

EMBRC AND EURO-BIOIMAGING SIGN A COLLABORATION AGREEMENT

Press release, June 4, 2020 – The European Marine Biological Resource Centre (EMBRC) and Euro-BioImaging signed a collaboration agreement on 14 May 2020 to enhance communication about their respective services, to promote the development of joint services, and to encourage best-practice sharing and staff exchanges. The collaboration agreement will focus on facilitating access to marine model organisms and encouraging the use of advanced microscopy techniques in their study.

Supporting research and fostering innovation

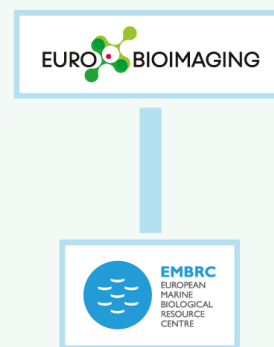
EMBRC and Euro-BioImaging are both European distributed ‘research infrastructures’, meaning that they have a network of national partners across Europe and ‘provide resources and services in support of research and foster innovation’ ([learn more about research infrastructures](#)). They have both been awarded the legal status of a European Research Infrastructure Consortium (ERIC) by the European Commission.

[EMBRC](#) provides a wide range of services that enable researchers from academia and industry to better understand the biodiversity that exists in our oceans, and, in turn, to develop innovative solutions to tackle important societal issues. Through [Euro-BioImaging](#), life scientists can access some of the most advanced microscopes in the world for studying and analysing biological structures and processes.

EMBRC and Euro-BioImaging have already collaborated successfully as part of the [Coordinated Research Infrastructures Building Enduring Life-science Services \(CORBEL\) project](#), funded by the [European Union’s Horizon 2020](#) research and innovation programme under grant agreement number 654248. Through CORBEL, EMBRC and Euro-BioImaging teamed up on an open call targeted at European researchers to provide joint services to enhance their research projects. The output of this initiative was various successful research projects, as highlighted in the box below.

As part of their new collaboration agreement, the two organisations will promote greater communication about each other’s services and will raise awareness of the type and scope of services available to users (from both academia and the private sector). Moreover, they will build off of the work in CORBEL to develop a joint service offering. As such, they will simultaneously offer researchers access to marine centre services and facilities (EMBRC), while providing cutting-edge imaging techniques and related services (Euro-BioImaging). The goal is to make these innovative services available to researchers who would otherwise lack such access in their home institutions.

EMBRC’s Executive Director, Nicolas Pade, said: *‘We are delighted to strengthen our partnership with such a great organisation. The Euro-BioImaging facilities are allowing researchers to delve into marine organisms in ways that*



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have hitherto been impossible. We are excited to see the interesting research projects and activities that we will be able to develop together’.

‘The EC-funded CORBEL project proved that researchers are highly interested in coordinated access to our two infrastructures. The unique combination of marine biology resources and high-end imaging techniques will surely lead to exciting new research. It has already nourished a number of success stories over the past four years,’ added Antje Keppler, Interim Director of the Euro-BioImaging Bio-Hub at the European Molecular Biology Laboratory (EMBL), which oversaw the development of Euro-BioImaging.

To date, a number of collaboration agreements have already been signed between the 13 European life science research infrastructures. These agreements on long-term collaboration recognise the need to overcome the silos that currently separate scientific disciplines, facilitating access for scientists to the best equipment and facilities available in Europe. Working together in the life sciences on interdisciplinary and challenging scientific projects will lead to progress in health and disease, drug discovery, and other areas.

Success Stories: EMBRC/Euro-BioImaging Joint Services in CORBEL

Revealing the morphological plasticity of a cell in planktonic symbioses, Johan Decelle

Dr. Johan Decelle, a group leader at the [Grenoble Alpes University](#), used EMBRC and Euro-BioImaging services to successfully conduct research on symbiotic interactions with microalgae. His aim was to unveil the structural architecture of the microalgal cell and its integration into a host cell using cutting-edge imaging technologies.

EMBRC provided Dr. Decelle with access to his study material. The EMBRC site [Institut de la mer de Villefranche](#), IMEV (previously Observatoire Océanologique de Villefranche sur mer) in France provided a favourable oceanographic context for the presence of symbiotic plankton in near-shore waters, which facilitate experiments on live cells.

With Euro-BioImaging’s support, Dr. Decelle was able to use the 3D imaging technique ‘focused ion beam scanning electron microscopy’ (FIB-SEM) to visualise subcellular modifications of the photosynthetic machinery and the microalgal cell at high imaging volume before and during symbiotic interaction. As the machine is quite difficult to operate, Dr. Decelle benefitted from the help of the Euro-BioImaging facility located at the [European Molecular Biology Laboratory \(EMBL\)](#) in Germany for this purpose.

‘The CORBEL grant provided me access [to] some very important technologies that I simply had no access to’, Dr. Decelle said, adding that ‘learning about these available resources and accessible technologies in Europe was such luck! To have the possibility to go all the way from collecting planktonic cells in the ocean to high-end cutting-edge imaging technologies is a unique opportunity to better understand these ecologically-important cells!’

What started as a project selected via the CORBEL Open Call developed into a long-term collaboration. All partners agree that this project will improve our knowledge of the functioning of planktonic symbioses and bring new evolutionary insights into chloroplast acquisition in eukaryotes.

Morphology and structure of chondrocytes and their association with mineralising tissues in shark and ray cartilage, Mason Dean

In this project, Mason Dean, a group leader at the [Max Planck Institute of Colloids and Interfaces](#) in Germany, and Ph.D. student Júlia Chaumel, used sharks and rays to better understand cartilage biology, believing that the tissue’s distinct features could prove useful for biomedicine.

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Through EMBRC, they were able to gain access to saltwater tanks for live animals and advanced microscopy at the [Observatoire océanologique de Banyuls-sur-Mer \(OOB\)](#), an EMBRC site.

‘EMBRC helped us connect these research needs, but moreover gave us access to the deep expertise of OOB, who helped us train on and troubleshoot techniques and bent over backwards to help us get the results we needed’, said Dr. Dean. *‘As a result, our visits generated a large amount of novel data already heading into publications, while inspiring unexpected research directions, founding new collaborations and friendships’.*

In the 6-month longitudinal study, active mineralisation zones in living animals were marked with fluorescent calcium dyes to observe skeletal growth, while novel approaches to animal collection, tissue clearing and labelling methods were also developed. Furthermore, to visualise resultant tissue growth, extensive testing and adaptation of imaging technology was performed, which is where Euro-Biolmaging stepped in. The researchers focussed on both linear (e.g. fluorescence) and non-linear microscopy techniques (e.g. second harmonic generation).

In conclusion, researchers who used EMBRC and Euro-Biolmaging services were able to conduct cutting-edge research that would be otherwise impossible in their home institutions.

About

Euro-Biolmaging

Euro-Biolmaging (Euro-Biolmaging) is the European landmark ‘research infrastructure’ for biological and biomedical imaging as recognised by the European Strategy Forum on Research Infrastructures (ESFRI). Through Euro-Biolmaging, life scientists can access imaging instruments, expertise, training opportunities and data management services that they might not find at their home institutions or among their collaboration partners. All scientists, regardless of their affiliation, area of expertise or field of activity can benefit from these pan-European open access services, which are provided with high quality standards by leading imaging facilities. Learn more: www.eurobioimaging.eu



European Marine Biological Resource Centre (EMBRC)

The European Marine Biological Resource Centre, EMBRC, is a pan-European ‘research infrastructure’ for marine biology and ecology research. With over 30 marine centres in nine European countries (UK, France, Spain, Portugal, Italy, Belgium, Norway, Israel and Greece), it is a driver in the development of marine-derived solutions, blue biotechnologies, and sustainable use of marine bioresources in the blue economy.

EMBRC supports both fundamental and applied research activities for sustainable solutions in the food, health and environmental sectors.

We provide services enabling researchers from academia and the private sector to access a broad range of facilities and living resources for research on marine macro and microorganisms.

We focus in particular on marine ecosystems (e.g. coastal research vessels, scientific dive teams) as well as marine organisms and biodiversity. In addition, we offer access to experimental facilities (aquaria, mesocosms, trial facilities) enabling a broad range of experimental set-ups close to the source of the organism. Learn more: www.embrc.eu



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