised (independent or university-linked) which led to differing views on the load of bureaucracy to which they are exposed, their sense of independence, and/or the security of operations.

After presentations of five case studies, the afternoon was devoted to discussing options for a strong, reproducible business model for marine biological stations. Supplementary presentations included the explanation of the reasons behind the closure of the Port Erin Marine Laboratory, Isle of Man (1892-2006); recommendations

based on the business model of EMBRC-ERIC; results of the OECD research infrastructure impact; and the CANVAS tool for business model analysis. The latter was presented by Aleardo Furlani (European Multidisciplinary Seafloor and water column Observatory ERIC), who challenged managers and operators of marine stations suggesting that they needed a change in mindset regarding their users.

The main conclusions of the workshop were:

- The results of the comparative SWOT analysis should be published as a position paper.
- Many commonalities exist in strengths and weaknesses and this will be better addressed through internationalisation and collaboration, trans-regionally and trans-nationally.
- To foster the challenges of the European blue growth strategy, there are development needs in technology transfer and connectivity with the private sector.
- Only EMBRC-ERIC stations mentioned EMBRC-ERIC positively in their SWOT analysis; however, prospects for future integration of non-member countries are high in Slovenia, Finland, Sweden and Poland.



Photo credit: Andreja Ramšak

Upcoming Events

- **ESFRI Roadmap Launch & Knowledge Exchange Workshop**, 10-11 September 2018, Vienna, Austria
- **From COP21 towards UN Decade of Ocean Science**, 10-11 September 2018, Paris, France
- **International Conference on Research Infrastructure**, 12-14 September, Vienna, Austria
- **My Blue City & Biomarine Business Convention**, 3-5 October 2018, Cascais, Portugal
- **BLUEandGREEN Legacy International Conference**, 1 October 2018, Porto, Portugal
- **53rd European Biology Symposium**, 17-21 September, Ostende, Belgium
- **3rd EMBRIC General Assembly**, 18-20 September, Heraklion, Greece
- **2nd ASSEMBLE Plus General Assembly**, 10-12 October 2018, Galway, Ireland

For a list of further events relevant to ASSEMBLE Plus, please visit <http://www.assembleplus.eu/newsroom/events>

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