Slovenian open science infrastructure

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Structure diagram of **Slovenian open science infrastructure**

Slovenian COVID 19 national portal is available on [http://covid19dataportal.si/](http://covid19dataportal.si/)
Structure diagram of repository infrastructure

- HPC
- EUDAT
- Open access analytics
- Institutional web servers
- Social networks
- ARNES AAI or institutional authentication system
- Institutional information system
- Common services
- PID service
- Open Science Slovenia
- Digital preservation of digital objects
- OpenAIRE, B2Find, DART-Europe, Google, Google datasearch, OpenDOAR, re3data
A sequence diagram of final study work submission and publication at the universities of Maribor and of Nova Gorica
A sequence diagram of research item submission and publication

1: Request for metadata of research item (optional)
   1.1: Metadata of research item

2: Check for type of access to journal articles
   2.1: Type of access to journal articles

3: Check for CONOR.SI-ID for each author
   3.1: CONOR.SI-ID of each author

4: Research item submission

5: Document similarity detection

6: Document similarity report

7: Publication of research item

8: Notification of research item publication

9: Cataloguing

10: Repository metadata enriched with catalogue metadata

11: Publication in national portal
Establishing processes to support the handling of research data in the national open access infrastructure

• Pre-publication activities.
• Publication in the repository or data archive.
• Digital preservation.
Phase before publication of research data and required documentation

• Phase before publication of research data:
  – Planning and finding data sources.
  – Preparation of a research data management plan, applications for the ethics commission and proposals for informed consent, proposals for declarations by data providers.
  – Obtaining relevant statements and opinions.
  – Data collection and creation.
  – Data Processing and analysis.
  – Preparation of files in appropriate formats.
  – Preparation of documentation.

Before a researcher applies for the publication of a research dataset in the national open access infrastructure, he must have:
  – a data management plan (if requested by the funder or the organization in which he is employed),
  – metadata about the research dataset,
  – documentation that is necessary for understanding and using the data,
  – data files in appropriate formats,
  – ethical approval if the research study involves humans, animals or environmental data,
  – statements of data providers and signed informed consents of research participants,
  – defined licenses for the use of research data,
  – the software, containers, workflows that was used to generate or process the data, if he created it himself,
  – research notes and other research results, if any.
Publication phase

• The researcher inserts the research data set and other research results into the repository or data archive himself or his librarian inserts them.
• The librarian checks the adequacy of the metadata and whether the appropriate documentation is available.
• The librarian informs the appropriate authority within the institution, which is in charge of checking the appropriateness of data publication and other research results, that the data set and other research results have been uploaded. They are accessible in closed access and are only available via a link that requires a password provided by the librarian.
• The appropriate body within the institution, which is in charge of checking the adequacy of the data publication, checks the adequacy of the content of the data set and other research results. If the content is appropriate, inform the librarian that the data set and other research results can be published.
• The librarian, after a positive response from the body within the institution, which is in charge of checking the appropriateness of data publication, publishes the data set and other research results in the repository and performs cataloging in COBISS.
• Central specialised information centre of the scientific field, established by Slovenian research and innovation agency checks the adequacy of the typology, metadata and documentation of the research data set and other research results.
Data can be stored in different formats and in several versions. For digital preservation of research data, we must ensure the independence of the data from the technology. We work on establishment of processes for digital preservation according to the OAIS reference model (ISO 14721).
Recommendation system

Title: Analiza povezav med arterijsko togostjo, ekspresijskim profilom mikroRNK iz periferne krvi in stopnjo ateroskleročne prizadetosti koronarnih arterij pri bolnikih z normalnim ali zmenjenim ledvičnim delovanjem

Authors: Piko, Nejc (Author), Ekar, Robert (Mentor), More about this mentor... (Mentor), Naj, Fuzem Frejnik (Co-mentor)
Files: DOK_Piko_Nejc_2021.pdf (4.98 MB)

Language: Slovenian
Work type: Doctoral dissertation
Typology: 2.08 - Doctoral Dissertation
Organization: MF - Faculty of Medicine


Keywords: ateroskleroza, arterijska togost, kronična ledivična bolezen, mikroRNK

Average score: ★★★★★ (0 votes)
Your score: Voting is allowed only for logged in users.

Similar works from our repository:
1. Ohranjava okrog z rečkim boleznimi jedic na kliniki za pediatrijo Maribor
2. Analiza pulsnega vala pri hemoridialnih bolnikih
3. Himoridialni pri bolnikih s kronično ledivično boleznino
4. Analiza pulsnega vala pri bolnikih s kronično boleznino
5. Srebne (cepelo) ST2 as prognostic marker in patients with Chronic kidney disease

Similar works from other repositories:
1. Decision support using openEHR standard
2. Vascuography and telemece length in patients with Fabry disease
3. *The relationship between dietary, acid load, and body composition in patients with renal failure*
4. Expression of selected microRNAs in patients with restenosis of femoral-popliteal artery after percutaneous transluminal angioplasty
5. Medical education nurse work with patients with chronic kidney insufficiency: preparatory for hemodialysis

Hover the mouse pointer over a document title to show the abstract or click on the title to get all document metadata.
User interface of Slovenian similar content detection system
Digital Object Interface Protocol

Source: RDA's Data Foundation & Terminology Group (DFT) 2014: Core Model

Problems with local and global unique identifiers in Slovenian open science infrastructure

• Metadata records of digital objects use one or more global or local unique identifiers: COBISS ID, URN, URL, DOI, Handle, PURL, PMID, PMCID, ArXivID, ISBN, ISSN, e-ISBN, e-ISSN, ID inside repository, NRID.

• Persons or organizations have one or more global or local unique identifiers: CONOR-ID, ARRS-ID, Institutional digital identity, Institutional ID, ORCID, VIAFID, ResearcherID, GoogleScholarID, Researchgate ID….

• The same problems with unique identifiers are in identification of research groups, funders, instruments, projects, research infrastructures, vocabularies, software, services, containers, workflows lab notebooks, APIs….
Linking of global and local identifiers

For Person:

COBISSID:  http://splet02.izum.si/cobiss/bibliography?langbib=eng&code=A2688355
ORCID:  http://orcid.org/0000-0003-1743-8300
Google Scholar:  http://scholar.google.si/citations?user=kyQveUYAAAAJ
ResearchGate:  http://www.researchgate.net/profile/Milan_Ojstersek

For scientific paper:

COBISS_ID:  18052630
DOI:  10.1108/PROG-02-2014-0005
NUK URN:  URN:SI:UM:DK:2GL96NSW
PID:  20.500.12556/DKUM-46893
Title: Establishing of a Slovenian open access infrastructure: a technical point of view
Authors: Osteršek, Milan (Author), Brezovnik Janez (Author), Koča Maja (Author), Rame Marko (Author), Mirovščič Goran (Author), Brezovnik Albin (Author), Baroči Mladen (Author)
File: Establishment of a Slovenian Open Access Infrastructure E.metalld_minor_revision.pdf (961.64 KB)

MD5: 120945B6ED0672297DA56022D6052D


Language: English
Work type: Scientific work
Typology: 1.01 - Original Scientific Article
Organization: FERI - Faculty of Electrical Engineering and Computer Science

Purpose - This paper presents a technical perspective when implementing the Slovenian open access infrastructure that consists of four institutional repositories and a national portal that aggregates content from the repositories in order to provide a common search engine, recommendations of similar documents, and similar text detection.

Design/methodology/approach - During the project, the necessary legal background and processes for mandatory submissions of final study works, research publications and research data were established, as well as processes for data exchange between the institutional repositories and the national portal, and processes for similar text detection.

Findings - The consortium consisted of four Slovenian universities that significantly differ in size, organization, and workflows. It was anticipated that the same legal background and software would be used for the four repositories. It turned out that complete unification was impossible due to the differences.

Practical implication - The national open access infrastructure will improve the visibility of Slovenian research organisations. It supports the compliance with the funders’ open access mandates. The established infrastructure enables the depositing and archiving of approximately eighty percent of the peer-reviewed scientific publications that are annually published by Slovenian researchers. At the same time, the majority of final study works from Slovenian higher education institutions are available in full-text format.

Originality/value - This paper describes a technical perspective for setting up a national open access infrastructure, which has not been described in the literature previously.

Keywords: institutional repositories, open access, national open access infrastructure, keyword detection, recommendation system

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Repository of the University of Ljubljana

Details

Multi-decade permanent plot data from a network of old-growth forest remnants across Slovenia

Nagel, Thomas Andrew (author)

DOCX - Presentation file. Download (12.62 KB)
Description: Abstract-Nagel_dataset.docx

DOCX - Date description. Download (13.69 KB)
Description: Meta_data_Slovenia.docx

XLSX - Research data. Download (51.64 KB)
Description: Donacka_gora_trees_data.xlsx

This document has even more files. Complete list of files is available below.

Abstract
The datasets stored here span nearly four decades of permanent plot data with multiple inventories across a network of old-growth forest remnants in Slovenia. Most of these permanent plots were initially established by Prof. Dušan Minšek and colleagues in the early 1980s in an effort to better understand the long-term dynamics of natural forests, while several other plots were established more recently. These old-growth remnants are mainly characterized by mixed mesic temperate mountain forests, dominated by Fagus sylvatica and sometimes Abies alba. A variety of other less shade tolerant species coexist in these forests, but occur at sporadically. The forest reserves have typical old-growth characteristics (canopy trees > 300 years old), with little to no signs of past anthropogenic disturbance, although they are all under the influence of heavy browsing pressure, and air pollution may have

Language: English
Keywords: research plot, old-growth forests, Slovenia
Typology: 2.20 - Complete scientific database of research data
Organization: BF - Biotechnical Faculty
Place of publishing: Ljubljana
Publisher: Biotehniška fakulteta, Oddelek za gozdarstvo in obnovljive gozdne vire
Year: 2020
Number of pages: 1 spletni vir (2 datoteki DOC, 16 datotek XLS)
PID: 20.500.12556/RUL-114849
Structure diagram of research big data archive and PID service infrastructure

Repositories:
- Repository 1
- Repository 2
- Repository N
- External sources

Services:
- B2Find
- EOSC + EUROHPC
- B2stage
- ARNES digital preservation archive
- HPC
- HPC Vega and Maister archive
- B2Safe
- B2Handle

External sources:
- B2Handle copy on ARNES
Physical Object

Digital Surrogate
FAIR Digital Object

Source: Alex Hardisty FAIR Digital Objects as Basic Design Choice and the Need for PIDs

An machine actionable knowledge unit
Structure of a Digital Specimen Digital Object (DSDO)

PIDs are pointers that resolve to location of the item e.g., DO itself, physical specimen, hi-res images, label information, tissue sample, DNA sequence, etc.

Source: Alex Hardisty, FAIR Digital Objects as Basic Design Choice and the Need for PIDs
PID graph

A – linkage of different version of software
B – datasets stored in the repository
C – linkage of different digital objects of the research project

Source: Martin Fenner and Amir Aryani. Introducing the PID Graph, Datacite blog - https://doi.org/10.5438/jwvf-8a66

Recommendation of Minimum Metadata Set for FAIR Digital Objects
Where you find more information

• National portal of open science:  
  http://www.openscience.si/Default.aspx
• DKUM:  https://dk.um.si/info/index.php/eng/
• RUL:  http://repozitorij.uni-lj.si/info/index.php/eng/
• RUP:  http://repozitorij.upr.si/info/index.php/eng/
• RUNG:  http://repozitorij.ung.si/info/index.php/eng
• DIRROS:  http://dirros.openscience.si/info/index.php/eng
• REVIS:  http://revis.openscience.si/info/index.php/eng