Supporting data repositories in their FAIR uptake

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FAIRsFAIR – Finnish Roadshow

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What is a FAIR repository?

- A repository matching the *scientific domain* of the research data to be deposited - a "domain" repository that hosts specific types of data. They should have expertise in:
  - o *Curating and making the data interoperable* for that discipline
  - o *Maintain data quality*
  - o Provide a level of *peer review* for the data
  - o Help data meet *community standards* to enable interoperability and reusability of the data
  - o *FAIR-aligned* repository whenever available

- In addition, they should ideally:
  - o Offer DOIs, data landing page, provide transparent data license information, facilitate data discovery, have a fit-for-purpose certification etc.

Scope of data repository support

Focus on the data repository support measures of FAIRsFAIR - both the activities where the project engages directly with repositories, along with the support program being developed. The main goal is to help them in becoming FAIR enabling repositories with FAIR data holdings.

- Supporting repositories in developing their core services and offering advice on good practice when supporting others in producing and making use of FAIR data.
- More specifically, advising how to become a trustworthy repository supporting FAIR data access, means of increasing the interoperability of datasets, and developing skills to support others in FAIR practice.
- Three types of support:

  o Designing & developing features and tools
  o Hands-on support
  o Recommendations & good practices
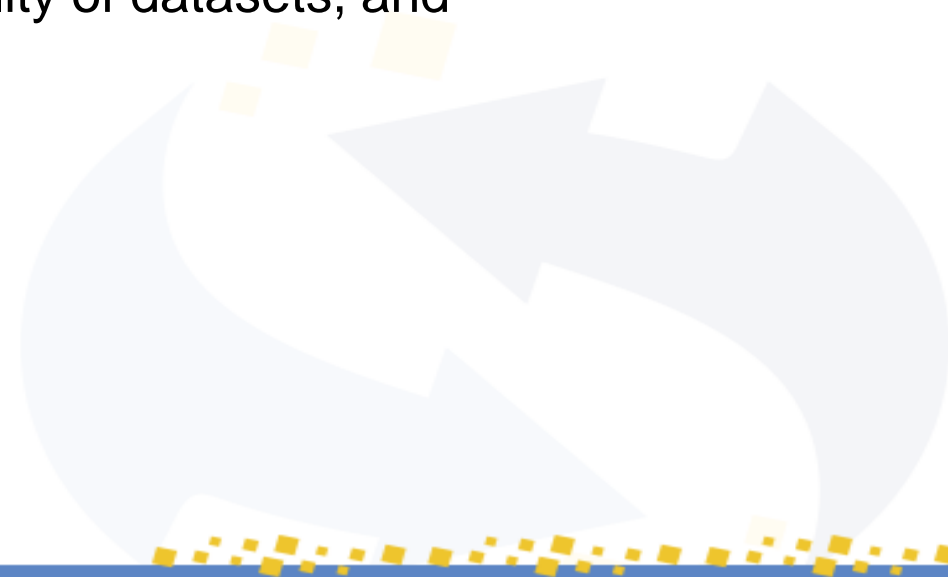
Repository Support Series webinars

https://fairsfair.eu/repository-support-webinars

Past webinars:
- PID graphs, April 21st
- FAIR-enabling Services: Validating The Framework - Have your say, May 20th

Coming webinars & webinar ideas:
- Using registries, July 13th
- Preservation planning
- Using F-UJI to assess FAIRness of data holdings
- Interoperable metadata catalogues
- FAIR assessment framework

![FAIRsFAIR logo - Fostering Fair Data Practices in Europe]

Designing & developing features and tools: **Fostering skills development to support FAIR practice**

- FAIR Competence Framework

- For more information: https://www.fairsfair.eu/events/fair-data-competences-doctoral-education-programmes

Designing & developing features and tools: **Raising awareness, assessing the FAIRness of data & facilitating the findability of repositories**

- FAIR-Aware: A manual self-assessment tool to educate and raise awareness of researchers on making their data FAIR before depositing the data into the repository. More information: https://www.fairsfair.eu/f-uji-automated-fair-data-assessment-tool

- F-UJI tool: A FAIR metrics developed for automated assessments for published. More information: https://fairaware.dans.knaw.nl/

- Repository finder: https://repositoryfinder.datacite.org/

  - Developed by DataCite for the Enabling FAIR Data project
  - Lists repositories that currently are accepting data to support publication, including those that are certified and support the FAIR principles
  - Extended criteria made by the FAIRsFAIR to *filter out FAIR repositories*. The FsF iteration supports three filtering options: (1) Open access data; (2) Persistent Identifiers; (3) Certified repository

○ Search re3data for a repository to upload your data
○ See the repositories in re3data that meet the criteria of the Enabling FAIR Data Project
● See the repositories in re3data that meet the criteria of the FAIRsFAIR Project ⬤

☑ The repository provides open access to its data 🔓

Research data hosted by the repository are accessible without restrictions.

☑ The repository uses persistent identifiers pi

Persistent identifiers such as DOIs uniquely identifier datasets, enable the linking to publications, and help with discovery.

☑ The repository is certified ⬤

Certifications make sure repositories follow community standards and best practices

Change criteria for this search ✏

Repository F

Find a repository to upload

Repository Finder, a pilot project of the Enabling FAIR Data Proje
in partnership with DataCite and the Earth, space and environme
appropriate repository to deposit your research data. The tool is
registry of research data repositories.

As part of the FAIRsFAIR project, which aims to supply practical s
throughout the research data life cycle, the Repository Finder is e
FAIRsFAIR Project.

Search re3data for a repository to upload your data

Type to search...

or

See the repositories in re3data that meet the criteria of th

See the repositories in re3data that meet the criteria of th

Type to search... | Search

111 Repositories

Sort by Name

4TU.Centre for Research Data
4TU.ResearchData

4TU.ResearchData, previously known as 3TU.Datacentrum, is an archive for research data. It offers the knowledge, experience and the tools to share and safely store scientific research data in a standardized, secure and well-documented manner. 4TU.Centre for Research Data provides the research community with: Advice and support on data management; A long-term archive for scientific research data; Support for current research projects; Tools for reusing research data.

life sciences | basic biological and medical research | biophysics | bioinformatics and theoretical biology
agriculture, forestry, horticulture and veterinary medicine | soil sciences | biology | agriculture, forestry, horticulture and veterinary medicine

https://repositoryfinder.datacite.org/

Hands-on support: **Facilitating interoperability between repositories**

- Working with 12 repositories on designing implementation features to increase repository interoperability: https://fairsfair.eu/application-results-open-call-data-repositories
- Set of FAIR data repositories features: https://doi.org/10.5281/zenodo.3631528

- Create the bases for continued work on *sustainable technical implementation* of the FAIR principles on a broad level
- *Improve understanding of* the current variety in *FAIR data standards*
- *Improve the semantic interoperability* of research resources by specifying FAIR metadata schemas, vocabularies, protocols, and ontologies
- *Provide solutions for interoperability requirements and machine-accessibility* for FAIR enabling repositories

Task 2.3
Co-development from Open Call

Developer repositories

Tester repositories

M2.3

Recommendations & good practices: **FAIR policies & practices**

Open Consultation Themes:

1) Practice
2) Policy
3) Repositories
4) Skills
5) Competence centres

106 respondents

Data available
https://zenodo.org/record/3550529

Analysis:

D3.1 FAIR Policy Landscape Analysis and policy characterisation

D3.2 FAIR Data Practice Analysis

D6.1 Overview of needs for competence centres and characterisation

Recommendations:

D3.3 Policy Enhancement Recommendations

D3.4 Recommendations on practice to support FAIR data principles

D3.5 Description of Transition Support Programme for Repositories

Provision of guidance and support

OPEN CALL FOR POLICY ENHANCEMENT SUPPORT

https://www.fairsfair.eu/form/open-call-policy-enhancement-support

Credit: Joy Davidson, DCC

FAIR policy & practice – Collaborating partners

- NI4OS
- EOSC Pillar
- Science Europe
- FAIR Task Force
- FAIRsharing
- B2FIND
- EOSC Life
- PaNoSC
- FNS-Cloud
- SSHOC
- OpenAIRE

Credit: Joy Davidson, DCC
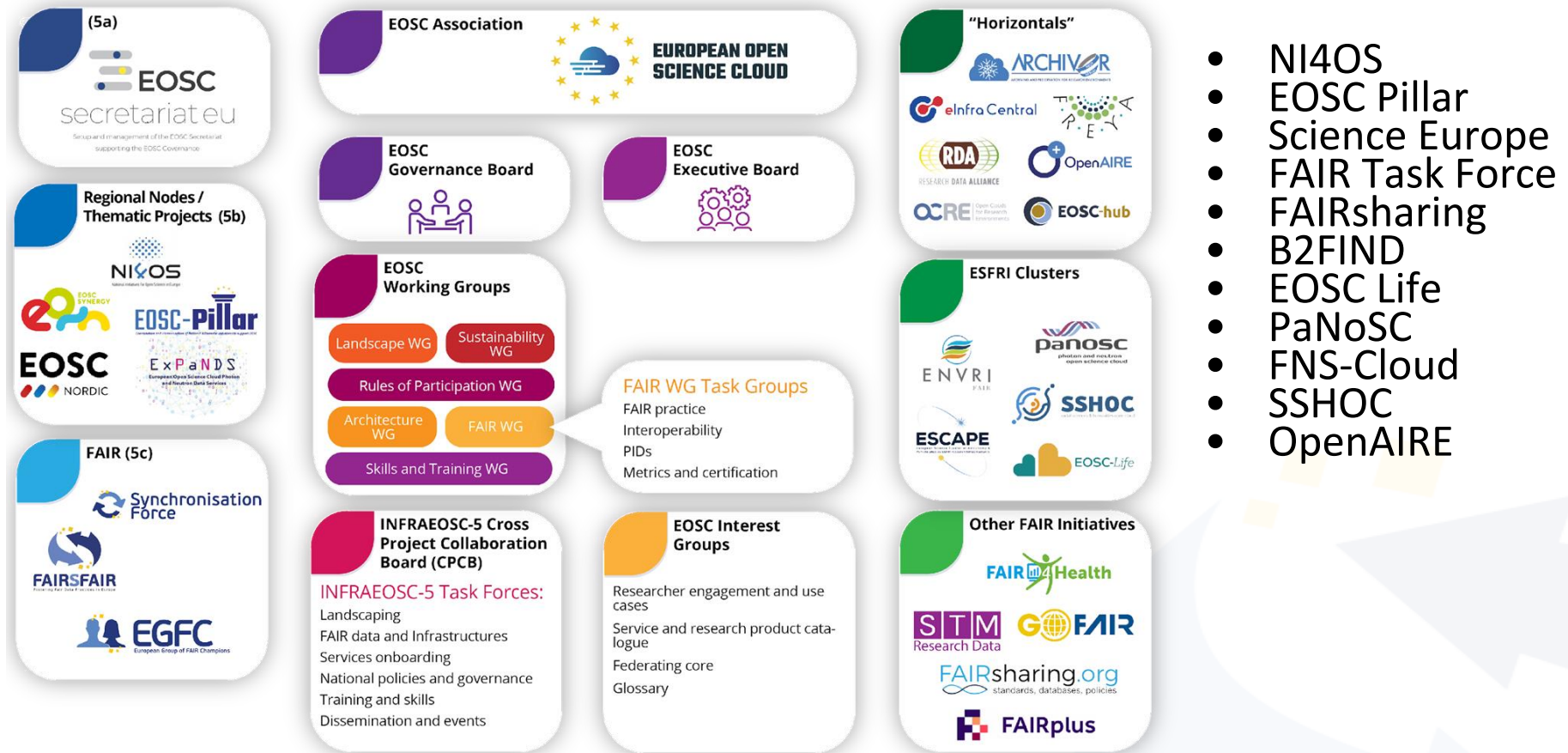
Recommendations & good practices: **FAIR Semantics**

- Recommendations for creating FAIR semantic artefacts

- Collaboration with the RDA Vocabulary Service Interest group

- Workshop upcoming 4th of June. Registration: https://www.fairsfair.eu/events/common-minimum-metadata-semantic-artefact

- Semantic artefacts as FAIR data objects:
  - Implementing machine-actionability
  - Defining metadata

Recommendations & good practices: **FAIRifying the metadata**

- Providing *examples of good practice* in building community consensus around interoperability frameworks, including e.g. using:
  - *Agreed vocabularies*
  - *Agreed terminologies*
  - *Metadata standards* when describing the research outputs
- Allowing data citation using *PIDs*

Recommendations & good practices: **Supporting materials & channels**

- D3.5 Description of Transition Support Programme for Repositories:

https://zenodo.org/record/4058340#.YLUGGbQzYUE

- Short guidance materials

- Contributing resources for the FsF Competence Centre (e.g. FAQs)

- Encouraging community dialogue via FAIR Data Forum (https://fairdataforum.org/)
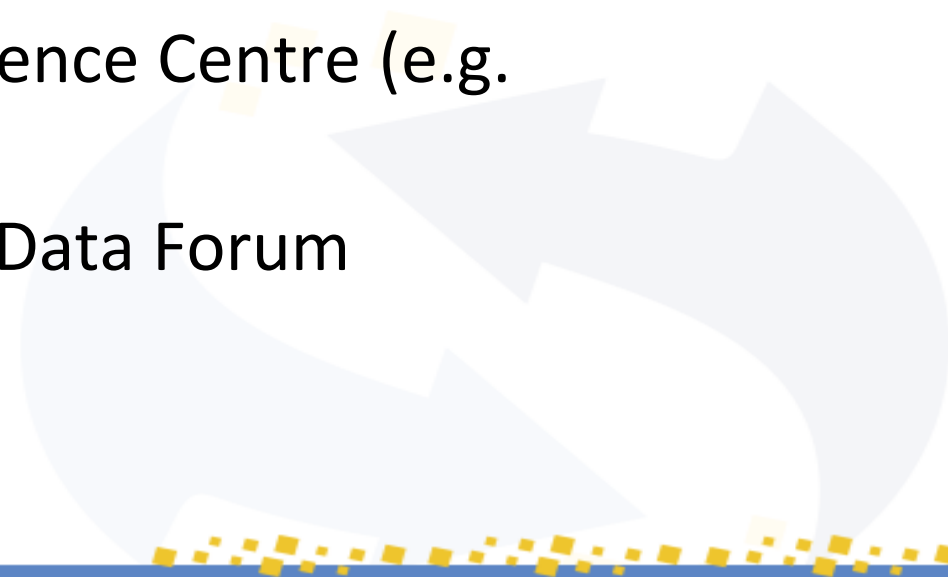
European Group of FAIR Champions
Current Members

Mark Allen
- **Affiliation:** Strasbourg Astronomical Data Centre
- **Country:** France

Isabel Bernal
- **Affiliation:** DIGITAL.CSIC
- **Country:** Spain

Alastair Dunning
- **Affiliation:** Delft University of Technology
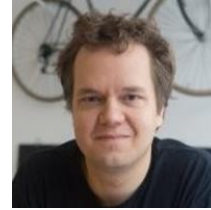- **Country:** Netherlands

Odile Hologne
- **Affiliation:** French Institute for Agricultural Research
- **Country:** France

Maria Johnsson
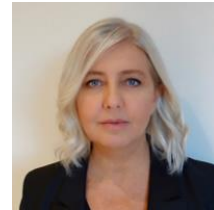- **Affiliation:** Lund University
- **Country:** Sweden

Eetu Mäkelä
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- **Country:** Finland

Andreas Rauber
- **Affiliation:** Tech Uni Vienna
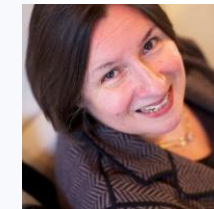- **Country:** Austria

Susanna-Assunta Sansone
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- **Affiliation:** Digital Preservation
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Eefke Smit
- **Affiliation:** International Association of STM Publishers
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Tobias Weigel
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- **Country:** Germany