

Institute of Archaeology  
Belgrade, December 25<sup>th</sup>, 2022.  
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Based on the Open Science Platform of the Ministry of Education, Science and Technological Development adopted on July 9<sup>th</sup>, 2018, the Law on Science and Research („Službeni glasnik RS“, number 49/2019) and article 22 of the Statute of the Institute of Archaeology, on December 25<sup>th</sup>, 2022 the director issues the

## **Regulations on Open Science at the Institute of Archaeology**

### **General Regulations**

#### Article 1.

Regulations on Open Science at the Institute of Archaeology (in the further: the Regulations) regulate obligations, measures and procedures and also supervise application of the Platform for Open Science of the Ministry of Education, Science and Technological Development (in the further: the Platform).

Regulations are applied to all of the researchers employed at the Institute of Archaeology (in the further: the Institute), whose results (research publications) represent results of programs and projects that are fully or partially funded from the budget of the Republic of Serbia, European Commission or other funders of scientific research.

Researchers are people who perform research and fulfill requirements issued by the Law on Science and Research.

### **Open Access to Research Publications**

#### Article 2.

In the repository of the Institute of Archaeology (RAI), that serves as a digital institutional repository of the Institute (in the further: the Repository) and is accessible through the URL address <https://rai.ai.ac.rs/?locale-attribute=sr> it is obligatory to deposit electronic versions of all of the scholarly publications and other scientific material as result of scientific research performed at the Institute, through its programs and projects.

Research publications include:

- Papers published in research periodicals;
- monographs;
- chapters in monographs and papers published in thematic collections;

- papers in conference proceedings published fully or as abstracts;
- doctoral theses.

#### Article 3.

It is obligatory to deposit published (final) version of scientific publications. If it is allowed through regulations contained in the contract with the publisher and if there are no further legal limitations, the version deposited in such a manner shall be in open access.

If there should be any legal restrictions that limit open access to the already published version of a scientific publication, it is obligatory to deposit a peer-reviewed manuscript (accepted for publication) in the Repository. After expiring of the embargo period determined by the publisher, it becomes open access. If direct open access is enabled to the final version of a paper deposited in the Repository, it is not necessary to deposit a peer-reviewed manuscript.

It is also obligatory to deposit into the Repository electronic versions of research papers published in periodicals, monographs, thematic collections in open access.

#### Article 4.

Electronic version of any publication must be deposited into the Repository immediately after it was published. When possible, integral content of a publication (i.e. the published version or a reviewed manuscript), needs to be instantly available in open access, but in any case no later than 12 months from the day it was published in the field of natural, medical and engineering sciences, or 18 months in the field of social sciences and humanities.

#### Article 5.

The obligation of depositing and making openly accessible is applied to all of the scientific publications issued by researchers and starting from January 1<sup>st</sup>, 2023.

### **Open Access to Research Data**

#### Article 6.

It is obligatory to deposit in the Repository electronic versions of all research data gained at the Institute that are connected to funded research listed within article 1 of these Regulations.

#### Article 7.

Research data must be deposited in accordance with FAIR principles, which means depositing in recommended formats, convenient for long-term archiving, as well as described detailed metadata (in accordance with the requirements set out in Appendix 1).

Data represent a basis for scientific research: with help of those, other researchers might repeat an experiment, use data with a different methodology or check liability of the

scientific publication in which the data was published. Research data most commonly include data collected in the field, gained through cabinet research or in any other way during experiments and trials, raw statistic data, software etc.

Research data are considered to include:

- raw data, data sets and data bases used in order to create or contribute to research that is to be published;
- tables with data;
- graphs;
- images (photographs);
- videos and animations;
- audio data;
- software applications and software codes for data analyses or computer model simulation;
- case studies and other examples of practice, behavior and events that were observed and studied within the research;
- questionnaires, surveys, forms and other instruments for collecting information that were used within the research;
- any paper that represents several descriptions and information about the background, processes, experiments, testing, conditions, controls, interventions, locations, remarks, finds, arguments and conclusions of research.

#### Article 8.

If not defined differently by project regulations, electronic versions of research data need to be deposited into the Repository immediately after the publication containing the data was issued. Data that are not part of the publication can also be deposited. Content can be approached in open access with free license separately for data resulting from research described within Article 1 of these Regulations.

#### Article 9.

Obligation of depositing research data into the Repository listed within Article 8 of these Regulations applies to all primary data of scientific publications issued by researchers starting from January 1<sup>st</sup>, 2023.

### **Open Access to other scientific research results**

#### Article 10.

Other scientific research results can also be deposited into the Repository, like: manuscripts that were not reviewed (the so-called *pre-print*), different types of data, audio-visual materials, draft data versions, posters, presentations, reports and the like.

Researchers are recommended to give open access to these materials whenever they are not

subject to limitations by law and/or ethics or limitations imposed by general or specific acts issued by the Institute.

### **Researchers' obligations**

#### Article 11.

Researchers are obliged to personally deposit electronic versions of all scholarly publications they published under the affiliation of the Institute, especially those listed within Article 1 of these Regulations. Researchers are obliged to personally deposited electronic versions of all research data into the Repository, with the help of the Institute's Library and the training it provides in this regard.

If researchers had published or deposited primary data into a repository that are connected to publications later issued as research results, they need to give this information while depositing publications and data into the Repository or to deliver it to the Institute's Library.

Researchers are allowed to deposit into the Repository scholarly publications they published under other affiliations, too.

### **Obligations of the Institute's Library**

#### Article 12.

Institute's Library:

- offers support to researchers while depositing publications and primary data into the Repository;
- runs quality and integrity checks of metadata and data deposited into the Repository;
- takes care of copyright and licensing conditions;
- organizes trainings for researchers regarding depositing procedures into the repository, as well as other subjects connected to open science and application of the Platform;
- supervision of the Platform application and the application of stipulations contained in these Regulations connected to research data are to be performed in the Institute's Library and in cooperation with project managers.

### **Monitoring application of the Platform**

#### Article 13.

Control of the Platform's application is to be performed at least once every year, during

annual reports about researchers' work.

Application of the Platform is monitored by the Institute's Library, in accordance with bibliography submitted by each researcher in their annual reports.

### **Transition and final Provisions**

#### Article 14.

Precise definitions of the terms mentioned in the Regulations, other data sources useful for researchers to implement the Platform and a more precise explanation of the procedure applied during depositing, archiving, changes and additions of the deposited data, as well as the way of implementing Repository administration are given in the Appendix 1, that is included into these Regulations and make their inseparable part.

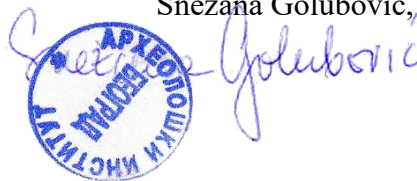
#### Article 15.

Changes and additions of these Regulations are possible in the way and procedure equal to those applied as they were issued.

#### Article 16.

The Regulations are put into effect on the eight day from the day they were announced on the Institute's noticeboard.

Institute of Archaeology, director  
Snežana Golubović, Ph.D.

A blue circular official stamp of the Institute of Archaeology is positioned to the left of a handwritten signature in blue ink. The stamp contains the text "APRIL 2014" at the top and "INSTITUTE OF ARCHAEOLOGY" around the bottom edge. The signature is written in a cursive style and reads "Snežana Golubović".

## **APPENDIX 1.**

### **The Repository**

The Repository of the Institute of Archaeology RAI (in the further: the Repository) is a digital institutional repository of the Institute of Archaeology. The Repository was established and maintained by the Computer Center of the Belgrade University, in accordance with the agreement between the Institute of Archaeology and the Belgrade University. The RAI Repository fulfills all the technical requirements prescribed by the Platform and it is adjusted to modern standards applied in dissemination of scholarly publications (in accordance with requirements of the European Commission regarding open access to publications; integrated ORCID identifiers).

In order to fulfill the requirements prescribed by the Platform, it is necessary for researchers of the Institute of Archaeology to deposit their scholarly publications into this Repository.

Enabling public access to publications through social media intended for researchers (for example *Research gate*, *Academia.edu* and the like), websites and blogs does not fulfill requirements prescribed by the Platform.

### **Depositing publications into the Repository**

In order to be capable of depositing their publications into the repository on their own, researchers need to register their user accounts and receive specific authorizations. Registration is performed by filling in the following form <https://rai.ai.ac.rs/register> while the authorization is given by the administrator immediately after the registration.

Depositing procedure is described in detail in the technical instructions on the homepage of the Repository.

Metadata are deposited in the Repository that describe a publication, as well as a file that contains the integral part of the publication. Metadata and the file together make an entry into the Repository. The following metadata are mandatory:

- names of all of the authors;
- title of publication;
- title of the main publication (i.e. name of periodical, book, collection, in case of journal papers, chapters or papers in thematic collections);
- publisher;
- year of publishing;
- collation (book, volume, pagination);
- specific identifiers (obligatory DOI, ISBN, ISSN);
- name of the project within which the publication was created and/or the name of research funder;

- abstract;
- keywords;
- type of access to the integral paper (open, limited, delayed);
- terms of usage of the integral paper i.e. license.

The file that contains integral publication text must include all of the bibliographic data necessary for an unambiguous identification of the publication. Above all, this refers to publications that make part of a larger unit (for example chapter in a monograph, paper in a collection, article in a periodical). Such publications must also include front page and the impressum, when necessary also other parts of the main publication. In cases when this is not possible, an extra page should be added before the text itself, containing full bibliography data about the publication.

It is recommended to deposit PDF files in the PDF/A format, without limitation regarding search, copying or printing the text.

### **Different versions of publications**

It is mandatory to deposit published (final) version of a publication into the Repository, regardless of the fact whether it shall be open accessed or not.

If, due to limitations imposed by the publisher, it is not possible to make open access to the published version of the publication in the Repository, it is necessary to also deposit a reviewed manuscript (the version that was accepted for publishing). The manuscript must be deposited immediately after the publication was issued and whenever possible, it is recommended that it is made immediately after the paper has been accepted for publishing. Detailed instructions for preparation and labeling files and the entry of metadata are given in technical instructions at the homepage of the Repository.

Data about the version that is allowed to be deposited, length of embargo period and licenses under which the deposited version is allowed to be distributed can usually be found on the publisher's website, within publishing policy of the publisher (usually in the field entitled *Self-archiving policy*, as well as in the database Sherpa Romeo: <https://v2.sherpa.ac.uk/romeo/>

Large number of journals prescribes embargo period longer than the one allowed by the Platform. In order to fulfill conditions prescribed by the Platform, those authors who wish to publish with such a journal (and not willing to pay publishing costs) need to negotiate with the publisher and try to gain permission to deposit their reviewed manuscript version into the Repository within the timeframe prescribed by the Platform. During negotiations, it has to be made clear to the publisher that the author is obliged to give open access to his/her publication. There are several international instruments authors may invoke in order to keep their rights necessary for them to enable open access to their publications in the

institutional Repository. The most famous one is the *Rights Retention Strategy*, defined within Plan C (<https://www.coalition-s.org/rights-retention-strategy/>) and annex of the contract about assignment of rights granted to the publisher developed by the international organization SPARC (<https://sparcopen.org/our-work/author-rights/brochure/html/>). After accepting the manuscript to be published, at point when publisher requires from the author to assign his/her rights, the author sends his/her filled in form of the contract annex to the publisher, demanding the option to keep certain rights. At the Institute's Library, researchers may get help regarding negotiations with publishers and aiming to reduce the embargo period.

It is not recommended to deposit non-reviewed manuscripts of published papers into the Repository, since such a version is often very different from the version published afterwards.

If several versions of the same publication are deposited into the Repository, they are not allowed to make parts of one single entry, but a separate entry must be made for each of them.

### ***Gold Open Access and depositing into the Repository***

In accordance with the Platform and besides the fact that research was published in open access in a periodical, monograph or collection (Gold Open Access), researchers are obliged to deposit their research in the institutional repository. Researchers are obliged to deposit published versions into the Repository immediately after the work has been published and at the same time enable open access to the integral version, under the same license under which the work was published.

### **Research data**

Research data represent information collected during research and that is used as basis for reaching scientific conclusions. Primary data usually include data collected during experiments and tests, raw statistic data, software, field data and the like. According to the recommendation by the European Commission (EU) 2018/790 about access and archiving scientific data, issued on April 25<sup>th</sup>, 2018, “primary data reached during research funded with public means should become and remain findable, accessible, interoperable and reusable (*FAIR principles - findable, accessible, interoperable, reusable*) within a secure and reliable environment, through digital infrastructure (including the infrastructure of the European Open Science Cloud – *EOSC* ), unless it is not possible or incompatible with further reuse of scientific research results (“as much open as it is possible, as much closed as it is necessary”).<sup>1</sup>

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<sup>1</sup> By partaking in projects of the European Commission, researchers are obliged to give open access to research data under free license. Obligations regarding depositing research data into the institution's repository RAI are regulated with Regulations on Open Science of the Institute of Archaeology. Research data must be findable after the end of the project, usually over the period of one year.



## Formats recommended for depositing research data at the Institute

- PDF/A (.pdf) and ODT (.odt) for textual files;
- NetCDF and TextFabric for programs used while processing data;
- ODS (.ods) and CSV (.csv) for charts;
- SQL (.sql), SIARD (.siard) and CSV (.CSV) for data bases;
- SPSS (.dat/sps), STATA (.dat/.DO) and R for statistic data;
- TIFF (.tif,.tiff), PNG(.png), JPEG, JPEG 2000 (.jp2) and DICOM (.dcm) for images;
- SVG (.SVG) for vector images and other electronic images;
- BWF (.bwf), MXF (.mf), Matroska (.mka), FLAC (.flac) and OPUS for audio materials;
- MHF (.mhf) and Matroska (.mkv) for video materials;
- WaveFront Object (.obj), Polygon file format (.p1y), X3D (.x3d) and COLLADA (.dae) for 3D images;
- RDF/XML (.rdf), Trig (.trig), Turtle (.ttl), NTriples (.nt) and JSON-LD for graphs with tags;
- REFI-QDA (Qualitative Data Analysis) for qualitative computer analyses.<sup>2</sup>

The list of formats shall occasionally be revised in accordance with researchers' needs and technology development.

The Platform recommends for primary data collected during research to be archived within an interoperable digital platform and to be made openly accessible immediately after they have been published within a publication, whenever there are no legal and/or ethical limitations. Researchers employed at the Institute are obliged to use the Repository for those purposes. While depositing research data into the Repository, each entry receives a persistent link (*handle*), playing the same role in dissemination as the DOI number and therefore, it is sufficient to deposit research data only into the Repository. Researchers can also use other platforms for promotion of their work. Bearing in mind that standards for metadata used to describe primary data are much different depending on research field, researchers are recommended to deposit their primary data into repositories specialized for their respective research fields that stand in accordance with FAIR principles and in which their deposited contents shall be given unique identifiers (DOI). Register of repositories in which primary data can be deposited can be found on the following link:

<https://www.re3data.org/> Besides repositories specialized for specific fields of research, general repositories can also be used, like *Fingshare* <https://figshare.com/> and *Zenodo* <https://zenodo.org/>

If researchers had published or deposited into a repository primary data that is connected to publications representing results of a research, this information needs to be stated while

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<sup>2</sup> <https://dans.knaw.nl/en/file-formats/> (accessed on November 22<sup>nd</sup>, 2022).

depositing this publication into the Repository or deliver it to the Institute's Library.

Research data can often be found in annexes (*Supplementary information, Supplementary data*) published with scholarly papers in electronic versions of periodicals. Data published in such way are not in accordance with the *FAIR* principles – they usually do not offer open access and they are not ascribed unique identifiers, which makes it difficult to find and quote them. While choosing a periodical to publish their papers, researchers are encouraged to check their publishing policy regarding primary data and to choose options that enable publishing in accordance with the *FAIR* principles.

### **Research Data Management Plan**

Managing research data is a topic more and more frequently encountered by Serbian researchers – most of all within projects funded by the European Union or calls from the Science Fund of the Republic of Serbia. Managing research data requires researchers and librarians to possess specific resources, knowledge and skills. Managing research data includes a row of activities that aim to collect and organize data gained through research, as well as their archiving, sharing with other researchers and publishing.

Research data management plan represents a key element in achieving good research data archiving. Usually, the project manager is in charge for its development. Further on, the Plan can be changed over the course of the project, in cases when new types of data come forward or there is a need to change the original plan. Free tools stand at disposal for creating a plan:

- [Argos](#)
- [DMPOnline](#)
- [DMPTool](#)

Researchers are not expected to give precise information about data volume or resources necessary for data management because in the project preparatory phase, this can not precisely be known. It is necessary to clearly point to the data type and character, as well as their importance, and to show clearly that they shall be taken care of and meet valid standards and recommendations. Regardless of the fact whether they represent an obligation or just a recommendation, it is a good practice example to possess a well-structured plan already at the beginning of a research project, since it positively affects good data management from the very start and enables a long lasting strategy for (re-) usage and archiving.<sup>3</sup>

### **Copyright and terms of usage**

All Repository entries must contain data about copyright of the deposited content, actually a license. *Creative Commons* licenses are integrated into the Repository.

If the author is at the same time copyright owner, they are entitled to determine conditions

to distribute their work deposited into the Repository (actually choose the license on their own). Whenever it is possible, authors are recommended to keep copyright on their publications and other research results.

If the authors passed their copyright to the publisher, while depositing their publication into the Repository, they need to name the license under which it was published. License data can be found in the electronic version of the very publication and/or in publishing policy on the website of the publisher. If data about the license, i.e. copyright, are not stated anywhere, it is considered that no copyright was given, actually that all the rights are reserved.

### **Changes and filling in files deposited in the Repository**

Metadata in the Repository can be changed and filled in. After having put the depositing procedure to an end and verifying the files, changes and filling in can be performed only by the repository administrator. Users who consider that specific data ought to be changed and/or filled in need to send a request to the following email address: [s.slankamenac@ai.ac.rs](mailto:s.slankamenac@ai.ac.rs).

Data sets deposited into the Repository should not be deleted or changed unless:

- there is a case of obvious technical mistake (for example a wrong data set was deposited);
- there is a case of technical error within the deposited data set;
- in cases when an already deposited data set can be replaced with a data set of identical content, but higher quality (for example replacing a PDF file created through scanning with a file in PDF/A format);
- in cases when publications have been revoked by publishers after they were deposited into the Repository (the PBP file deposited into the Repository shall be replaced with a POP file in which it is clearly stated that the publication has been revoked, commonly by adding a note “,RETRACTED” on each page).

Changes of the deposited data sets can only be performed by the Repository administrator.

If there is a need to deposit changed and/or filled in version of a document deposited into the Repository, a new entry needs to be made, while it is necessary to state in the metadata which document version it represents.

### **Permanent storage of files in the Repository**

Metadata and data sets deposited into the Repository are permanently stored. Permanent erasure of data from the Repository is allowed only in cases when there are several entries with the same content (duplicates).

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<sup>3</sup> Guidelines are available in the Instructions for creating Research data management plan for the program “IDEJE” by the Science Fund of the Republic of Serbia  
<https://doi.org/10.5281/zenodo.4496934>

Entries can be withdrawn from the Repository only if:

- their publishing violates copyright and other rights, as well as business secrets;
- they represent security threats;
- deposited data contain plagiarized content and/or fraud or made up data;
- deposited data contain big errors that were not identified in time.

While withdrawing an entry, metadata and data sets remain in the Repository, but they are no longer accessible neither publicly, nor to registered users and they do not appear among search results. Withdrawn entries retain their respective identifier (*handle*) and the URL address.

### **Repository Administration**

The Institute's librarian is the administrator of the Repository:

- they check whether deposited metadata and data sets meet the standards and quality requirements;
- verifies or rejects entries performed by researchers;
- offers support to researchers while depositing;
- independently and/or after requirement by users, they correct and fill in metadata;
- takes care of respecting copyright and terms of usage;
- keeps the normative database;
- ascribes specific authorizations to users;
- organizes trainings for researchers regarding usage of the Repository;
- offers support for researchers in negotiations with publishers aiming to shorten embargo periods;
- supervises the application of the Platform in accordance with the Open Science Regulations in the Institute of Archaeology.