

SESSION

# Super-Charging Your RDM Impact

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## SESSION

# Super-Charging Your RDM Impact

The session will be chaired by Dr. Birgit Schmidt, Göttingen State and University Library, Germany

- Recommendations on how research libraries can boost their impact or research infrastructures [Marika Androutsopoulou](#); [Dr. Dimitrios Askounis](#); [Panagiotis Kokkinakos](#); [Kontzinos Christos](#); [John Violos](#), National Technical University of Athens, Greece
- Library engagement in subject specific research integrity – Data trainings for young economists in Germany [Sven Vlaeminck](#); [Olaf Siegert](#), Leibniz Information Centre for Economics, Germany
- Integrating responsible research data management practices as part of a research workflow on a national and local level [Dr. Susanna Nykyri](#); [Dr. Katja Fält](#), Tampere University Library, Finland

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SESSION

# Super-Charging Your RDM Impact

Recommendations on how research libraries can boost  
their impact or research infrastructures

Marika Androutsopoulou; Dr. Dimitrios Askounis; Panagiotis Kokkinakos; Kontzinos Christos; John  
Violos, National Technical University of Athens, Greece

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# Scope of the publication

The Research Infrastructure Ecosystem is continuously funded the last decades as it's still a priority for funders and policy makers.

Both Research Infrastructures and Research Libraries constitute vital “ingredients” of the European Research Ecosystem, due to their ability and core goals

- to offer unique services with no location restrictions,
- to function within the knowledge triangle (connect education and innovation to research) and
- to be a catalyst in assisting in the creation of highly skilled scientific personnel.

Scope of the publication depicted in this presentation deliberates on recommendations concerning how Research Libraries can boost their impact on Research Infrastructures and assist them on raising their standards on research data services



# Current challenges



In this rapidly changing digital world, the vision for the research infrastructure landscape entails an important role for research libraries not only through the enhancement of digital skills, services and principals, but most importantly through their cooperation and partnering with research infrastructures, as stated on Liber's strategy for 2018-2022.

Current challenges that have to be addressed are:

- ❖ the achievement of partnering of research infrastructures with research libraries to develop and use new data management systems and (cloud) services, while the aim of the research infrastructures will still remain to achieve their goals and the purpose they were created, and
- ❖ the empowerment and further education of the research infrastructures' researchers and personnel

# Challenges for Research Libraries

Fresh ideas on how research libraries can

- a. become catalytic actors in the research infrastructure ecosystem,
- b. strengthen their engagement with research infrastructures and
- c. raise awareness on research data infrastructure and management, as well as open science

have to be the basis for new discussions and deliberations of research infrastructure stakeholders .





# Related Work - Current status

An attempt to perform a landscape analysis on the current status of the relationship between RLs and RIs was made which resulted, in summary, to the following conclusions:

- ✓ there is no specific literature covering the impact of RLs on RIs
- ✓ there is no specific literature on the impact of RLs in science and society and
- ✓ even published evaluation reports on RLs activities and services offered are scarce

Nevertheless, a lot of interesting articles and books have been dedicated to the challenges RLs are facing, such as the following:

- How to improve the nation's research information infrastructure and steer the focus of the Library in its engagement with the university community.
- How to shift the focus on the perspectives of research libraries, pointing out that the traditional services offered by them might defuse due to creation of new organizations as well as other issues RLs are facing.

# Related Work - Current status

- ▶ Interesting articles and papers were discovered focusing in the capability of RLs to manage research data and their involvement in Research Data Management (RDM), taking as granted that RDM is what is needed and expected from them.
- ▶ How the management of research data is now a major challenge for research organizations and that vast amounts of data are produced in a variety of forms at a rapid rate.
- ▶ On the role and skills of the librarians in this new re-skilling era and which changes have to be adopted by the libraries and librarians.
- ▶ The fact that RLs are redesigning their services and information products to add value to their services in order to satisfy the changing information needs of the user community.

As De Gennaro stated in his article “Shifting Gears”, providing access to information will be the principal goal and activity, and coping with technology and change will be the principal driving forces of the emerging information age library.

# Recommendations

Recommendations for research libraries can be split in the following 3 categories:

- ▶ Research data management
- ▶ Disruptive technologies
  - ▶ Big data
  - ▶ Linked data
  - ▶ Blockchain
  - ▶ Artificial Intelligence
- ▶ Social Media

# Research data management (1/2)

- ▶ Research data management is a global issue for research libraries and can include tools and functionalities such as:
  - ▶ Creation and management of institutional data repositories
  - ▶ Data mining and visualization
  - ▶ Training for researchers on data management activities
  - ▶ Guidance on institutional policies
  - ▶ Creating data management plans and metadata for data sets
  - ▶ Assistance with intellectual property and privacy issues

# Research data management (2/2)

- ▶ Despite the importance of research data management, most libraries do not offer any form of data services due to:
  - ▶ Shortage of available solutions (DMPTool, e-Science thesaurus, Databib)
  - ▶ Lack of expertise to leverage ICT technologies
- ▶ Efficient data management must be initially addressed at the policy level of a research library
  - ▶ Provision of training and learning opportunities to the research library employees
  - ▶ Increase of RnD activities
  - ▶ Web-guides for library services
- ▶ The result will be an increase in data literacy from the side of research libraries that is the basis for adopting more innovative solutions

# Disruptive technologies - Big Data

- ▶ Big data refers to extremely large data sets that may be analyzed computationally to reveal patterns and has given birth to data-driven science:
  - ▶ Capture
  - ▶ Curate
  - ▶ Analyse
- ▶ Big data can help libraries create repositories with unprecedented volumes of data that can through text mining and topic modelling create new knowledge and expand human understanding in a variety of topics.
- ▶ Future librarians should pursue studies in the data sciences



# Disruptive technologies - Linked Data

- ▶ Linked data is the framework behind the semantic web
- ▶ It creates relationships between data that are made explicit and readable by both humans and machines
- ▶ Linked data implementation in research libraries include among others:
  - ▶ the development of structured, curated data sets that use ontologies
  - ▶ and metadata schemas to organize the highly heterogeneous data streams
- ▶ Linked data can help research libraries:
  - ▶ Make their research data more open
  - ▶ Increase the quality of information online
  - ▶ Increase visibility and collaboration opportunities with other libraries



# Disruptive technologies - Blockchain

- ▶ Blockchain aims to decentralize the storage of data so that such data cannot be owned, controlled or manipulated by a central actor
- ▶ The structure of blockchain allows it to securely store information in a decentralised, secure and immutable manner
- ▶ Research libraries could leverage blockchain:
  - ▶ To validate the authenticity of documents and data
  - ▶ To create timestamped, verifiable versions of journal articles
  - ▶ As a digital rights management (DRM) tool
- ▶ Especially in the EU, research libraries could join the EBSI initiative and take advantage of its services





# Disruptive technologies - Artificial Intelligence

- ▶ AI describes intelligence demonstrated by machines, which also refers to the process of learning over time
- ▶ AI machines work in a way that improves their future responses to a given task
- ▶ AI can help research libraries:
  - ▶ Personalise content to meet the needs of learners and researchers
  - ▶ Improve learner outcomes and enhance library discovery systems
- ▶ However, for AI to be applied, research libraries need to:
  - ▶ Build more sophisticated databases
  - ▶ Follow the guidelines for building ethical AI tools



# Social Media

- ▶ While traditionally, libraries were the main place for students and researchers to communicate with each other, these kinds of interactions have largely moved to social media sites
- ▶ It is imperative for research libraries to leverage social media to:
  - ▶ Connect and communicate with their patrons
  - ▶ Provide and share information improving information quality online
  - ▶ Increase cross-library collaboration
- ▶ There are various publications that have generated guidelines for efficient social media adoption by research libraries



# Conclusions & Future work

- ▶ RIs need to involve RLs in their functions
- ▶ RLs need to evolve and adapt to the new environment that is largely shaped by emerging technologies and the RI's production of data
- ▶ RLs need to restructure their data services to achieve ease of access and quality assurance
- ▶ RLs need to enhance their data infrastructures
- ▶ Librarians need to improve their technological savviness
- ▶ RLs need to leverage social media channels for advertising purposes

SESSION

# Super-Charging Your RDM Impact

Library engagement in subject specific research integrity –  
Data trainings for young economists in Germany

Sven Vlaeminck; Olaf Siegert, Leibniz Information Centre for Economics, Germany

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# Library engagement in subject specific research integrity

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Data trainings for young economists in Germany

*Olaf Siegert, Sven Vlaeminck & Martina Grunow,  
ZBW – Leibniz Information Centre for Economics  
LIBER Conference 2020,*



# Outline


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1. ZBW at a glance
2. Background for our Data Trainings
3. Elements of the Data Training
4. Some Statistics
5. Feedback from participants and the research community
6. Lessons learned and future Plans



# 1. ZBW at a glance



- World's largest information centre for economic literature
- Member of the Leibniz Association 
- Locations in Kiel and Hamburg
- Economics research community as main target group (e.g. learned societies, research institutions, single researchers, young scholars, students)
  - **ECONSTOR** (Disciplinary Repository)
  - Economic Policy Journals **Interconomics** and **Wirtschaftsdienst**
  - National Office for **GOFAIR** in Germany
  - Organizer of the annual “Open Science Conference” in Berlin



## 2. Background for our Data Trainings

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- About 15.000 scholars in economic research in Germany, mainly working at universities or research institutes
- Data are crucial: Up to 75% of the research literature is based on data analysis
- Lack of subject specific education on research integrity, reproducible research and Research Data Management (RDM). Offered trainings are usually generic and often provided by research libraries.
- To fill this gap, ZBW has developed a subject specific data training program for young researchers in economics.



## 2. Background (2)

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- The skills of the staff involved stems mainly from two of ZBW's research data related services:

- **IREE** International Journal for Re-Views in Empirical Economics **The International Journal for Re-Views in Empirical Economics**

- **JOURNAL DATA ARCHIVE** **ZBW Journal Data Archive**

## 2. Background - IREE

- The *International Journal for Re-Views in Empirical Economics* is the first journal dedicated to the publication of replication studies in empirical economics.
- IREE provides an incentive for the publication of replication studies so that replicating authors can gain credit for their important contribution to empirical research in economics.
- Peer-Reviewed. Open access. No author fees. Since 2017
- More information: <https://iree.eu> | Twitter: @IREEJournal

**IREE** International  
Journal for Re-Views  
in Empirical Economics

The screenshot shows the IREE journal website. At the top, there is a navigation bar with links: HOME, OUR MISSION, WHO WE ARE, AIMS & SCOPE, PUBLICATIONS, SUBMIT, NEWS & EVENTS, TERMS OF USE & PRIVACY POLICY. The main header reads 'International Journal for Re-Views in Empirical Economics' with the tagline 'WE PUBLISH REPLICATION STUDIES IN ECONOMICS - INDEPENDENT OF THEIR RESULT. PEER-REVIEWED. OPEN ACCESS. NO AUTHOR FEES.' Below this is a search bar and a list of logos for partner organizations: AMERICAN ECONOMIC ASSOCIATION, DOAJ, REPEc, and IREPEX WIKI. The central content area features the article title 'Semiparametric Value-At-Risk Estimation of Portfolios. A replication study of Dias (Journal of Banking & Finance, 2014)' by Jiahua Xu. It includes the journal name, volume, issue, and DOI information. A thumbnail of the article's first page is shown. On the right side, there is a 'CONTACT US' section with a photo of the Managing Editor and a 'WE RECOMMEND' section with a logo for 'THE ECONOMIC SCIENCE JOURNAL'. At the bottom right, there is a 'FUNDED BY' section with the DFG logo and the text 'Deutsche Forschungsgemeinschaft German Research Foundation'.

## 2. Background JDA

- The *ZBW Journal Data Archive (JDA)* is a data repository for the underlying data of published research articles.
- Since 2016 it supports the editorial offices of economics journals in publishing the replication files of empirical or data-based contributions.
- The JDA is FAIR-compliant and provides DataCite DOIs.
- More information: <https://journaldata.zbw.eu/>

## JOURNAL DATA ARCHIVE

The screenshot displays the ZBW Journal Data Archive interface. At the top, there are navigation tabs for 'Journals / German Economic Review', 'DATASETS', 'JOURNALS', and 'INFO'. Below these, there are sub-tabs for 'Datasets', 'Activity Stream', and 'About'. The main content area shows '31 DATASETS FOUND' with a search filter set to 'Newest'. Three dataset entries are visible:

- Projecting the Spread of COVID19 for Germany** by Jean Roch Donsimoni, Rene Glawion, Bodo Plachter, and Klaus Wälde. Description: 'We model the evolution of the number of individuals reported sick with COVID-19 in Germany. Our theoretical framework builds on a continuous time Markov chain with four states...'. Formats: PDF, CSV, application/vnd.wolfram.mathematica.package, application/postscript. DOI: 10.15456/ger2020106.105533.
- German Labour Market Data—Data Provision and Access for the International Sci...** by Dana Müller and Stefanie Wölter. Description: 'The Research Data Centre at the Institute for Employment Research (RDC-IAB) has been offering high-quality administrative and survey data on the German labour market for 15...'. Formats: TXT, STATA do. DOI: 10.15456/ger2020105.121012.
- Parity Funding of Health Care Contributions in Germany: A DSGE Perspective** by Almira Enders, Dominik Groß, and Nikolai Stähler. Description: 'Germany reintroduced parity funding of the statutory health insurance scheme in January 2019 by lowering the contribution rates for employees and raising those for employers...'. Format: ZIP. DOI: 10.15456/ger2020059.101656.

On the left side of the interface, there is a sidebar for 'German Economic Review' with a cover image and the following statistics:

- Datasets: 31
- Followers: 0
- Total Views: 485
- Recent Views: 14

Below the statistics, there are sections for 'Volumes' (20 (24)) and 'Formats' (STATA do (18), STATA data (8)).

# 3. Elements of Data Training (Overview)

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- Up to 18 participants (mainly PhD candidates with a masters degree)
- One day training event (eight hours)
- 50/50 mixture of input talks and hands-on training in small groups (2-4 people)
- Participants learn about:
  - Good scientific practice and how data analyses are made reproducible in practice (mainly with STATA software)
  - Data policies of economics journals and requirements of research funders and how to tackle these policies/requirements
  - Hands-on parts aim to simulate the research process in a nutshell: From analysis to publication

# 3. Elements of Data Training (II)

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- First talk: Introduction about good scientific practices
- Hands-on 1: In small groups, participants analyse data for some easy research questions and are asked to write mini research paper.
- Second talk: Requirements of reproducible research when working with STATA
- Hands-on 2: Groups upload their research data and mini paper to the JDA in order to allow replication by others

# 3. Elements of Data Training (III)

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- Third talk: Economics journals' data policies
- Hands-on 3: groups are asked to reproduce and replicate the findings of the other groups, present their findings, and discuss the outcome
- Fourth talk: Data policies of some research funders are described (as most of the young researchers are not yet involved in research projects, we do not go into details here)
- Last but not least: feedback on the workshop and clarification of remaining questions

## 4. Some statistics

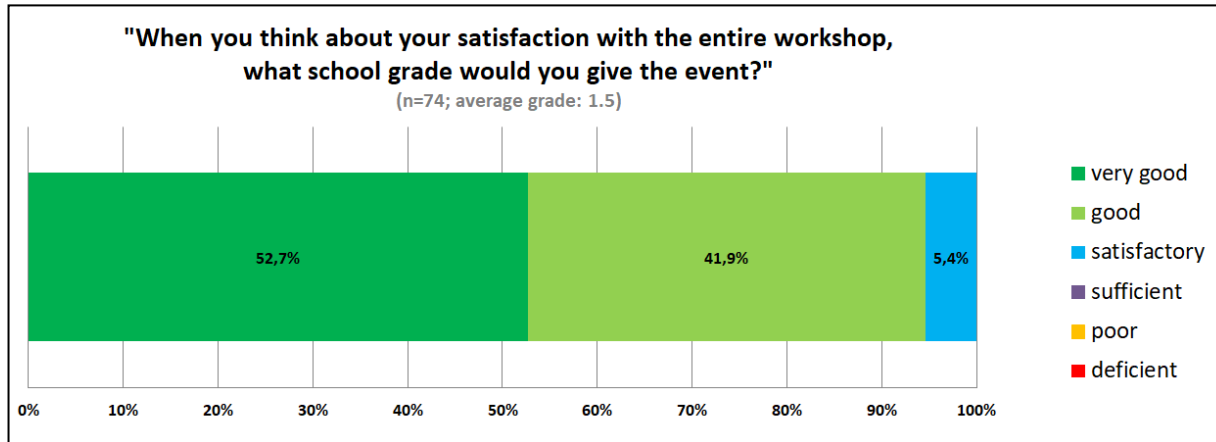
- 10 workshops so far from 2018-2020
- More than 100 participants
- Registrations for the workshop from all parts of Germany, some from Austria and the Netherlands
- In total, registrations from 55 different universities and economics research institutes



# 5. Feedback from the participants

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- After each workshop, participants were asked to fill in a short questionnaire and to rate the quality of the workshop
- Results are very encouraging:

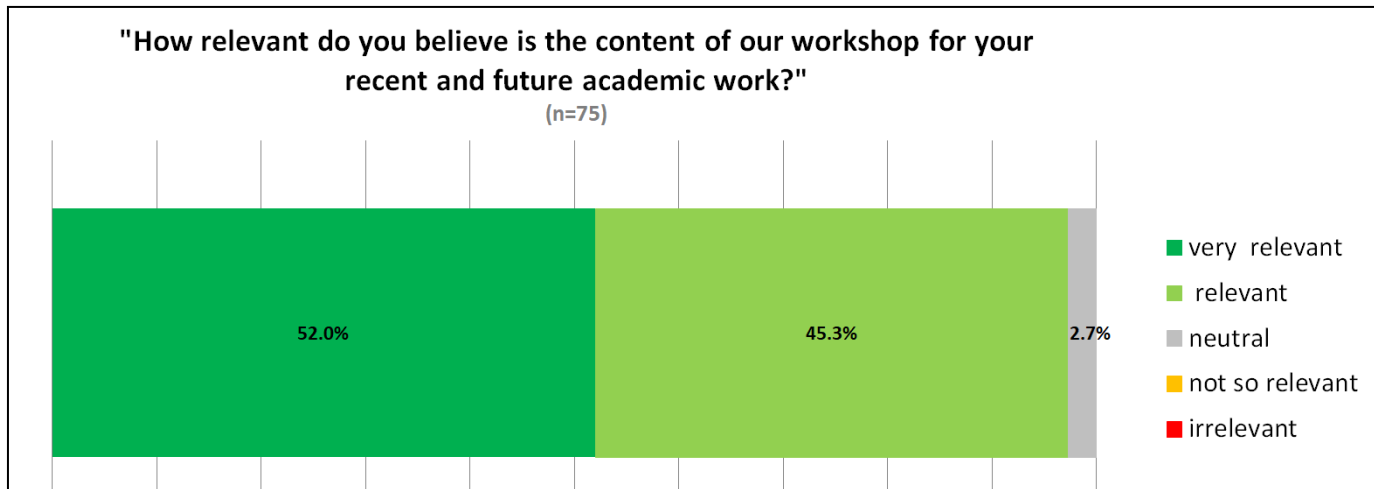




## 5. Feedback from the participants (cont.)

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- Regarding the value of the workshop for their individual academic careers, participants are very positive:



# 5. Feedback from the research community

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- Economics research community became aware of the workshop and asked for cooperation
- As a result, we hold the workshop at universities, research institutes, the learned societies for economics in Germany and also to a research funder



# 5. Outlook and Future Plans

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- In 2020 workshop dates should have been expanded, but COVID19 crossed scheduling 😞
- Workshop format relies on the interaction of the participants in small groups
  - > not easy to transfer into a digital format
- However, we plan to offer at least some parts of the training in online webinars
- Moreover we want to include other statistics software tools, e.g. “R” (open source software)

# Thank you for your attention!

Do you have questions or comments?

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## Contact:



Olaf Siegert

ZBW-Leibniz-Informationszentrum Wirtschaft

Neuer Jungfernstieg 21

20354 Hamburg

[t]: 040-42834-290

[@]: [o.siegert@zbw.eu](mailto:o.siegert@zbw.eu)

[w]: <http://www.zbw.eu/>



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SESSION

# Super-Charging Your RDM Impact

Integrating responsible research data management practices  
as part of a research workflow on a national and local level

Dr. Susanna Nykyri; Dr. Katja Fält, Tampere University Library, Finland

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# Integrating responsible research data management practices as part of a research workflow on a national and local level

Susanna Nykyri, Ph.D.

Manager, Open Science Services,  <https://orcid.org/0000-0002-5018-5176>

Katja Fält, Ph.D.

Team Leader, Research Support Services,  <https://orcid.org/0000-0002-6172-5377>

# The focus of the presentation is twofold:

1. It discusses RDM collaboration in Finland within the context of national OS coordination and Open data learning – working group.
  2. It discusses the current RDM development work at Tampere University. Key issues highlighted include:
    - The current implementation and integration of responsible RDM to different levels of research and basic academic education in a national and organisational level;
    - The importance of organisational RDM work done as part of and in line with national and international cooperation;
    - The central role of research support services in university libraries in disseminating, promoting and developing RDM.
- As conclusions we provide recommendations

# National OS coordination in Finland

- Coordination is supported by The Federation of Finnish Learned Societies with funding from the Ministry of Education and Culture.
- The aim is to promote national dialogue on the objectives and means of open scholarship, to increase cooperation and to raise awareness of the opportunities, challenges and solutions of open scholarship.
- Coordination is strongly based on the cooperation of the entire research sector.
- At the core of the coordination are the following principles:
  - The coordination itself is open and transparent
  - The coordination structure is as simple as possible and makes use of existing networks and projects
  - Coordination focuses on key issues in open scholarship, as defined by the research community
- The co-ordination model is based on collaboration between working groups, expert groups and strategy group
- The shape of the coordination is formed by a joint effort of the entire research community.

See more: <https://avointiede.fi/en/coordination>



# RDM training

- RDM training is already an established support service for researchers in many research organisations
- It is also currently being actively developed in cooperation with all university libraries in Finland
- National working groups on Open Data create joint solutions for research support services in RDM and open data, and share knowledge, material and best practices.
  - The working groups are: Open data training, Dynamic DMP:s, National policy for open data, Marketing of open data services for researchers, Research data linking and citation guidelines. See more: <https://avointiede.fi/en/open-science-expert-panels/open-data>

# Open data training WG 1/2

- ~ 30 members representing ~ 20 organisations
- Aim: plan and provide training for trainers in various RDM issues.
- Its concrete task is to compile a national proposal for RDM training modules and focus groups and provide shared training opportunities and events for RDM trainers across organisational borders.

# Open data training WG 2/2

Already done: Shared experiences and different models for RDM training on different levels, training material, organised national training session on anonymisation together with the Finnish Social Science Data Archive (FSD)

In progress:  
Benchmarking, defining best practices and core skills, establish needed network and promote broad co-operation

# Case Tampere University



## Multidisciplinary

university with focus on technology, health and society

Tampere University is created in Jan 2019 by the merger of the University of Tampere and Tampere University of Technology

+ Tampere University of Applied Sciences: Research, Development and Innovation (RDI)

= Tampere University Community



## Tampere University Library

Offers services to the entire Tampere University Community

Trains researchers broadly on research data management, open access publishing and research visibility

The Library coordinates the data service, that brings together services from different service providers and supports RDM on a one-stop-shop basis.

# Case Tampere University

Open Science training is integrated into basic studies and PhD studies:

## Basic Studies

OS is integrated in Information Literacy studies, ranging from first year students to Master's degree students

- First year: Open Science as a concept
- Candidate degree: Open data as part of candidate thesis (where to get data)
- Master's degree: The benefits of oa publishing in studies, research data management

Open Science from the perspective of working life skills

## PhD Studies

A mandatory part in ethics training for PhD students

- Themes include research data management and ethics, open access publishing, researcher's visibility and impact
- Open Science in Doctoral School

# Case Tampere University

- In RDM training, the main target groups are PhD students and postdoctoral researchers, as well as other experienced researchers
- In 2020 an important focus group is these supervisors
  - Supervisors are in central role in dissemination good RDM practices to graduate and PhD students
  - National policy (drafting stage) "*Policy for Open Access to Research Data and Methods*"
    - Organisations offer RDM training to all researchers, students, teachers, these supervisors and support staff

# Case Tampere University

The  
organisational  
RDM training  
currently  
develops these  
areas:

- Tailored training on RDM, including data protection and data security for supervisors
- Tailored training for projects' PIs, tenure track professors and other academic personnel (post doctoral researchers)
- DMP support for research infrastructures
  - Targeted consultation and commenting DMPs
  - *Data Management Policy for Open Research Infrastructures at Tampere University*, <http://urn.fi/URN:NBN:fi:tuni-202005265684>
  - The policy provides general guidelines and principles for research infrastructures to promote responsible use and open access to their resources

# Case Tampere University

Piloting an RDM module for students writing their Master's thesis

- Background: January-March 2020, eight groups (information science, nursing science, Master's Degree Programme in Management of Health Care and Social Services in university of applied science), reached 102 students + 13 teachers
- Results and experiences:
  - Students and teachers highly valued the training – strong need for training to be able to carry out the thesis
  - Data management skills also essential in working life
  - Students were concerned about issues such as: data protection, processing personal information, data storage and data opening
  - When you plan teaching: better to have training session in the beginning of the thesis process, teachers' role is vital – possibility for a dialog, keep the teaching concrete and let students participate
  - It is also a matter of resources – focus on teachers' training in the future



# Conclusions and recommendations

- Acknowledge and support the great variety of customer needs and needed collaboration
- RDM trainers have a crucial role not only in promoting but also in creating best RDM practices
- In order the RDM maturity to grow, the seed needs to be sown early on (students)
- In training the trainers, the role of national and international co-operation is especially strong
- Invest on supervisors. (E.g. the national policy for open data (draft) recommends: by the year 2023 research organisations make sure the supervisors are able to evaluate and comment RDM plans.)

# Thank you!

[susanna.nykyri@tuni.fi](mailto:susanna.nykyri@tuni.fi)

[katja.falt@tuni.fi](mailto:katja.falt@tuni.fi)

<https://www.tuni.fi/en/library>



# Q&A

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