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DEPUTY MINISTRY OF RESEARCH, INNOVATION AND DIGITAL POLICY

**National Policy
of the Republic of Cyprus
for Open Science Practices**



Introduction

This policy revises the existing “**National Open Access Policy on Scientific Information in the Republic of Cyprus**” approved in 2016, covering the field of Open Access (OA), specifically in publications made by research organizations and academic institutions in Cyprus, funded by both public and private resources.

The revised policy aims at aligning with

- the **2012 Recommendation** of the European Commission on access to and preservation of scientific information and its **2018 update**;
- the **Regulation (EU) 2021/695** of the European Parliament and of the Council of the 28th of April 2021 establishing **Horizon Europe**, the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 and the **Council Decision (EU) 2021/764** of the 10th of May 2021 establishing the Specific Programme implementing Horizon Europe and repealing Decision 2013/743/EU;
- the **Plan S** and **cOAlition S**;
- the developments of the **European Open Science Cloud (EOSC)** and in particular the **EOSC Strategic Research and Innovation Agenda**;
- the action lines of the **European Open Science Policy Platform**;
- the Communication “**A new ERA for Research and Innovation**”;
- the **2019 EU Directive on open data and the re-use of public sector information, and the associated harmonized National Law 142 (I) / 2021**, and
- takes into consideration important developments at EU-level related to Open Science/ Open Access such as the **2016 European Council Conclusions** on the transition towards an Open Science system.

The revised policy draws heavily on the

- **UNESCO Open Access policy development guidelines**;
- the **MedOANet guidelines for Open Access**;
- the **PASTEUR4OA Toolkit and Policy Guidelines**;
- the **RECODE** project policy recommendations for Open Access policies to research data,
- the **LEARN** project Model Research Data Management Policy;
- the **European Open Science Cloud (EOSC)** main background documents;
- the **SPARC Europe report on Open Data and Open Science policies in Europe**; and
- the **European Commission’s report on Open science and intellectual property rights**.

This policy on **Open Science Practices** covers the field of access to preservation and re-use of scientific information and specifically (a) the open access to scientific publications (b) the management of research data, including open access (c) the use of infrastructures, tools and services for open science and (d) the uptake of other open science practices.

This document is the outcome of the Cyprus National Initiative of Open Science¹, developed and implemented under the coordination of the Deputy Ministry of Research, Innovation and Digital Policy, to ensure the inclusion of Cyprus to the Open Science developments in EU-level.

¹ The development and implementation of the Open Science (OS) Initiative in Cyprus is related to government commitments and priorities laid down in European Union (EU) and national strategic documents on the development of science, research, innovation and dissemination of scientific results. The main goal of the OS



Policy on Open Science Practices

Preamble

The Republic of Cyprus

1. 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.
2. RECOGNIZES **“openness”** as one of its guiding principles 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 to support open science.
3. TAKES INTO ACCOUNT the need to balance openness and protection of scientific information, commercialization and Intellectual Property Rights, privacy concerns, and security, following the principle **“as open as possible, as closed as necessary”** in the implementation of the Policy.

2. Jurisdiction and Effect of Policy

The Policy applies to all research stakeholders active in the Republic of Cyprus. In cases where research is publicly funded (in whole or in part)² this policy is mandatory for publications and for research data upon completion of the transition period (4.4.). Private funders are encouraged to adopt it.

It is noted that in the context of research funding, open access requirements do not imply an obligation to publish results. The decision to publish is entirely up to the grant beneficiaries. Open access becomes an issue only if publication is chosen as a means of dissemination. Moreover, open access does not affect the decision to exploit research results commercially, e.g. through patenting. The decision on whether to publish through open access must come after the more general decision on whether to publish directly or to first seek protection.

The Policy has been approved by [.....] and takes effect from [dd/mm/2022].

Initiative is to provide researchers and the public in Cyprus with access to scientific publications reviewed by independent experts, reliable research data, scientific services and infrastructures and results in general research output in an open and non-discriminatory way at the earliest stage possible in the process of dissemination and to ensure the possibility for their use and re-use. In this context, an Ad hoc Advisory Group for OS was created to contribute to the implementation of the OS Initiative in Cyprus.

² Publicly Funded Research means financial support in part or in full with revenue generated by government covering any funding for scientific research. The term often connotes funding obtained through a competitive process, in which potential research projects are evaluated.



3. Open Access to Scientific Publications

The **National Policy**

1. REQUIRES researchers to deposit in suitable repositories a machine-readable electronic copy of the full text (published article, Author Approved Manuscript 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 repository or any other suitable infrastructure. For monographs deposit remains mandatory, but access is closed until publisher embargo elapses.

2. REQUIRES the metadata of the publication to be made openly accessible in the case of 'closed' publications with the aim to increase their visibility.
3. ENCOURAGES the research community to retain ownership of copyright and to license to publishers only those rights necessary for publication³.
4. ENCOURAGES researchers to deposit in a suitable repository / infrastructure, publications authored prior to the date of effect of the current policy and make them openly accessible whenever possible.
5. REQUIRES authors to retain sufficient intellectual property rights to comply with the Open Access requirements.

Exceptions related to GDPR or any other legal restrictions should apply when properly documented.

4. Management of Research Data, including Open Access

The **National Policy**

1. REQUIRES publicly funded researchers to deposit in a suitable repository the data needed to validate the results presented in scientific publications or other data used during a project and described in the Data Management Plan (DMP) - where applicable⁴. Data should be provided with persistent identifiers.
2. 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.
3. REQUIRES to follow the principle "**as open as possible as closed as necessary**". If data cannot be open due to legal, privacy or other concerns (e.g sensitive data or personal

³ This is possible through the use of addenda to the publishing contract. Templates are available at https://sparcopen.org/wp-content/uploads/2016/01/Access-Reuse_Addendum.pdf

⁴ A DMP may not be required in case of small-scale research projects or when no data are generated during the course of a research project.



data) this should be clearly explained in DMPs.⁵ Metadata ensuring that data are findable should be provided in all instances.

4. RECOMMENDS a phased approach for Open Research Data (ORD) and FAIR Data practices, both in terms of policies, and the setting up of infrastructure, where each phase develops, tests, and establishes processes and procedures, which become permanent in following phases:
 - Phase 1: Voluntary ORD (maximum duration 1 year): a soft 'mandate' on Open/FAIR Data, with a clause for voluntary Open Data for all publicly funded research. The aim is to gradually develop the necessary infrastructure (technical, training, legal), to bring awareness to researchers and all stakeholders involved and to develop the necessary synergies in the country.
 - Phase 2: Open/FAIR Research Data pilot with opting out (maximum duration 2 years): a more concrete and firm policy for Open/FAIR Data by running a pilot which targets specific thematic areas of publicly funded research. Its objective is to test out the infrastructure already implemented in phase 1, to monitor researcher uptake, behaviours and needs, and refine them where appropriate.
 - Phase 3: Open/FAIR Research Data by default, with opting out: research data to be FAIR by default, as open as possible (immediately, no embargos), as closed as necessary (opting out) for all research data being generated at different stages of a project.

The implementation of the phased approach begins with the entry into force of this policy.

5. Open Science: Research Infrastructures

The Republic of Cyprus

1. PROMOTES the optimal utilization of the national investments in Research Organizations and the open access to publicly funded research infrastructures. In this context, research and academic organizations are encouraged to establish internal regulations and processes in order to allow Open Access and collaboration with third parties.
2. PROMOTES the provision of open access – ready to use ICT (Information and communications technology) infrastructure enabling digital services for data - and computing - intensive research in virtual and collaborative environments.

⁵ As not all data can be open, projects can therefore opt out at any stage (either before or after signing the grant) and so free themselves retroactively from the obligations associated with the conditions – if:

- participation is incompatible with the obligation to protect results that can reasonably be expected to be commercially or industrially exploited;
- participation is incompatible with the need for confidentiality in connection with security issues;
- participation is incompatible with rules on protecting personal data;
- participation would mean that the project's main aim might not be achieved;
- the project will not generate / collect any research data; or
- there are other legitimate reasons.



6. Other Open Science Practices

The **National Policy**

ACTIVELY ENCOURAGES the uptake of Open Science practices such as the involvement in citizen science projects, the use of open peer review, the use of open educational resources, the release of data and content under open and standard open licenses, etc., the release of the open-source software and tracks their uptake.

7. National Open Access Repository

The **National Policy**

1. RECOMMENDS that current infrastructures and new to be created, will meet trusted quality standards (OpenAIRE compatible, meeting FAIR principles) and are linked with EOSC.
2. RECOMMENDS that the **infrastructure established or to be created** is registered in appropriate registries and interoperable through the OpenAIRE Metadata Schema for Repositories.

8. Rights, Responsibilities, and Duties

8.1. The **Republic of Cyprus** is responsible for:

1. Supporting the transition to Open Access / Open Science through education, training and awareness-raising actions targeting researchers and other employees. Acquisition of Open Science skills should form an integral part of professional training and career development offered to researchers.
2. Supporting the established repositories and encouraging the establishment of a **National Open Access Repository** for all outputs refereed in this policy according to international standards which will provide advanced tools for search, navigation and Open Access to its content.
3. Encouraging research stakeholders to develop institutional Open Science policies aligned with this national policy.
4. Encouraging the research stakeholders to embed 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) and open-source software.
5. 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. This will be implemented by / in collaboration with the Open Science Initiative in Cyprus.
6. Compiling information and producing reports related to publishing costs when following the Green or Gold route respectively and engaging in discussions concerning agreements with publishers. Information will also be collected in relation to Research Data Management



(RDM) costs. This will be implemented by / in collaboration with the Open Science Initiative in Cyprus.

8.II. Research stakeholders are responsible

1. Managing publications, data and educational resources in adherence with the principles and requirements expressed in this Policy.
2. 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.
3. Ensuring that the principles governing the handling of data (in adherence with the present Policy and funders' mandates) are included in DMP. DMPs should also include a sustainability plan.
4. Ensuring the compilation of DMP for every research activity funded from public resources.
5. Documenting the IPR (Intellectual Property Rights) status of research outputs.

9. Research Assessment and Evaluation

The **Republic of Cyprus** is responsible for

1. Developing in cooperation with funding agencies and research institutions and other appropriate units a framework for research assessment and evaluation that incentivizes research quality and Open Science behaviours and practices following European developments on the topic and the work of the European Open Science Policy Platform. Such systems should take into consideration differences across scientific disciplines and their impact on researchers at different career stages.
2. Encouraging research institutions to set 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), responsible research and innovation (RRI), etc.
3. Encouraging, for purposes of institutional evaluation of the research output of all institutions and its members, the appropriate Governmental body to consider the implementation of Open Science aspects as added value e.g Open publications - metadata and full texts deposited in institutional repositories or any other suitable infrastructure according to the requirements stated above.

10. Training

The university libraries in cooperation with institutional departments or any other appropriate body (such a legal services, research support staff, RDM experts) should commit to developing training courses to facilitate the adoption of open science and equip researchers and librarians and other support staff with the necessary skills and expertise.



- Such training courses should include skills necessary for open access publishing, open data and data management and research integrity.
- The training should be tailored to different scientific disciplines and delivered to researchers at all career stages and should be embedded into curricula.

11. Monitoring

Universities, research organisations, research funders and other research stakeholders that have adopted mandatory Open Access / Science policies are encouraged to develop and implement mechanisms to systematically monitor researchers' compliance with their mandates.

The compliance with the Open Science Policy will be monitored through

- a. Monitoring Mechanism that will be develop in collaboration with the National Research Funding Organisation of Cyprus (Research and Innovation Foundation), in relation to the publicly funded research;
- b. periodic reports submitted by the research organisations;
- c. data and information extracted by the repositories (national, thematic, institutional etc) by measuring the amount of repository content by institution, discipline and year.

Funders should take appropriate measures for policy non-compliance from beneficiaries.

12. Validity of the Policy

This policy will be in force in 6 months from the date of approval.

The policy will be reviewed and updated by the Council of Ministers of the [Republic of Cyprus](#) when deemed appropriate and no later than every **five (5) years**.



APPENDIX

Definitions

Citizen science is the public involvement and collaboration in the knowledge production process in strong interaction with the academic community, with greater or lesser extent of engagement of the public from only data collection to analysis and co-creation.

Data Management Plan (DMP) is a written document that describes the data expected to be acquired or generated during the course of a research project, how they will be managed, described, analysed, and stored, and what mechanisms will be used at the end of the project to share and preserve those data.

FAIR Data Principles:

- **Findable** when they are described by sufficiently rich metadata and registered or indexed in a searchable resource. Digital assets should be uniquely identified through the use of Persistent Identifiers that are globally resolvable (PIDs).
- **Accessible** when they can be obtained by humans and machines upon appropriate authorisation and through a well-defined and universally implementable protocol.
- **Interoperable** when they follow a formal, accessible, shared and broadly applicable format and when a language for knowledge representation is used.
- **Re-usable**, when rich metadata and documentation is provided that follow relevant community standards and provide information on provenance.

Gold Open Access is the process of achieving open access through publication in an open access journal (open access publishing).

Green Open Access is 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 can be used an 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).

OpenAIRE (Open Access Infrastructure for Research in Europe) started as a European Commission project and transformed into a legal entity with the aim of promoting the implementation of Open Science, Open Access to scientific publications and research data and building a European scientific research infrastructure for the storage, retrieval, and reuse of research results.

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 is defined as a scholarly review mechanism were both the identities of the reviewer and the author are known to one another during the review and publication process.



Open Science: Open Science is frequently defined as an umbrella term that involves various movements aiming to remove the barriers for sharing any kind of output, resources, methods or tools, at any stage of the research process. As such, open access to publications, open research data, open-source software, open collaboration, open peer review, open notebooks, open educational resources, open monographs, citizen science, or research crowdfunding, fall into the boundaries of Open Science. The focus is usually placed on two of these movements:

(a) open access to peer-reviewed scientific publications (primarily research articles published in academic journals).

(b) open access to research data, underlying publications and/or other data (such as curated but unpublished datasets or raw data) in accordance with the principle '*as open as possible, as closed as necessary*'.

A persistent identifier (PID) is a long-lasting reference to a resource. The primary purpose of the PID is to provide the information required to reliably identify, verify and locate it. A PID may be connected to a set of metadata describing an item rather than to the item itself. There are different PID types for different kinds of resources. In the current research environment, we most commonly see two varieties: those for objects (publications, data, software, such as URNs, DOIs, ARKs, Handle) and those for people (researchers, authors, contributors, such as ORCIDs, ISNIs). Many repositories will assign a PID of the former type when an object is deposited.

Publication is defined as the peer-reviewed published (or under publication) work of researchers based in the institution.

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 community of the Republic of Cyprus of all levels and irrespective of their employment status including employees and doctoral students.

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. The focus is on research data that are available in digital form.

Research Data Management (RDM) concerns the organisation of data, from its entry to the research cycle through to the dissemination and archiving of valuable results. It aims to ensure reliable verification of results, and permits new and innovative research built on existing information.

Research Infrastructures are facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. They include: major scientific equipment (or sets of instruments), knowledge-based resources such as collections, archives and scientific data, infrastructures, such as data and computing systems and communication networks and any other tools that are essential to achieve excellence in research and innovation." Accordingly, RI are implemented along different organisational models, including central sources and laboratories for experiments and measurement sessions, coordination and management of geographically distributed observatories or laboratories, remotely accessible resources for computing, data banks, physical sample repositories, surveys and longitudinal studies.



Sensitive Data A special group of personal data that should be protected to conceal the identity of a person.

Suitable Repository is one that meets quality standards like FAIR Principles, OpenAIRE compatibility, CoreTrust Seal. Institutional repositories are digital collections capturing and preserving the intellectual output of a University or a Research institution.