IBEC
Institute for Bioengineering of Catalonia

POLICY ON
OPEN SCIENCE

POLICY ON OPEN SCIENCE

Approved version - 27/06/2023

CONTENTS

1. PREAMBLE

1. The **Institute of Bioengineering of Catalonia (IBEC)** commits to the advancement of science and the wide dissemination of knowledge to the benefit of society by adopting practices on open, reproducible and responsible research, as stated in its *Mission and Vision*, and the identified *Values* derived from them (Collaboration, Creativity, Respect, Perseverance, Responsibility (Scientific and social), Interdisciplinarity and Openness): https://ibecbarcelona.eu/about-us/mission-and-vision/

2. **IBEC** recognizes "openness" as one of its guiding values and commits to promoting it by – among others – encouraging and supporting research processes and tools that encourage collaboration, enabling new working models and new social relationships, stimulating the dissemination of knowledge and the accessibility and re-usability of research outputs, encouraging open access to publications and data, and building the necessary infrastructure, skills, rewards and incentives to support open science.

3. The *IBEC Code of Conduct for Research Integrity* (https://ibecbarcelona.eu/wp-content/uploads/2021/06/2021-IBEC-Code-of-conduct-for-research_web.pdf) is a framework for good research practice, setting the criteria for proper research behavior and establishing an environment conducive to high-quality research, thus ensuring that research is conducted according to international ethical standards. The Code complements **IBEC** policies and procedures such as this one on Open Science, by considering open access and data management.

4. This means Open Science is intended to become the guiding principle. For this to happen, Open Science practices and values need to be embedded in the organization of IBEC and its processes. This Policy formulates expectations and recommendations and provides guidance on the implementation of Open Science practices. With this policy, **IBEC** creates the necessary conditions to be able to integrate the practices and values of an open academic culture into its structure and its processes. The aim is to establish Open Science as the norm.

5. To explain and disseminate Open Science efforts **IBEC** has developed an Open Science virtual space (https://ibecbarcelona.eu/open-science/). This virtual space is a public access point of all the documentation and initiatives carried out to promote the implementation of open science.

6. The legal framework that articulates Open Science in Spain, and that **IBEC** must comply with, includes at state level the *Ley 17/2022, de 5 de septiembre, por la que se modifica la Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación*, and the *Ley Orgánica 2/2023, de 22 de marzo, del Sistema Universitario*. At the regional level the *LLEI 9/2022, del 21 de desembre, de la ciència.*

2. JURISDICTION AND EFFECT OF POLICY

The Policy applies to all researchers active at **IBEC**. In cases where research is funded by a third party, any agreement with that party concerning access rights, deposit and storage takes precedence over this Policy.

The Policy has been approved by the **Board of Trustees** and takes effect from **27/06/2023**.

3. RIGHTS, RESPONSIBILITIES, AND DUTIES

3.1 **IBEC** is responsible for:

1. Supporting and empowering the transition to Open Science through education, training and awareness-raising actions targeting researchers and other employees, along with the provision of the necessary infrastructure and funding to support this transition. Acquisition of Open Science and related skills should form an integral part of professional training and career development offered to researchers and be included in **IBEC**s Training Catalogue.

2. Establishing an **Institutional Open Access Repository** or collaborating with a consortium or national repository according to international standards, containing digital content and providing advanced tools for search, navigation, and Open Access to its content. By November 2022 **IBEC**'s institutional open access repository for publications is Dipòsit Digital de la Universitat de Barcelona (http://diposit.ub.edu/dspace/handle/2445/65293), CORA.RDR Repositori de Dades de Recerca of the CSUC (https://dataverse.csuc.cat/dataverse/IBEC) for datasets, and OER Commons (https://www.oercommons.org/profile/376588) and Procomún (https://procomun.intef.es/user-public/44713) for open educational resources.

3. Mandating the use of persistent identifiers (like DOIs, ORCID, Handle, or others).

4. Appointing a **Knowledge Manager** responsible for all data related matters, including – but not limited to – issues related to the development of Data Management Plans (DMPs) and compliance with national and European laws, data curation and stewardship.

5. Developing and providing mechanisms and services for the storage, safekeeping, registration, deposition and sharing of data and other records, according to the FAIR principles, as well as their long-term preservation, and providing appropriate guidance to researchers, including DMP templates.

6. Embedding Open Science practices in recruitment, research assessment and evaluation criteria beyond the provision of open access to publications and data, like participation in citizen science projects, experimentation with open peer review or the use of Open Educational Resources (OER).

7. Monitoring policy compliance by comparing the content of the repository with information gathered from indexing services and through data on the use (access and downloads) per publication/ department/unit/ institute etc.

8. Ensuring the compliance of the institution's repository and other research infrastructures with certification requirements in relation to FAIR data principles and EOSC technical specifications.

9. Having IPR and data protection policies in place to support Open Science.

10. Having an Open Licensing policy mandating a coherent and comprehensive set of licenses for releasing content and data.
11. Developing Open Science and related skills.

3.2 Researchers are responsible for:

1. Managing publications, data and educational resources in adherence with the principles and requirements expressed in this Policy.
2. Registering new research projects at the proposal stage at **IBEC** appropriate service in order to ensure that they are provided with the appropriate institutional support.
3. Complying with the organizational, regulatory, institutional, and other contractual and legal requirements related to the production, curation, deposit, management, and distribution of publications and data in case there is no other agreement with third parties taking precedence.
4. Ensuring that the principles governing the handling of data (in adherence with the present Policy and funders' mandates) are included in a Data Management Plan (DMP).
5. Compiling a DMP for every research activity they are coordinating.
6. Choosing the appropriate type of licensing for their research outputs.

4. OPEN ACCESS TO PUBLICATIONS

IBEC:

1. Requires researchers to deposit in the institutional repository (**Dipòsit Digital de la Universitat de Barcelona**), or any other suitable infrastructure a machine-readable electronic copy of the full text (published article or final peer-reviewed manuscript), as well as the related metadata before, at the same time or after publication. Researchers are held responsible for the timely deposit of their publications in the institutional repository. This step also applies in the case of open access publishing ("Gold Open Access").
2. In the case of "Green Open Access", **IBEC** requires the full text of all publications referred to above to be made immediately and publicly available under a standard open license (CC-BY or equivalent, CC-BY-ND/NC for longer text formats is allowed). For monographs, deposit remains mandatory, but access could be closed.
3. Requires the metadata of the publication to be made openly accessible in the case of 'closed' publications with the aim to increase their visibility. Metadata should be licensed under CC0 or equivalent, in line with FAIR principles (i.e. Findable, Accessible, Interoperable and Re-usable)
4. Promote the retention of ownership of copyright and license to publishers only those rights necessary for publication. Authors (or their organizations) must ensure Open Access to the Author Accepted Manuscripts (AAMs) or the Version of Record (VoR) of research articles, at the time of publication. All research articles should be made available under a Creative Commons Attribution CC BY license or equivalent or, by exception, a Creative Commons Attribution,

NoDerivatives CC BY-ND license, or equivalent. Grant a CC BY License to all future Author Accepted Manuscripts (AAMs).

5. Encourages researchers to deposit in the institutional repository publications authored prior to the date of effect of the current policy and make them openly accessible whenever possible.

5. OPEN ACCESS TO RESEARCH DATA

IBEC:

1. Has a research data management policy, approved by the Board of Trustees (https://ibecbarcelona.eu/wp-content/uploads/2021/11/IBEC-Data-Management-Policy.pdf), as a general framework for the management of the research data produced by **IBEC**, aligned with Open Science principles, to make its research data as open as possible and as closed as necessary, following FAIR principles.

2. Requires researchers to deposit the data needed to validate the results presented in scientific publications in a suitable repository such as **CORA.RDR Repositori de Dades de Recerca** or subject repositories. Data should be provided with persistent identifiers and must be linked with publications where possible.

3. Requires that data and services are handled according to open and FAIR principles (i.e. Findable, Accessible, Interoperable and Re-usable). Data should also be traceable and whenever possible available for subsequent use.

4. **IBEC** follows the principle "as open as possible as closed as necessary". If data cannot be open due to legal, privacy, intellectual property, or other concerns (for example sensitive data or personal data) this should be clearly explained. Metadata ensuring that data are findable should be provided in all instances.

5. Requires researchers to submit a DMP to the appropriate service for every research activity they are involved in.

6. Requires researchers to define usage rights through the assignment of appropriate licenses – CC BY or CC0 (or equivalent) license.

7. Requires that data are stored for a certain period (e.g. as defined by the respective communities and/or policies). The minimum archive duration for research data is 10 years after the assignment of a persistent identifier. In the event that these records need to be deleted or destroyed after the expiration of the required archived duration or for legal and ethical reasons, such actions need to consider all legal and ethical perspectives.

6. OPEN SCIENCE AND CITIZEN SCIENCE

IBEC actively encourages the uptake of Open Science practices (beyond open access to publications and data) such as the involvement in citizen science projects, open peer review, the use and creation of open educational resources, the release of data and content under open and standard open licenses, etc., and tracks their uptake. **IBEC** supports citizen science projects and where possible connects students' curricula and degrees to citizen science projects as a means to rethink the knowledge production and circulation models inside and outside the university; includes students in the design phase of such projects as an active learning approach and an in person experience; invests in in-house training to raise awareness and build capacity for students' participation in projects for society; rewards students' performance as participants of citizen science projects with awards and extra academic excellence points.

7. INFRASTRUCTURE

IBEC commits to:

1. Ensuring that the chosen institutional repositories meet trusted quality standards (OpenAIRE compatible, meeting FAIR principles, has a transparent repository policy) and are linked with EOSC.
2. Ensuring that the chosen institutional repositories are registered in appropriate registries and is interoperable through the OpenAIRE Guidelines.

8. RESEARCH ASSESSMENT AND EVALUATION

IBEC commits to:

1. Endorse and implement the Declaration on Research Assessment (DORA) and the agreement of the Coalition for Advancing Research Assessment (CoARA) principles to improve the ways in which researchers and the outputs of scholarly research are evaluated.
2. Developing in cooperation with funding agencies, institutional departments, and other appropriate units, a framework for research assessment and evaluation that incentivizes research quality and Open Science behaviors and practices. Such systems should take into consideration disciplinary differences and their impact on researchers at different career stages.
3. Setting up reward mechanisms for researchers using Open Science practices (e.g. sharing provisional results through open platforms, using open software and other tools, participation in open collaborative projects (citizen science), sharing data, etc.); adopt open science metrics and 'responsible metrics', along with ways of rewarding the full diversity of outputs and of recording the broader social impact of research ('next generation metrics').

9. TRAINING

1. The **Human Resources** unit in cooperation with **Strategic Initiatives** and Communications and Outreach units, together with any other appropriate body (such as legal services, research support staff, RDM experts) commits to developing training courses to facilitate the adoption of open science and equip researchers and other support staff with the necessary skills and expertise. Such training courses should include skills necessary for open access publishing, FAIR and open data and data management, research integrity, reproducibility and open science. Standardized and accredited skills for open science will be provided for researchers and required at all career levels, including among research students and supervisors. Training should be tailored to different disciplines and delivered to researchers at all career stages and should be embedded into curricula.
2. Appropriate funding for these activities should be ensured and to that end synergies with Research Funding Organizations and other stakeholders should be sought.

10. COMMISSION FOR OPEN SCIENCE

To discuss and propose initiatives related with Open Science, **IBEC** creates along with to this Policy a **Commission for Open Science**. The Commission is responsible for supporting and establishing an Open Science culture and strategy at **IBEC**, advising the board on best orientation and institutional practice on Open Science to achieve its goals and the funders requirements. It has the following functions:

1. *Policy and strategy:* Development of an Open Science policy and recommendations for establishing open science as the default research at **IBEC**.
2. *Implementation:* Monitor its implementation and assess the needs, expectations, and suggestions of researchers on Open Science.
3. *Promotion:* Disseminate institutional policies and services, and general trends on Open Science.
4. *Training:* Encourage initiatives and commitment to OS, providing training and support.

Given the strong links among the existing Commission for Research Integrity of **IBEC**, the composition of the Commission for Open Science will include the members of the **Commission for Research Integrity**, plus the following positions to account for the different expertise and areas of responsibility involved in the development of Open Science policies:

- The Head of the IT Unit
- The Head of Communications
- A member of the Projects Office
- A member of the Technology Transfer Unit
- A member of the Core Facilities Unit
- The Knowledge Manager of the Strategic Initiatives Unit

11. MONITORING POLICY COMPLIANCE AND VALIDITY OF THE POLICY

The **Strategic Initiatives** unit will monitor the compliance of this policy and will inform and propose measures to be discussed at the **Commission for Open Science**.

This policy will be reviewed and updated by the **Commission for Open Science** at least every 3 years and approved by the **Board of Trustees**.

12. REFERENCES

This policy is an adaptation to **IBEC** particularities of the *Model Policy on Open Science* of OpenAire:
https://www.openaire.eu/model-policy-on-open-science-for-research-performing-organisations

Further consulted documents have been:

- CERN. *CERN Open Science Policy* (2022).
  https://cds.cern.ch/record/2835057/files/CERN-OPEN-2022-013.pdf

- CERCA. *Estratègia de gestió de dades de la institució CERCA* (2020).
  https://cerca.cat/wp-content/uploads/2020/06/OpenData-cat.pdf

- CoARA. *The Agreement on Reforming Research Assessment* (2022).
  https://coara.eu/agreement/the-agreement-full-text/

- European University Association. *Open Science* (2022).
  https://eua.eu/issues/21:open-science.html

- European Commission. *Open Science* (2022). https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en

- *San Francisco Declaration on Research Assessment* (2012).
  https://sfdora.org/read/

- UNESCO. *UNESCO Recommendation on Open Science* (2021).
  https://unesdoc.unesco.org/ark:/48223/pf0000379949_eng

- University of Zurich. *Open Science Policy* (2021).
  https://www.openscience.uzh.ch/en/definition/policy.html

ANNEX: GLOSSARY

- **Gold Open Access:** the process of achieving open access through publication in an open access journal (open access publishing).
- **Green Open Access:** the process of providing open access through an open access repository (also known as "self-archiving").
- **Machine-readable copy** of a publication is a publication in a format that can be used and understood by a computer.
- **Metadata** are the descriptors used for describing, tracing, use and management of the deposited item (indicatively: title of publication, author(s), institutional affiliation, name of journal where the publication has been accepted).
- **Open Educational Resources (OER**) according to the OECD are "teaching, learning and research materials that make use of tools like open licenses that permit their free reuse, continuous improvement and repurposing by others for educational purposes".
- **Open Peer Review** may refer to a scholarly review mechanism where both the identities of the reviewer and the author are known to one another during the review and publication process, or to systems where reviewer reports are published alongside the articles, or systems where not only "experts" can comment, or a variety of combinations of the above or other novel methods
- **Publication** is defined as the peer-reviewed published (or under publication) work of researchers based in the institution.
- **Research Data** is the data (such as statistics, results of experiments, measurements, observations, interview recordings, images, etc.) used to validate the results presented in scientific publications or other data used during a project and described in the Data Management Plan.
- **Research** is defined as any creative and systematically performed work with the goal of furthering knowledge.
- **Researcher** is defined as any member of the research staff of **IBEC,** of all levels and irrespective of their employment status including employees and doctoral students.
- **Suitable Repository** is one that meets quality standards, for example FAIR Principles, OpenAIRE compatibility, CoreTrust Seal.