UNIVERSITY OF RIJEKA

# OPEN SCIENCE POLICY OF THE UNIVERSITY OF RIJEKA

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**Sveučilište u Rijeci** Trg braće Mažuranića 10, 51000 Rijeka, Hrvatska / Croatia T +385 51 406 500 F +385 51 406 588 ured@uniri.hr
**University of Rijeka** www.uniri.hr OIB 64218323816 MBS 040131108 IBAN HR5324020061100977786, Erste&Steiermärkische Bank d.d.

Pursuant to Article 63, paragraph 1 of the Statute of the University of Rijeka (CLASS: 011-01/21-01/12; REGISTRATION NUMBER: 2170-57-01-21-1, dated 16 June 2021), the Senate of the University of Rijeka at its 58th session held on 21 September 2021 adopted the following

# OPEN SCIENCE POLICY OF THE UNIVERSITY OF RIJEKA

**The University of Rijeka** (hereinafter University), promoting advances in science and the dissemination of knowledge for the benefit of society through the adoption of practices of open, reproducible and responsible research, with development and focus based on relevant national and European Union (hereinafter EU) documents, and strongly supporting the view that scientific information and research data produced in the course of publicly funded scientific activities must have open access, and that exceptions to this rule are acceptable only in specific cases of personal data protection, intellectual property, national security, etc., has adopted the Open Science Policy (hereinafter OS Policy) of the University of Rijeka, which is founded upon the following **fundamental concepts** (see also the glossary at the end of the document):

**Open science** refers to the opening of the entire research process, i.e., conducting scientific research in an open and collaborative manner that allows for the participation and use of all results of research activities in a transparent manner. Open science promotes not only open access to publications, research protocols, and data, but also an open process of scientific communication (including the popularisation of science), open dialogue, open peer review and open evaluation, open formats, data and tools, open standards, open scientific infrastructure, open-source software codes, and open education. Open science promotes a view of science as a dynamic activity subject to constant revision.

**Open access** refers to unrestricted, free, and uninterrupted network access to digital scientific information that enables reading, storage, distribution, search, retrieval, indexing and/or other lawful use of the content. Scientific and educational information and content cover all the results of research, development, professional, and educational work. Open access contributes to improving quality, reducing the need for unnecessary duplication of research, accelerating scientific progress, fighting for scientific integrity, and promoting economic growth and innovation. Open access is mandatory for all results of scientific activities in the EU Horizon Europe framework programme projects (and through the Open Research Europe platform) and is strongly promoted through international initiatives, such as Plan S.[5]

**Research data** are all qualitative and quantitative data collected, recorded, or generated for analysis purposes in order to achieve new, original research results. Indeed, the research ecosystem is becoming increasingly complex, requiring better collaboration within individual research communities, interdisciplinarity, as well as citizen science. All this creates the need to share research data, which contributes to the reproducibility and transparency of scientific research, increases the impact of scientific research and citation, encourages advances in science, and contributes to the faster application of science in the economy and the development of society as a whole.[6]

[1] https://svkri.uniri.hr/images/Deklaracija_Europska_otvorena_znanost.pdf
[2] https://www.srce.unizg.hr/files/srce/docs/otvoreni-pristup/hrvatska_deklaracija_o_otvorenom_pristupu.pdf
[3] https://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:32018H0790&from=GA
[4] https://open-research-europe.ec.europa.eu/?utm_source=CPB&utm_medium=cms&utm_campaign=JPL18193
[5] https://www.coalition-s.org/
[6] https://repozitorij.srce.unizg.hr/islandora/object/srce%3A327/datastream/FILE0/view

**Research stakeholders** are scientific and teaching staff, associates, students, and other participants in the system of science and higher education.
**Croatian Open Access Declaration** emphasises the fundamental importance of scientific information, the importance of its accessibility to all, and the imperative to preserve them permanently.[7]
**"European Open Science" Declaration of the University of Rijeka** supports the view that European science ought to be based on a common culture of scientific data management as key outcome of research activities, which should be optimally used for the well-being and development of the community.[8]

**Objectives of the University OS Policy** include the promotion and continuous development of an encouraging environment for the creation of new social and economic values through the use of scientific information and research data that are the product of publicly funded scientific activities of University research stakeholders. In doing so, the following is achieved:[9]

- greater research efficiency while avoiding overlap with existing research;
- increased opportunities for interdisciplinary and collaborative research through scientific networks and consortia;
- improving the accessibility and quality of scientific papers and scientific communication;
- improving collaboration and involving more interested researchers;
- promoting and increasing the visibility of scientific activities at the University and its constituents;
- developing innovative (holistic and qualitative) models of academic career development;
- creating opportunities for innovation;
- increasing social and economic effects of scientific research;
- accelerating the growth of scientific output by increasing the value of existing (published) scientific output;
- strengthening transparency, public accountability, and scientific integrity.

**Activities** for achieving the objectives of the University OS Policy:

- providing open access to scientific papers, information and research data of the University and its constituents;
- the possibility of using scientific information and research data of the University and its constituents for new scientific activities, knowledge transfer, and innovation development;
- achieving a high level of awareness and knowledge on the importance of open scientific information and research data among University research stakeholders;
- providing a framework for support and training of all providers of scientific information and research data at the University;
- connecting all University constituents in the implementation of activities aimed at achieving the objectives of the University OS Policy.

By adopting the OS Policy, the University of Rijeka will additionally encourage its constituents to recognize open scientific information and open research data as key research outcomes. The University OS Policy marks the beginning of a process based on the active involvement of all research stakeholders and is founded upon the following **principles of the OS Policy**:

- **Open access is in the public interest**

The results of publicly funded research should be accessible in open access because it removes

[7] https://www.srce.unizg.hr/files/srce/docs/otvoreni-pristup/hrvatska_deklaracija_o_otvorenom_pristupu.pdf
[8] https://svkri.uniri.hr/images/Deklaracija_Europska_otvorena_znanost.pdf
[9] https://www.openaire.eu/

barriers and inequalities, improves the transparency of research, expands opportunities for access to knowledge, increases opportunities for cooperation and development and competitiveness of society as a whole.

- **The principle of openness**

The University is committed to promoting the principle of openness, encouraging research stakeholders to publish papers and data in open access, stimulating the dissemination of knowledge, accessibility, and reusability of research results.

- **The principle of quality**

The University will publish all scientific information and research data that are timely, comprehensive, and accurate.

- **The principle of accessibility**

The University will promote the openness and accessibility of scientific information and research data to the widest range of users in accordance with FAIR principles (Findable, Accessible, Interoperable, Reusable).

In accordance with the stated objectives and principles, **the University promotes and ensures**:

1. Strengthening the transition to open science through education, training, and awareness-raising aimed at research stakeholders. Acquisition of Open Science skills is an integral part of professional training and career development offered to research stakeholders at the University, and implementation of Open Science practices is affirmed, promoted and rewarded as one of the criteria for the development of academic careers of University researchers. In this framework, the University will actively participate in the Croatian Open Science Cloud Initiative (HR-OOZ) and formally support the Declaration on Research Assessment – DORA. [11]
2. Infrastructure, i.e., the system of institutional repositories of the University constituents, and the University Repository within the Digital Academic Archives and Repositories (Dabar) national e-infrastructure. Dabar collects, permanently stores, and provides open access to scientific-research, intellectual, and creative production in the digital form created by an institution, i.e., its employees and students, and provides advanced search and navigation possibilities, in accordance with international standards, OpenAIRE compatibility, FAIR principles, and EOSC technical specifications. When stored in the Dabar repository, data are assigned persistent identifiers.
3. Mandatory assignment of a persistent DOI identifier for publications in journals published by the University and its constituents.
4. Mandatory assignment of a persistent URN:NBN identifier for all works stored in Dabar institutional repositories.
5. Monitoring the implementation of the OS Policy: statistics on repository storage, access, and retrieval, as well as statistics on the number of publications by researchers from the University and its constituents in open access journals.
6. Protection of intellectual and industrial property.
7. Open licensing and use of Creative Commons (CC) licenses.[12]
8. Support and assistance in providing information relevant to the implementation of the OS Policy of the University of Rijeka.

**University research stakeholders are responsible for:**

1. Managing publications, data, and educational resources in accordance with the principles and requirements laid down in the University OS Policy.
2. Storing papers in the repository of the home institution of the University constituent and providing

[10] https://www.srce.unizg.hr/vijesti/pokresuna-inicijativa-za-hrvatski-oblak-za-otvorenu-znanost-hr-ooz/objav2021-06-24
[11] https://sfdora.org/about-dora/
[12] An overview of licenses, their content, structure, and type is available at https://repozitorij.srce.unizg.hr/islandora/object/srce%3A327/datastream

open access to a published version of scientific papers whenever possible or, when not possible, open access to the author's preprint or author accepted manuscript of published papers.
3. Selection of a suitable CC license in accordance with the rules on open access to science that ensure the retention of copyright and related rights by authors (University researchers) or other rights holders, and allow others allow others to reproduce, distribute, and otherwise use their work, depending on the type of license the authors, i.e., licensors choose. [13]
4. Obligation to indicate affiliation with the University.[14]
5. Creating and using a persistent ORCID identifier of the author and indicating their affiliation with the University.

**The University OS Policy**, using CC licenses, **refers to**:

1. Publications

- scientific and professional papers;
- monographs and chapters in books;
- proceedings of scientific and/or professional conferences organized by the University or its constituents;
- textbooks;
- reference works (professional papers);[15]
- bachelor's, master's, and doctoral theses written at the University or its constituents;
- educational content,[16] and
- other materials of the University and its constituents.

2. Research data

University constituents enable and support their researchers to publish their scientific and professional papers in:

I) **Gold Open Access**: publishing papers in open access journals, while providing financial support through (co-)financing the costs of publishing scientific papers in accordance with the University Strategy 2021-2025.

II) **Green Open Access**: archiving/self-archiving relevant versions of papers in the repository of the home institution, providing technical and professional support in the publication of papers.

For the purpose of individual or institutional evaluation of the research results of the institution and its researchers, **the University considers as publication only those papers complete texts as well as research data and metadata of which are stored in the institutional repository in accordance with the above requirements**.

The University of Rijeka:

- Expects researchers to store a digital copy of the full text (published article or final peer-reviewed manuscript) in the institutional repository, as well as related research data and metadata before, during, or after publication. Researchers are responsible for the timely storage of their publications in the institutional repository. This step also applies in the case of open access publishing (Gold Open Access).
- In the case of Green Open Access, the University expects the full text of the above-mentioned publications to be immediately made available under the standard open access license (CC BY).

[13] http://creativecommons.org/licenses/?lang=hr .

[14] Odluka o navođenju pripadnosti (afilijacija) Sveučilištu u Rijeci (2018)

[15] Teaching manual, grammar book, dictionary, lexicon, workbook, encyclopaedic edition, monograph on the University or its constituents, etc.

[16] Educational content is considered to be materials available in electronic form such as a textbook (manual, script, book), presentation, image, graph, diagram, animation, dictionary, video, audio, database of questions, etc. provided by the University and its constituents used in teaching both students and other stakeholders (https://www.srce.unizg.hr/files/srce/docs/otvoreni-pristup/preporuke_oer_20200403.pdf).

- In the case of "closed" publications, to increase their visibility, the University expects publication metadata to be made available by storing them in the institutional repository. The data are published under a CC0 license in accordance with the FAIR principles.
- Recommends a Research Data Management Plan be developed for each research activity and the research data be digitally linked to relevant publications.[17]
- Encourages authors to retain copyright over copyrighted works and assign to publishers only those rights necessary for publication. All research articles should be under a CC BY license in accordance with the PlanS Rights Retention Strategy.[18]
- Encourages researchers to store publications published before the date of entry into force of the current Policy in the institutional repository and make them openly accessible whenever possible.

As part of the University OS Policy, the University and its constituents agree to make undergraduate, graduate and doctoral study contracts include a signed student statement on the **publication of the defended bachelor and/or master thesis, and doctoral dissertation**, and a statement permitting the publication of such papers online via institutional repositories and using the digital version of such papers in accordance with generally accepted international standards (CC BY licenses) and the rules on open access to science that **ensure that students retain copyright and publishing rights without restriction.**

**All stakeholders in the teaching process** are advised to store educational material in the institutional repository under the CC BY license, where they retain copyright and the right to publish without restriction.

The University also actively encourages the acceptance of open science practices that include **participation of the general public in scientific activities** (citizen science) – e.g., through collection, analysis, and dissemination of data, or (co-)financing of scientific activities.

**The University of Rijeka Library**, in collaboration with the University, its constituents, and University Doctoral School, creates and implements **educational programmes for developing the necessary skills** for the implementation of open science practices by all research stakeholders. Moreover, it will actively work on establishing institutional workflows and defining responsibilities for monitoring compliance with the University OS Policy. All related information will be available through the subpage "Open Science" on the University of Rijeka Library website.

The University OS Policy will be revised as necessary and at least every two years to ensure that the document is in line with changes in relevant legislation as well as national and international (especially EU) policies.

[17] If research data cannot be open access for legal reasons, privacy or other reasons (e.g. sensitive or personal data), that should be disclosed in the Research Data Management Plan. Metadata that ensures research data can be found should be made available in all cases.

[18] https://www.coalition-s.org/rights-retention-strategy/

# FUNDAMENTAL CONCEPTS OF OPEN SCIENCE

**Affiliation**
- Indicating the name and address of the institution and the e-mail address of the author.

**Citizen science**
- Scientific activity in which citizens (non-professional scientists), as part of a scientific project, voluntarily participate in the collection, analysis and dissemination of data or through (co-)financing of scientific activities.

**Creative Commons licenses**
- A system of licenses that allows authors, or other rights holders, to retain their copyright and related rights, while allowing others to reproduce, distribute, and otherwise use their work. The CC BY license allows others to distribute, process, adapt and upgrade the work of authors, even for commercial purposes, as long as they acknowledge (cite) their original work. It is a collaboration-oriented manner of licensing that is recommended for the greatest possible use (dissemination) of the licensed material. On the other hand, the CC0 license allows the public use of a work, i.e., the author waives copyright and allows the world to freely use the material. Users can thus distribute, process, customize and upgrade the author's work in any format or in any medium, without any restrictions.

**Dabar** (Digital academic archives and repositories)
- National infrastructure for digital repositories which enables institutions and other legal entities from the science and higher education system of the Republic of Croatia to establish repositories for storage, long-term preservation and dissemination of digital content – including research data sets.

**DOI** (Digital Object Identifier)
- Unique and persistent digital identifier assigned to an object of any type.

**EOSC** (European Open Science Cloud)
- The European Open Science Cloud was created as an initiative of the European Commission to support the development of open science and innovation by developing research infrastructures and pooling services. EOSC aims to provide researchers with a secure environment for storing, analysing, and reusing data for research, innovation, and education purposes, regardless of the discipline they are pursuing. A related Croatian initiative is the Croatian Open Science Cloud (cro. *Hrvatski oblak za otvorenu znanost*, HR-OOZ).

**FAIR** (Findable, Accessible, Interoperable, Reusable)
- Acronym for four fundamental principles to make data findable, accessible, interoperable, and reusable. These principles will ensure easier retrieval of research data, unhindered access to data and metadata, the use of common standards and formats to ensure the possibility of data exchange between different systems, and the preparation of data to be understandable and usable for reuse.

**Research data**
- Quantitative and qualitative data collected, recorded, or generated during research for the purpose of analysis in order to achieve new and original research results.

**License**
- Permission by which the right holder defines the conditions for reuse of their work.

**Metadata**
- Structured data that describe, explain, locate, or otherwise facilitate the management of digital objects (e.g., title, topic, description, author, publisher, rights, date, language, identifier, etc.).

**OpenAIRE** (Open Access Infrastructure for Research in Europe)
- European Commission project launched with the aim of promoting the implementation of 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 Research Europe**
- European Commission platform for open access to scientific papers created through the Horizon 2020 and Horizon Europe framework programmes.

**ORCID** (Open Researcher and Contributor ID)
- Unique and persistent identifier of researchers and collaborators, the use of which enables better visibility of authors and interoperability of a wide range of information systems.

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

**Open science**
- In addition to open access to publications, this implies open and collaborative ways of reporting on the entire process of scientific-research work, including, inter alia, open research data, open source, open standards, open services, open review and other scientific research results, open scientific infrastructure, open communication (popularisation) of science and open education, all with the aim of economic growth, innovation, and progress of society.

**Open access**
- Open, free, and unrestricted online access to digital scientific information. Gold Open Access means publishing papers in open access journals. Green Open Access means archiving and publishing papers through repositories.

**Open peer review**
- This implies publishing peer reviews and, in scientific fields where it is common practice, the names of reviewers, as well as the possibility of opening a discussion about the scientific papers and opinions on them, before they are published in scientific and professional journals.

**Research data management plan**
- Document that describes data management during and after the completion of a research project, including the organization and planning of the research process, as well as the collection, processing, storing, and distribution of data.

**Repository**
- Digital collection that collects and permanently stores the results of scientific-research, intellectual and creative work of a certain institution (institutional) or material of the same scientific topic (thematic).

**Persistent identifiers**
- Persistent links to various forms of digital objects, publications, data sets or persons. They can be assigned to objects (URN:NBN, DOI, etc.) or to persons (ORCID).

**URN:NBN** (Uniform Resource Name: National Bibliography Number)
- A unique persistent identifier assigned to objects.

The Open Science Policy of the University of Rijeka is harmonized with the following EU documents:

- 2012 Recommendation of the European Commission on access to and preservation of scientific information and its 2018 update
- The Horizon 2020 Guidelines on the rules of open access to scientific publications and research data
- Proposal for a Regulation of the European Parliament and the Council establishing Horizon Europe- the framework programme for Research and Innovation, laying down its rules for participation and dissemination (COM/2018/435 final)
- Proposal for a Decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe- the Framework Programme for Research and Innovation (COM/2018/436 final)
- 2016 European Council Conclusions on the transition towards an Open Science system,
- 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
- The Report "Towards a 2030 Vision on the Future of Universities in Europe"