Skills & Training in Open Science & the EOSC ecosystem: Libraries and Researchers

A joint webinar between LIBER & the EOSCpilot project

Webinar Host

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Speakers

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Agenda

1. Introduction *(Kevin Ashley, DCC)*

2. The 'FAIR4S' framework *(Jerry de Vries, DANS)*

3. The LIBER Working Group "Digital Skills for Library Staff and Researchers"
(introduced by Cécile Swiatek, group co-chair)

   - Thorsten Meyer, Chief Librarian/Deputy Director at ZBW - Leibniz-Informationszentrum Wirtschaft, Germany,

    - Karin Clavel, Manager Library Resources, TU Delft, the Netherlands,

    - Hanne Graver Møvig, Library Director, University of Oslo, Norway.

4. Q&A and Closing Remarks *(Kevin Ashley, DCC)*

Notes

- **The webinar is being recorded.** All participants will receive a link to the recording later today.

- **Slides are on Zenodo:** http://doi.org/10.5281/zenodo.2247650

- **Questions?** Place them in the chat box at any time. We'll put them to the speakers at the end of the webinar.
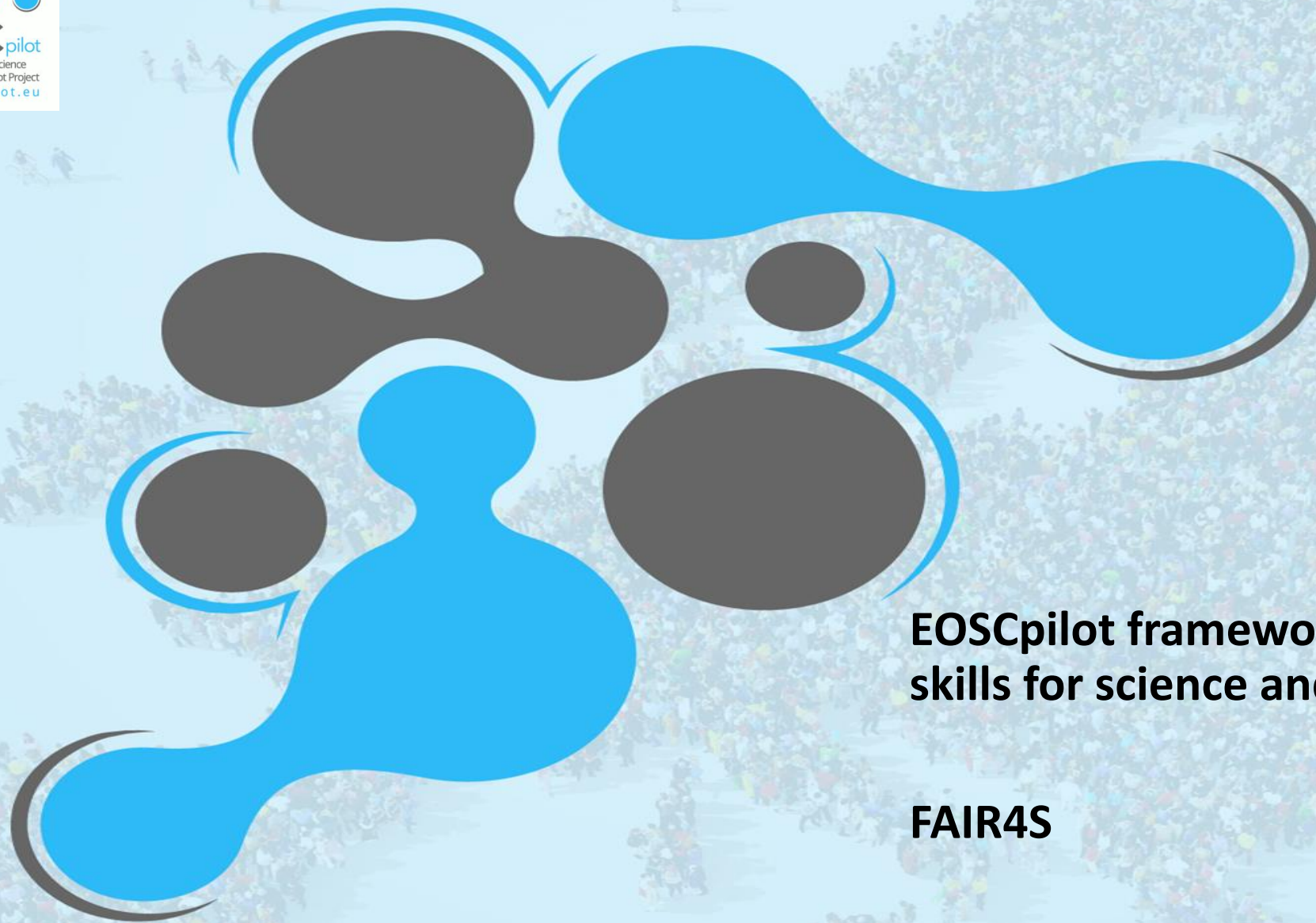
EOSCpilot framework of FAIR data stewardship skills for science and scholarship

FAIR4S

Webinar 14th December 2018
Jerry de Vries – DANS
Angus Whyte – DCC

Agenda

- Introduction to FAIR4S framework

  - Aim and definitions of the framework

  - Use cases and example

  - Feedback online consultation

- FAIR4S framework feedback for practical use

  - Example: Delft workshop September 2018

FAIR4S framework aims

To "...establish the capabilities that organisations need to develop and reflect in the career development pathways of researchers and support service staff; and the skills needed by individuals to enhance their competencies in *open data science and stewardship*."

See: https://eoscpilot.eu/content/d73-skills-and-capability-framework

And: https://www.eoscpilot.eu/sites/default/files/fair4s_eoscpilot_skills_framework.pdf

Linking competences, skills and capabilities

- Those required for stewardship of research objects

- by research teams and organisations

- to work in open science & data science environment

- to use and operate/provide services in the EOSC

Definitions

👥 **Stewardship**: The formalisation of roles and responsibilities and their application to ensure that research objects are managed for long-term reuse, and in accordance with FAIR data principles.

👥**Skill:** A *competence* or *capability* acquired or applied in a specific context, e.g. producing a research output or deploying a service.

Drawn from existing models

EDISON competence groups for Data Management (DM) DS Engineering (DSENG) DS Analytics (DSDA) Domain Science/ Research Methods (DSRM).

Data Information Literacy (Megan Sapp Nelson @Purdue)

Graduate level individual competences, and team/organisation levels.

Open Science Careers Assessment Matrix (OSPP Rewards WG)

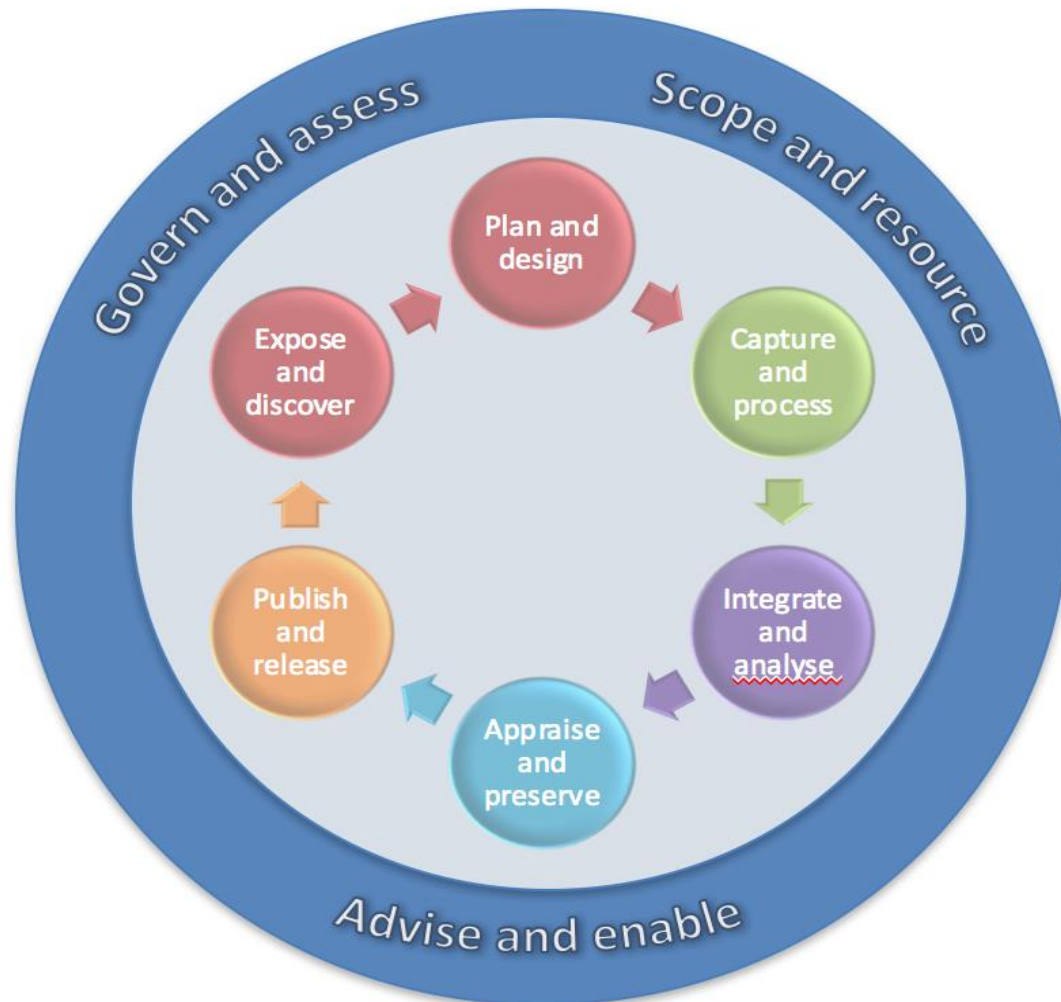Skills that researchers may expect to get recognition for using.

RDA Education & Training in Data Handling IG

Competences for researchers, RI managers and research librarians.

Skills Framework for Information Age –responsibility levels.
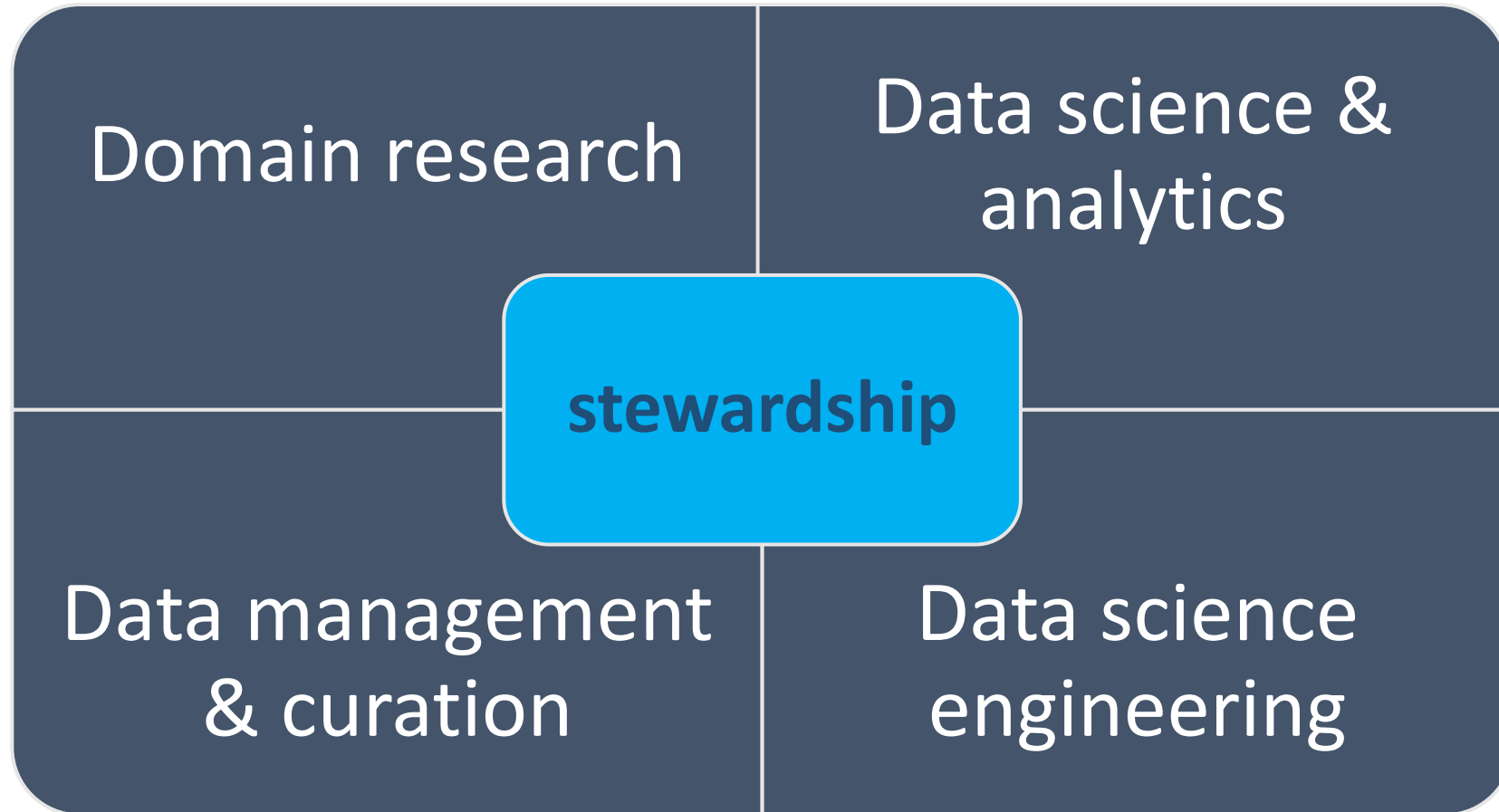
DCC RISE – high-level capabilities for research data services.

Skills groups

Applied in **project specific** ways within the data lifecycle or in **generic** ways across projects

Stewardship is a *shared* responsibility of professional groups involved

Domain research

Data science & analytics

stewardship

Data management & curation

Data science engineering

Stewardship Skills Framework

Aiming to help organisations and individuals identify skills they should acquire given the capabilities they have and need, and services they will use

capabilities

competences
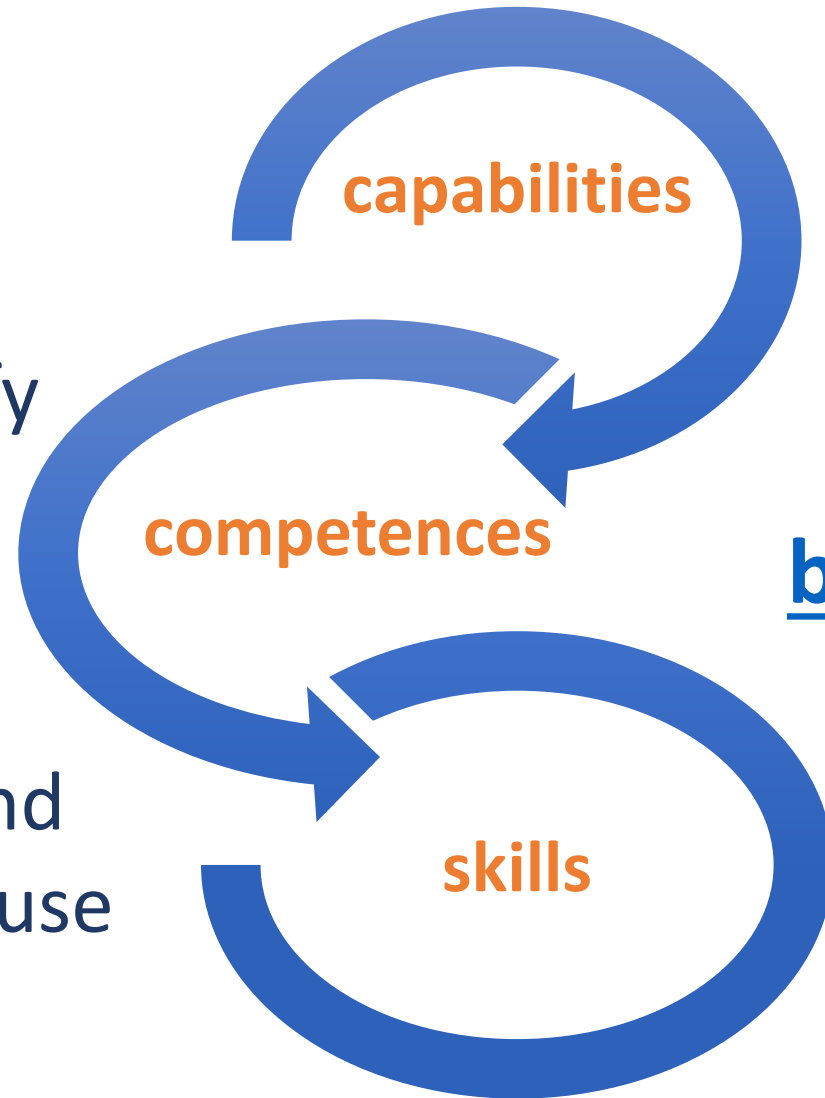
skills

bit.ly/skillseosc

Competence and capability examples

Open science stewardship competences and capabilities		Recommended expertise by professional group and service role								
			Service users				Service operators			
		MIN.	Researcher	Data Scientist/ analyst	Data service engineer	Data manager /curator	Researcher	Data Scientist/ analyst	Data service engineer	Data manager /curator
Plan and design	Planning data management and sharing (DMP)	○	◐	◐	○	●	●	●	○	●
	Open data model and database design	○	○	●	●	○	◐	◐	◐	●
	Metadata, persistent id. specification	○	○	◐	○	◐	○	○	●	◐
	Open source software / service requirements	○	○	●	●	◐	◐	●	◐	●
	Repository and data management platform appraisal	○	○	◐	○	●	◐	○	◐	●
Capture and process	Workflow set up and documentation	○	◐	◐	○	●	○	○	○	○
	Database management	-	-	◐	●	○	○	◐	●	◐
	Software prototyping	-	-	◐	●	○	◐	●	●	◐
	Data collection and reuse of open data	○	◐	●	○	◐	●	○	○	○
	File naming and organisation	○	◐	◐	◐	●	◐	◐	◐	◐
	Data provenance and software versioning	○	◐	●	●	●	◐	●	●	◐

Key to expertise levels: comprehend (basic level) ○   apply (intermediate level) ◐   synthesise/ evaluate (expert level) ●

Use cases

- **Specification**- help EOSC service providers specify the skills and capabilities involved in using their service

- **Learning**- help EOSC service users to identify learning resources for their own professional development

- **Planning**- help research leads and human resource professionals to plan skills for their organisation

FAIR4S feedback from online consultation
Survey of Research Infrastructure and RDM services (n=32) (Tentative results)

92% agree "A common EOSC framework of skills and competences for data stewardship will help researchers and support professionals to implement FAIR and secure data principles, by identifying relevant skills they should receive recognition for acquiring.

64% agree "The FAIR4S framework will help promote education for data stewardship experts, and their reward and recognition."

But most respondents think FAIR4S **too difficult to apply** in current form for any of the use cases

TU Delft workshop – Open Science Skills

- Inspired by 'Open Science Careers Assessment Matrix' (OSPP Rewards WG)

- Could we focus our long list of stewardship skills around those researchers need for open science?

- Worked with TU Delft team of Data Stewards to identify shortlist of 10 skills from longlist of 59

- Breakout groups for each research career stage R1 to R4 in European Framework for Research Careers

- Picked 3 or 4 *key* open science skills at each stage

Key questions at Delft workshop

❑ **Which** are 3 or 4 **key skills** at this career stage?

❑ **Why** is each skill relevant at this stage?

❑ **What** counts as evidence they are practising it?

❑ **How** should researchers be supported to apply this skill?

See 'Open Working' blog @ 4TU Research Centre here

10 Research Skills for Open Science
highlighting key skills for each career stage

Skills group	Competence	First stage researcher	Recognized researcher	Established researcher	Leading researcher
Plan and design	Planning data management and sharing (DMP)			■	
Capture and process	Reusing data from existing sources		■		
Integrate and analyse	Using or developing research tools open for reuse		■		
Appraise and preserve	Data preparation, documentation for reproducibility		■		
Publish and release	Providing FAIR outputs	■			
Expose and discover	Recognizing, citing and acknowledging contributions	■	■	■	■
Govern and assess	Developing open research strategy and vision				■
Govern and assess	Ethical, legal and data policy compliance	■			■
Scope and resource	Securing funding for open science /support	■		■	
Advise and Enable	Demonstrating good practice by example			■	■

10 Research Skills for Open Science
highlighting levels of expertise for each career stage

Skills group	Competence	First stage researcher	Recognized researcher	Established researcher	Leading researcher
Plan and design	**Planning data management and sharing (DMP)**	◖	●	●	●
Capture and process	**Reusing data from existing sources**	◖	●	●	●
Integrate and analyse	**Using or developing research tools open for reuse**	○	◖	●	●
Appraise and preserve	**Data preparation, documentation for reproducibility**	◖	◖	◖	●
Publish and release	**Providing FAIR outputs**	◖	●	●	●
Expose and discover	**Recognizing, citing and acknowledging contributions**	◖	◖	◖	●
Govern and assess	**Developing open research strategy and vision**	○	◖	●	●
Govern and assess	**Ethical, legal and data policy compliance**	◖	●	●	●
Scope and resource	**Securing funding for open science /support**	○	◖	●	●
Advise and Enable	**Demonstrating good practice by example**	○	◖	●	●

Key to expertise levels: comprehend (basic level) ○   apply (intermediate level) ◖   synthesise/ evaluate (expert level) ●

Reframing FAIR4S – Researcher and Skills Profiles

Researcher profile for organisations to self-assess

- Which 3 key skills and why, at each career stage

- Indicators that each skill is being applied or not

- Supporting roles and the skills they need

  - 👥 Data steward

  - 👥 Data manager/ curator

  - 👥 Data scientist/ analyst

  - 👥 Data service engineer/ research software engineer

  - 👥 Other e.g. research ethics committee

Recap – what FAIR4S will offer

- 👥 Profiles for each research career stage, recommending key skills, why needed at this stage, the supporting roles and their skills

- 👥 Description of 10 key skills – relevant competences and capabilities

- 👥 Results of our consultation on draft recommendations, open until Monday 17th here:
https://eoscpilot.eu/media/eoscpilot-policy-and-skills-frameworks-influence-draft-proposals

- 👥 Basis for successor EOSC projects to further develop

Digital Skills for Library Staff & Researchers Working Group

Which new skills are needed by library professionals? What training is required in order to better support research activities?

These and other skills-related questions are being examined by this working group. The group operates as part of LIBER's Strategic Direction on Digital Skills & Services, which in turn is one of the key pillars of our 2018-2022 Strategy.

The Context

In a rapidly changing digital world, libraries are regularly re-assessing existing services and offering new ones to support the work of both faculty (research) and students (education).

The advance of Open Science in particular has meant a reinvention of models, ways of working and techniques. This is, in itself, positive but the knock-on effect is a serious skills gap. Library staff and researchers need more training in order to be

Questions? Please contact the working group chairs Susanne Dalsgaard Krag or Cecile Swiatek.

See all Working Group Members.

Alliance Initiative „Digital Information"

- Alliance of Science Organisations in Germany:
  - **Positions**, e.g. declaration on EOSC
    https://www.wissenschaftsrat.de/download/archiv/Allianz_EOSC_EN_180418.pdf
  - Alliance **Initiative** „Digital Information"
    https://www.allianzinitiative.de/?lang=en
    - 2008: launched
    - 2018-2022: focus on digital transformation
  - Close **cooperation** between universities and non-university institutions
- Working group on:
  - **Digitally qualified staff**

Thorsten MEYER
Chief Librarian/Deputy Director, ZBW - Leibniz Information Centre for Economics and Business Studies
Alliance of Science Organisations, Germany and LIBER „Digital Skills for Library Staff and Researchers" WG

Alliance Initiative „Digital Information"

„Digital qualified staff" - working group

https://www.allianzinitiative.de/fields-of-action-projects/digitally-qualified-staff/?lang=en

Institutions and organisations need:

- Digital qualified staff
- Specialized digital expertise in science

- Science is a catalyst for innovation
- Science shapes the digital transformation of science itself
- Working group focuses on the identification of needed digital qualifications and expertise

Thorsten MEYER
Chief Librarian/Deputy Director, ZBW - Leibniz Information Centre for Economics and Business Studies
Alliance of Science Organisations, Germany and LIBER „Digital Skills for Library Staff and Researchers" WG

Reference

Steering Committee for the "Digital Information" Initiative of the Alliance of Science Organisations in Germany (2017): Shaping digital transformation in science. "Digital Information" Initiative by the Alliance of Science Organizations in Germany. Mission statement 2018 - 2022, 17 p.
DOI: http://doi.org/10.2312/allianzoa.016

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Open Science MOOC

Karin Clavel

Manager Library Resources, TU Delft

- together with -

Nicole Will

head of Education Support, TU Delft Library – co-instructor/developer of the MOOC

TUDelft

Open Science Roadshow (2016)

↓

"Making an impact with Open Science" online course for Graduate School (2017)

↓

Open Science MOOC (2018)

# Open Science MOOC on edX

About the course

4 weeks – not self-paced (interaction)

1. introduction to Open Science
2. Research Data Management
3. Publishing Open Access
4. Increasing your research visibility
5. (Optional) Virtual Research Environments

TUDelft

Results from first run

- Increased OS community
- 1104 enrollments from 105 countries
- ~19% is active!
- 125 interviews
- 40 verified certificates

TUDelft
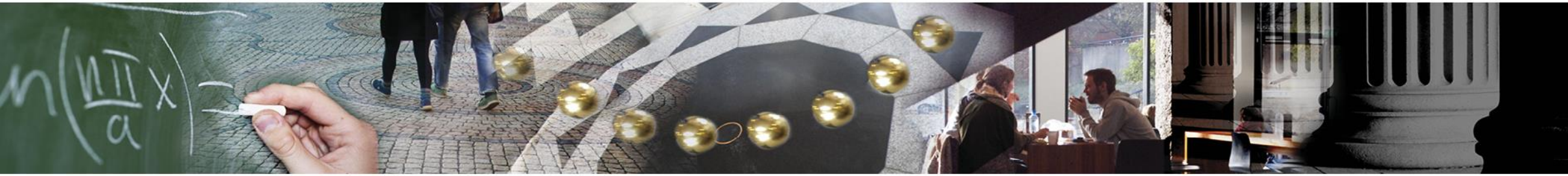
UiO : University of Oslo

LIBER Webinar / Dec. 14 2018

Open Science in Norway

University of Oslo Library

Hanne Graver Møvig, Library Director

National guidelines

- 2017 from the Norwegian Government
  - National goals and guidelines for open access to research articles
- September 2018 Plan S (CoaliSion S, EU)
- November 2018 Plan I, hearing February 2019.
- November 2018, hearing February 2019 on Open Science (The Norwegian Research Council)
  1. Open research process
  2. Open innovation and involvement
  3. User involvement and Citizen Science

Institutional networks

Open Science

- UNIT:
  - National consortia – negotiations (Plan S)
  - UHR, Universities Norway
- BOTT: Bergen, Oslo, Tromsø, Trondheim
- UiO: The University leadership, IT department, the University Library, Division of Research Administration (staff support)

Collaboration

- The University Library
  - Open Access to journal articles - negotiations
  - Develop Research Data Management plans and offer training
  - FRITT – Open Access plattform (Open Journal System)
  - Institutional archive DUO
  - Funding for OA (APC). Ends 2018.

  - Software Carpentry/Library Carpentry
  - *Research Services Center/Digital Scholarship Center* – cross disciplinary collaboration

Time for questions!

Please put your questions in the chat box.

We'll pose your questions to the presenters.