

EVALUATION REPORT ON THE FEDERATIVE STRUCTURE

SBR - Station Biologique de Roscoff

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Sorbonne Université

Centre national de la recherche scientifique -
CNRS

EVALUATION CAMPAIGN 2023-2024
GROUP D

Report published on January, 29 2024



In the name of the expert committee¹ :

Dominique De Vienne, Chairman of the committee

For the Hcéres² :

Stéphane Le Bouler, acting president

Under the decree n° 2021-1536 of 29th November 2021:

¹ The evaluation reports "are signed by the chairperson of the expert committee". (Article 11, paragraph 2);

² The president of the Hcéres "countersigns the evaluation reports established by the expert committee and signed by their chairperson." (Article 8, paragraph 5).

To make the document easier to read, the names used in this report to designate functions, professions or responsibilities (expert, researcher, teacher-researcher, professor, lecturer, engineer, technician, director, doctoral student, etc.) are used in a generic sense and have a neutral value.

This report is the result of the unit's evaluation by the expert committee, the composition of which is specified below. The appreciations it contains are the expression of the independent and collegial deliberation of this committee. The numbers in this report are the certified exact data extracted from the deposited files by the supervising body on behalf of the unit.

MEMBERS OF THE EXPERT COMMITTEE

Chairperson: Mr Dominique De Vienne, Professeur émérite, Université Paris-Saclay

Experts : Ms Lucie Cocquempot, Ifremer, Brest
Mr Christian Grenz, CNRS, Marseille
Mr Peter Kroth, Universitaet Konstanz, Germany
Ms Purificación López-García, CNRS, Gif-sur-Yvette
Mr Miroslav Obornik, Biology Centre CAS, Czech Republic
Mr Xavier Vekemans, Université de Lille

HCÉRES REPRESENTATIVE

Mr Steven Ball

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Philippe Agard, Sorbonne Université
Ms Agnès Mignot, CNRS Ecologie & Environnement

CHARACTERISATION OF THE FEDERATIVE STRUCTURE

- Name: Station Biologique de Roscoff
- Acronym: SBR
- Label and number: FR2424
- Composition of the executive team: Ms Catherine Boyen

INTRODUCTION

HISTORY OF THE FEDERATIVE STRUCTURE AND GEOGRAPHICAL LOCATION OF STAFF

The Station Biologique de Roscoff (SBR) is located on the Brittany coast in a region characterized by a large intertidal zone and an exceptional habitat and biological diversity. Originally founded in 1872, the SBR is, since 2001, a "Fédération de recherche" (FR2424) jointly supported by the Centre National de la Recherche Scientifique (CNRS) and Sorbonne Université (SU). The SBR currently encompasses three research units as well as support services and common research facilities. The three research units include two mixed units of research (Integrative Biology of Marine Models – UMR 8227; Adaptation and Diversity in Marine Environments – UMR 7144) and one international research laboratory (Evolutionary Biology and Ecology of Algae – IRL 3614) jointly led with Chile.

The SBR campus occupies an area of ca. 20,000 m² divided in three different, albeit close, sites: the Historical site, including common services, research laboratories, core technological facilities, the marine biological resource centre and the Hôtel de France; the Gulf Stream, providing accommodation for visiting scientists and meal services and the Labor site, providing student housing and hosting teaching facilities as well as space for R&D laboratories, start-ups and partners of the Blue Valley science park initiative. The SBR counts with a total of ca. 300 staff members and early career researchers; from these ca. 90-100 personnel, mostly technical and administrative personnel, work directly for the Fédération. The SBR is part of larger Marine Observatory program, together with other French marine stations, and in connection with European and International collaborations.

The SBR, which celebrated its 150 anniversary during the evaluation period with a series of scientific and outreach events, is a major and dynamic player at local, national and international level. Its international reputation is maintained by the quality of the research being done in the associated units, the monitoring data, the facilities, including the Marine Biological Resource Center, and the organization of international conferences, notably the Conférences Jacques Monod.

RESEARCH ENVIRONMENT OF THE FEDERATIVE STRUCTURE

The SBR is involved in a dense and impressive network of research and R&D players, at local, national and international levels.

- The SBR is one of the three partners of the OSU STAMAR (*Observatoire des Sciences de l'Univers – Stations Marines*), which brings together the three marine stations operated by Sorbonne University and CNRS (Roscoff, Villefranche sur mer & Banyuls-sur-mer). The core missions of this OSU are to pursue common policy for monitoring marine environments and to support actions that advance the observation programs and facilitate the centralisation of data across the three sites.
- The Station has partnership with the Community of Communes of Haut Léon to develop the Labor site, which hosts companies that transfer its technologies, in the context of the Blue Valley project. Blue Valley is a hub for local bioeconomic development driven by the Pays de Morlaix.
- The SBR is represented in the board of directors of the Development Council of the Pays de Morlaix (CODEV), which advises elected officials on the development of the Morlaix area.
- The SBR is an active participant in the Campus Mondial de la Mer (CMM) that coordinates local events and supports collaborative projects and designs multidisciplinary educational/training programs for the national and international marine community.
- The SBR is shareholder member of the Pôle Mer Bretagne Atlantique (PMBA) that stimulates innovation, growth and employment in marine and maritime markets.
- The five core analytical platforms of the SBR (MerImage, Génomer, CristalIO, Métabomer & KissF), as well as its bioinformatics platform ABIMS, are part of the Biogenouest, a network of nearly 70 research units from various organisations and universities across Brittany and Pays de la Loire, covering the fields of marine, agricultural, health, and bioinformatics research.
- Finally the Conseil départemental du Finistère and the Région Bretagne strongly support the SBR through funding equipments, doctoral/postdoc salaries and the scheme of Sustainable Attractiveness Strategy.

At the national level, the SBR is one of the three marine stations of EMBRC-France (European Marine Biological Resource Centre-France), a research infrastructure CNRS/SU that offers services to public and private users for accessing and studying marine biodiversity and ecosystems. In particular, EMBRC-France service in Roscoff includes access to the SBR Marine Biological Resources Centre, vessels and dive teams, ex-situ experimental facilities and integrative biology capability. EMBRC-France also put forward the development of a Genomic Observatory of Marine Biodiversity for promoting macroalgal culture in France. EMBRC-France is the French national node of EMBRC-Eric (see below).

The SBR is also a member of the Ocean Institute, a virtual institution aimed at promoting interdisciplinary ocean knowledge (from physics and climatology to humanities) in response to global concerns. The Ocean institute includes the National Museum of Natural History, Sorbonne University, five marine stations (Dinard, Roscoff, Concarneau, Banyuls, and Villefranche-sur-Mer), the French Navy and the Naval Academy. The Ocean Institute also organises events such as conferences, debates and an annual symposium, and funds post-doctoral contracts, master's courses and awards prizes.

At the international level, EMBRC-Eric is an infrastructure that enables academic and industry scientists to access marine resources and facilities for studying the ocean and developing innovative solutions to address societal challenges. Nine countries, with 45 marine stations including the SBR, participate to EMBRC.

The SBR is part of ASSEMBLE Plus, a European consortium, coordinated by EMBRC_ERIC, of more than 30 marine biological stations from various regions of the world's oceans. These stations provide scientists and policy makers with research facilities and services. ASSEMBLE Plus also promotes collaborations among researchers and the sharing of research experience and data, following the FAIR (Findable, Accessible, Interoperable, and Reusable) principles in marine research.

The EMBL flagship project TREC aims to survey biodiversity across European coastlines to better understand the impacts of human activity and climate change. In partnership with Tara Oceans Foundation and EMBRC, the TREC will sample about 100 land-to-sea transects from the Baltic to the Mediterranean. The SBR provides TREC with access to its oceanographic research vessel "Neomysis", scientific divers, as well as laboratories and technology platforms. The SBR launched TREC in March 2023, and Roscoff was selected as one of the 10 TREC "super sites". TREC also seeks to educate the public about its findings.

Finally, SBR teams have long-standing collaborations with four Max Planck Institutes, and recently formalised common projects on Biotic Interactions, Evolution & Development, Ecology, Environment, Diversity and Tech/Methods/Models, projects that involve exchanges of young scientists.

In conclusion, the SBR is a major player in marine biology in France and Europe, both in its fundamental and applied aspects, and it often plays a unifying role with its many partners.

HCÉRES NOMENCLATURE AND THEMES OF THE FEDERATIVE STRUCTURE

SVE Sciences du vivant et environnement

SVE2 Productions végétales et animales (agronomie), biologie végétale et animale, biotechnologie et ingénierie des biosystèmes

WORKFORCE SPECIFICALLY ALLOCATED TO THE FEDERATIVE STRUCTURE

As of December 2022, 42 of the SBR staff are employed by SU, while 48 are employed by the CNRS, including 17 contractual employees (8 SU/9 CNRS).

GLOBAL ASSESSMENT OF THE FEDERATIVE STRUCTURE

The SBR groups three research units, one of which is finishing its activity at the end of 2023 (IRL Chili), support services and common technical, teaching and conference facilities, as well as valuable culture collections and monitoring data resources. The SBR includes ca. 300 staff members with 90-100 agents, mostly technical and administrative personnel, working specifically for the Fédération. The SBR is highly involved at local, national and international level, and has an outstanding reputation and visibility. The SBR is part of larger Marine Observatory program involved in long-term monitoring, together with other French marine stations, and in connection with European and International collaborations. Accordingly, the SBR attracts considerable funding and talents.

During the evaluation period, and in spite of the COVID pandemic, the SBR has considerably improved the cohesion of the supporting services (e.g. technical and informatic platforms) to the different research units. The synergy between the units and the SBR is particularly strong and beneficial for the whole research community. It has also largely reinforced the sense of belonging to the SBR, which results in a better commitment of the staff in the collective project. Importantly, the SBR has promoted a more transparent management and visibility on the budget. Lastly, SBR has actively worked on the achievement of gender balance.

- The SBR is extremely active in outreach activities and communication to the broader public, through a wide variety of media, especially at local and national level. This makes of the SBR a strong attractiveness pole for young students and contributes to a societal education mission.

DETAILED ASSESSMENT OF THE FEDERATIVE STRUCTURE

CONSIDERATION OF THE RECOMMENDATIONS IN THE PREVIOUS REPORT

The previous report indicated that the high number of non-permanent positions, especially in platforms such as the bioinformatic platform ABiMS (Analysis and Bioinformatics for Marine Science), was limiting the quality of the support to researchers. In response to this, SBR succeeded in recruiting two additional engineers under permanent positions for the ABiMS platform that are mutualized with the AD2M unit and the research structure FR Tara GOSEE (Global Oceans Systems Ecology & Evolution). A further recommendation was to assess better the needs of individual scientists. SBR explains that ABiMS is supporting all three teams more strongly since the last evaluation. Based on a previous comment on under-utilization of specific services, SBR prioritised recruiting additional staff to reinforce those services that are highly occupied, but without explicit examples of actions. The previous committee complained about a lack of information regarding the access to and the economic models of the technical facilities. This information has now been integrated in the report. The final comment refers to an issue related to the change of directors at that time, complaining that budget information of the whole Station had been poorly transferred during the transition. This issue meanwhile has been solved with larger efforts by the new director.

APPROPRIATION OF THE SCIENTIFIC OBJECTIVES DEFINED BY THE SUPERVISING BODIES

In accordance with the missions stipulated by the two major supervisory bodies (CNRS and SU), the Station Biologique de Roscoff must carry out specific and joint teaching and research missions in marine biology and ecology, thereby contributing to the advancement of knowledge. In addition, it provides medium- and long-term observation via the OSU Stations Marines (STAMAR) and access to the biological and ecological resources of the Centre National de Ressources Biologiques Marines, (EMBRC France).

SBR offers a wide range of services and platforms open to both the national and international communities, as well as to socio-economic players. This is particularly true of the Blue Valley initiative, which is dedicated to technology transfer and R&D development in the field of blue bio-economy.

The SBR offers a wide range of tools and equipments available to researchers from the UMRs and outside the federation, including access to marine collections and resources, and facilities at sea (Research vessels and diving services). This openness has led to external partnerships, for instance with the Max Planck Institute in the form of exchanges of postdocs and senior researchers and should lead to joint projects in several areas of ecology. The station's research follows and further develops the historical mission of the SBR.

In general, the SBR fulfils all the missions entrusted to it. This is reflected in its success in national and European calls for offers under the PPR Ocean & Climat (FuturOBs), CPER (GEN4BIO) and PEPR (ATLASEA), AO-EMBREC and PIA3 (MUNDI4LS). The large number of contracts may lead to a certain dispersion of the forces present, and will require particular vigilance on the part of the decision-making bodies.

ASSESSMENT OF SCIENTIFIC ACTIVITY RESULTING FROM FEDERATIVE SYNERGY

The SBR as a marine Research Station is hosting two scientific units (see the dedicated Hcéres reports of the LBI2M and AD2M research units). However, a third unit, EBEA has been hosted in the last evaluation period which will be closed by the end of 2023 [see the brief report below]. In addition, the SBR hosts a larger number of facilities, which are globally recognized, and very positively perceived by the scientific community. Participation in different programs like Assemble+, EMBRC, and others increases the scientific visibility and outreach of the Station. The SBR and its diverse missions are managed by staff with a large range of high-level expertise. SBR was able to raise very significant levels of funding for these different actions and to develop good links with private actors. The federal structure of SBR requires the active promotion of synergies to create a collaborative and integrated research environment, which obviously has been well handled in the evaluation period. One excellent initiative for the inclusion of all members of the Station in future decisions has been the SBR Scientific foresight exercise, allowing a thorough discussion of an urgent problem of the Station, the forthcoming loss of key expertise due to retirements in the next future. This process holds numerous chances by hiring young scientists with new topics, and some topics of common interest to both units could be highlighted (e.g. integrative studies on marine microbes; ecological, genomic and functional studies on macro-algae), but also needs to be carefully planned to achieve a continuity in output and a coherence of research. The foresight exercise on different levels results in recommendations that include, among others, the strengthening of contacts between researchers of the different units, as well as to combine research and teaching to attract young scientists. The SBR has also been driving several collaborative projects involving the two units, such as the CPER GEN4BIO project, dedicated to the observation and exploitation of biodiversity and marine bioresources using innovative biomonitoring approaches based on environmental DNA.

Brief report on the IRL EBEA

The International Research Unit (IRL 3614) Evolutionary and Ecology of Algae (EBEA) is located on three sites, the SBR in France and two university campuses in Chile (Pontificia Universidad Catolica de Chile and Universidad Austral de Chile). The unit will close in December 2023. During the period, the unit has performed excellent collaborative research marked, among others, by the discovery of a unique mechanism of biotic pollination of a red alga by an invertebrate isopod species. This discovery, published in *Science*, rose a very large interest from the scientific community as well as the general public. Another remarkable result, with implications for conservation and aquaculture, concerns the detection of very low levels of genetic diversity in Chilean populations of the red alga *Gracilaria chilensis*, due to the combined effect of colonization of Chile and overharvesting by local populations before the implementation of farming.

QUALITY AND EFFECTIVENESS OF THE SCIENTIFIC ANIMATION POLICY

Report and presentations testify to the SBR's genuine efforts to provide high-quality scientific animation, in particular through enhanced internal communication.

While the documents highlight the creation of numerous transversal groups, it would be useful to have elements on how information is managed at the SBR and whether innovative web-based methods have been put in place to ensure that everyone knows where to find information efficiently.

The afore mentioned foresight exercise seems to have been perfectly mastered and rich in lessons, notably in an unfavourable staff age pyramid context. Although the areas developed seem to be based on in-house scientific expertise, the prospective positioning does not give a detailed account of how the SBR intends to position itself in the landscape of federative structures, even though they are in the process of being structured. It might be interesting to reflect on the SBR's strengths, its identity and the complementarities it should seek out from other organisations (OSU STAMAR, the Ocean Institute, etc.). The document is unclear as to whether participation in major projects is opportunistic or part of a concerted agenda.

RELEVANCE AND QUALITY OF DISPENSED COMMON SERVICES

The different technological facilities, after a period of lower activity linked to the Covid-19 pandemic, retrieved pre-Covid activity, underlying their utility.

DEGREE OF RESOURCES SHARING AMONG CONSTITUENT UNITS

The SBR grew very rapidly after becoming a Fédération de Recherche and the communication between the SBR and its research units as well as resource sharing were seemingly affected. Following a recommendation of the previous evaluation committee, the SBR has made an important effort to enhance the cohesion, communication and sharing of the SBR services and the human resources. Several measures have been taken to consolidate services (e.g. recruitment of additional staff for bioinformatics-bioanalysis), prioritising human-resource demands, making clearer the rules of access and economic models of technological facilities and, in general, improving internal communication. Likewise, initiatives to strengthen between teaching and research, and stimulating internal cross-cutting research programs have been implemented. Specific transversal working groups were in place since early in the evaluation period to contribute to these objectives of internal cohesion, fairness and sharing. The celebration of the SBR's 150th anniversary helped further to build this cohesion and "sense of belonging", inverting the negative consequences of the Covid-19 pandemic.

RELEVANCE AND COMPLEMENTARITY OF SCIENTIFIC STRATEGY WITHIN THE FRAMEWORK OF OTHER LOCAL FEDERATIVE STRUCTURES

The SBR has played an important role in the emergence of several structures and networks such as the Campus Mondial de la Mer, Biogenouest, EMBRC-Fr and the Ocean Institute of the Sorbonne University Alliance. The SBR's position in relation to these newly-created structures needs to be clarified, especially as some of them provide substantial funding.

Also of note is the ability demonstrated by the SBR to rethink its positioning and objectives within the Blue Valley initiative in order to be more in line with its scientific strategy. It would be advisable to learn from this experience to regularly re-evaluate its positioning within the framework of other local federative structures and draw the appropriate conclusions.

Lastly, among local federative structures listed in the document, not all interactions appear at the same level, and we may wonder what criteria could have been used to select and classify them (SBR's position in governance, funding opportunities, strategic issues).

The presentations on "Interactions at national level" did not seem to include additional information than that which can be found elsewhere in the document, such as the significant contributions to the ODATIS Ocean Data Cluster or to the national ILICO infrastructure through four national observation services. This may reflect a predominance of research interests over those linked to labelled observations which will integrate the OSU Stamar.

RECOMMENDATIONS TO THE FEDERATIVE STRUCTURE

The committee strongly appreciates the huge efforts of the SBR to set up platforms that are very useful and open to all scientists. It is recommended to ensure they are open to everyone, e.g. that services can be booked in advance by anyone, and to continue implementing a transparent fee system.

The evaluation committee recognizes the strong tension on some services or platforms due to the decrease in the number of support and infrastructure staff while the research personnel has largely increased. We recommend that the SBR establishes priorities for recruitment to be addressed to the two supervisory institutions. The SBR should advocate for the recognition of the arduousness of the diving duties, and take this into account for the definition of recruitment priorities.

In order to secure the existing "climate of trust" between OSU STAMAR, the marine stations and the hosted research units, it would be advisable to draw up agreements addressing staff management and premises issues. The retirement of some members of the teaching staff also raises the question of how to secure the quality of the training, an issue which should be addressed by the SBR together with SU.

Globally, we encourage the SBR to continue promoting dynamic science, providing resources to the community and reinforcing the international visibility.

CONDUCT OF THE INTERVIEWS

DATE

Start: November 29 2023 at 9 am

End: November 29 2023 at 5 pm

Interview conducted: on-site

INTERVIEW SCHEDULE

Wednesday November 29 2023

8h30-8h45	Introduction and presentation of Hcéres panel members
8h45-9h10	General overview of SBR activities
9h10-9h45	Marine Biological Resource Centre and Diving Facilities
9h45-10h05	Questions
10h05-10h45	Coffee break + panel closed meeting
10h45-11h45	Presentation of the six platforms
11h45-12h10	Education and Teaching
12h10-12h35	Observation activities
12h45-13h45	Lunch
13h45-14h45	Closed meetings with FR2424 Staff (In French) 30' Research support departments staff 30' Research infrastructure and communication staff
14h45-15h00	Coffee break
15h00-15h30	Discussions with CNRS and SU representatives (visioconference)
15h30-16h00	Discussions with the director of SBR
16h00-18h30	Panel closed meeting

PARTICULAR POINT TO BE MENTIONED

All presentations and interviews were carried out on site. Interview of the funding bodies representatives were partly online.

GENERAL OBSERVATIONS OF THE SUPERVISORS

Marie-Aude Vitrani
Vice-Présidente Vie institutionnelle et démarche
participative
Sorbonne Université

à

Monsieur Eric Saint-Aman
Directeur du Département d'évaluation de la recherche
HCERES – Haut conseil de l'évaluation de la recherche
et de l'enseignement supérieur
2 rue Albert Einstein
75013 Paris

Paris, le 8 janvier 2024

Objet : Rapport d'évaluation SBR - Station biologique de Roscoff

Cher Collègue,

Sorbonne Université vous remercie ainsi que tous les membres du comité HCERES pour le travail d'expertise réalisé sur l'unité de recherche « SBR ».

Sorbonne Université n'a aucune observation de portée générale à formuler sur le rapport d'évaluation transmis.

Je vous prie d'agréer, Cher Collègue, l'expression de mes cordiales salutations

Marie-Aude Vitrani
Vice-Présidente Vie institutionnelle
et démarche participative



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