Open Science Angle Throughout the Research Process

From Open Science Policies to Actions at the University of Turku, Finland.

PhD. Mari Riipinen Head of Research Development Unit, University of Turku, Finland
AGENDA

• Open Science: making and braking the structures of research
• Open Science: global megatrend in the research arena
• OpenUTU: creating the open science policies and support at the University of Turku, Finland
• Results: Researchers’ reactions and actions
OPEN SCIENCE
MAKING AND
BRAKING THE
STRUCTURES OF
RESEARCH
WHAT IS OPEN SCIENCE

Umbrella concept for opening research outputs

• publications / data / research methods and technologies / whole research process transparent … open innovation / citizen science

Digitalization of research

• Digital technologies constitute the technical foundation for the contemporary form of open science, allowing scientists to share knowledge and to collaborate in ways that were not possible before (Meyer and Schroeder, 2013)

The aim is to make knowledge resources accessible, searchable, and reusable and increase the chances of discovering previously unseen connections

• impact to the society / scientific novelties / inventions and revolutions / enable fast innovation processes

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At large the concept of open science is actually nothing new.
- Creation of scientific journal system has aimed at opening science since seventeenth century
- Internet has enabled opening science since 1990’s onwards
- Recent technological developments have added a new dimension to open science
NARROW WAY OF MEASURING (OPENNESS OF) RESEARCH AND RESEARCHERS

• We have created structures (and indicators) to measure, indicate and evaluate the science
  • Most valued research merit to researcher, department, faculty, university comes from the scientific publications
  • Number and quality standards of publications, citations to journals or individual articles and people

• This has created a situation where researchers want to and perhaps need to protect their research results as well as research methods and data until they are published in a peer reviewed article
  • Limits opening of the other outputs of science?

• Has the journal system turned against the original aim?
RETHINKING

• Open Science in it’s broader understanding is a way to value and perhaps measure the science throughout the research process and beyond
  • datasets, open notebook, open methods, open peer review, open collaboration, open innovation, citizen science etc.
  • What is a merit in research and how is it valued and measured?
OPEN SCIENCE MEGATREND IN RESEARCH ARENA

Mari Riipinen
@MariRiipinen

Jean-Claude Burgelman: Open science is not an answer to a problem, but it is a system change. #ATTforum #openscience

Käännä twiitti

12.40 · 22.11.2016 · Twitter for Windows
Plan S / cOAlition S

European science funders ban grantees from publishing in paywalled journals

By Martin Enserink | Sep. 4, 2018, 3:15 AM

EU and national funders launch plan for free and immediate open access to journals

The architect of ‘Plan-S’, Robert-Jan Smits, hopes to force a major change in the business model of academic publishers. The effect will be similar to the abolition of mobile phone roaming charges in Europe, he says

By Éanna Kelly

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Horizon Europe for 2021–2027

Support the creation and diffusion of high-quality knowledge
Strengthen the impact of R&I in supporting EU policies
Foster all forms of innovation and strengthen market deployment

Optimise the Programme’s delivery for impact in a strengthened ERA

Open Science across the programme

Pillar 1 Open Science
- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

Pillar 2 Global Challenges and Industrial Competitiveness
- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources
- Joint Research Centre

Pillar 3 Open Innovation
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Strengthening the European Research Area
- Sharing excellence
- Reforming and Enhancing the European R&I system

Open Science
- Better dissemination and exploitation of R&I results and support to active engagement of society

- Mandatory Open Access to publications: beneficiaries must ensure the existence of sufficient rights to comply with open access requirements
- Mandatory Data Management Plan for FAIR (Findable, Accessible, Interoperable, Re-usable) and Open Research Data: for all research data with possibilities to opt-out from open access requirements
- Support to researcher skills in and reward systems for open science
- Use of European Open Science Cloud

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There is a pressing need to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties. To address this issue, a group of editors and publishers of scholarly journals met during the Annual Meeting of The American Society for Cell Biology (ASCB) in San Francisco, CA, on December 16, 2012. The group developed a set of recommendations, referred to as the San Francisco Declaration on Research Assessment. We invite interested parties across all scientific disciplines to indicate their support by adding their names to this Declaration.

The outputs from scientific research are many and varied, including: research articles reporting new knowledge, data, reagents, and software; intellectual property; and highly trained young scientists. Funding agencies, institutions that employ scientists, and scientists themselves, all have a desire, and need, to assess the quality and impact of scientific outputs. It is thus imperative that scientific output is measured accurately and evaluated wisely.

IN FINLAND:
• 14.3.2019 Academy of Finland joined the DORA and signed San Francisco Declaration
• Tampere University signed the declaration in March 2019

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STEERING AND GOVERNANCE TO OPEN SCIENCE IN FINLAND
In Finland, the Ministry of Education and Culture promotes research information availability and open science through the Open Science and Research Initiative, which was set out for the years 2014-2017.

• The objective is for Finland to become one of the leading countries in openness of science and research by the year 2017 and to ensure that the possibilities of open science will be widely utilised in our society.
Measuring the maturity level of the openness within research organizations

Evaluation of Operational Culture Maturity Rankings of Research Organisations

LEVEL 5
49-75 pts

LEVEL 4
27-48 pts

LEVEL 3
17-26 pts

LEVEL 2
10-16 pts

LEVEL 1
0-9 pts

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Funding model for Finnish universities 2021 onwards

Education 42%
- 30% Master's and bachelor degrees
- 5% Lifelong learning
- 4% Employment quantity and quality
- 3% Student feedback

Research 34%
- 8% PhD degrees
- 14% Scientific publications
  - Additional rate (1,2) to peer-reviewed open access publications
- 12% Competed Research Funding

Education and Science policy considerations 24%
- 15% Strategic development
- 9% National duties
COORDINATION OF THE OPEN SCIENCE CONVERSATIONS AND ACTIONS IN FINLAND

• Ministry wanted to move the coordination of the open science actions to the scientific community itself and therefore the coordination is at the The Federation of Finnish Learned Societies

• There is a strategic group and working groups that operate at voluntary bases and they consist of researchers and administrative personnel from the HEI’s in Finland

• First aim was to accomplish National Open Publication Policy in 2019
OpenUTU
3. OPEN SCIENCE

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<th>Schedule</th>
<th>Responsible party</th>
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<td>2018–2020</td>
<td>Vice Rector responsible for research, Director of Development</td>
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<td>Realising actions from the University’s road map for open science which covers the openness of research data, publications and methods, related training and support as well as the enterprise architecture of research.</td>
<td>2018–2020</td>
<td>Vice Rector responsible for research and Director of Development</td>
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OpenUTU -PROJECT

Steering Group
• Vice rector Kalle-Antti Suominen
• Head of Development Riitta Mustonen, Development Services
• Library Director Ulla Nygren, Library
• Communications director Anne Paasi, University Communications
• Director ICT Yrjö Saarikko, ICT services
• Professor Hannu Salmi, Faculty of Humanities
• Professor Risto Rinne, Faculty of Education
• Professor Päivi Oinas, Turku School of Economics
• Professor Veli-Matti Kähärä, Faculty of Medicine
• Professor Tapio Salakoski, Faculty of mathematics and natural sciences
• Professor Veli-Pekka Viljanen, Faculty of Law
• Professor Hannu Ruonavaara, Faculty of Social sciences
• Head of Unit Mari Riipinen, Research Development

• Data policy
  • Head of Development Riitta Mustonen,
  • Research Liaison Officer Mari Riipinen
  • Head on Library Services Jukka Rantasaari,
  • IT architect Olli-Pekka, Kaurahalme
  • Legal Council Toni Ahvas
  • Managing Editor Tuomas Koivula

• Publication policy
  • Head of Development Riitta Mustonen,
  • Research Liaison Officer Mari Riipinen
  • Professor Olli Lassila, Faculty of Medicine
  • Professor Tuomas Mylly, Faculty of Law
  • Professor Marjut Johansson, Faculty of Humanities
  • Head of Library Services Jukka Rantasaari
  • Information Specialist Päivi Kanerva

• Open Research Policy
  • Development Advisor Erika Lilja
  • Head of Unit Mari Riipinen
  • Academy Researcher Leo Lahti
  • Assistant professor Filip Ginter
  • Assistant professor Erika Savontaus
  • University researcher Eriikka Paavilainen-Mäntymäki
  • Academy Researcher Jukka Hylönén
  • Chief Development Officer Riitta Mustonen

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**DATA**
- Open Data Policy
- Data Management Plan
- Data Repository
- Opening Data

Research data guide
[http://libguides.utu.fi/researchdata](http://libguides.utu.fi/researchdata)

**PUBLICATION**
- Open Access Policy
- Green and Gold Open Access
- APC costs

Open Access guide
[http://libguides.utu.fi/openaccess](http://libguides.utu.fi/openaccess)

**RESEARCH CYCLE**
- Open Research Cycle Policy
- Open Research Plan
- Open Research Methods
- Open Code

Platform for the policy
E-duuni

**ENTERPRICE ARCHITECTURE**
- Researcher’s process
- Service process
- Actors
- IT systems

**RESEARCH INFRASTRUCTURE**
- Infrastructure policy
- Equipment inventory
- Funding

**TRAINING AND SUPPORT**
# UTU Open Science Services for Researchers

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<td>Coordination of the OpenUTU project</td>
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<td>Data storage</td>
<td>Legal advice on ownership and rights of use</td>
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<td>UTU Research policies</td>
<td>Services for Open access</td>
<td>Data system services software</td>
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<td>Innovations</td>
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<tr>
<td>Responsibility for the development</td>
<td>Open access publishing guide</td>
<td>Research IT</td>
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<td>Open access publishing of theses</td>
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<td>Depositing the publication’s</td>
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- **national OS policies and developments**
- **OS Specialists**
- **OS Governance and management**
- **Open research**
- **OS training**

- **Guidance for the DMP Tuuli**
- **OS Specialists**
- **Open access**
- **(Open) Research data**
- **OS training**

- **Research data platform**
- **OS Specialists**
- **(Open) Research data**
- **(Open) Software development**

- **University Communications**
- Serves and supports with informing, sharing news, marketing communication and interest group activities
- Communication training and consultation

**openutu@utu.fi**

- UTU Open Science Services for Researchers
- Research Development
- Library
- IT Services
- Legal Affairs
- Innovations
- openutu@utu.fi
- #openutu
ACTIONS AND REACTIONS
Development of the green open access publications at UTU in 2015-2017

- 2015: 5086
- 2016: 4245
- 2017: 3727

Rinnakkaistallennettu: 70, 1029, 1874
Ei rinnakkaistallennettu: 5016, 3216, 1843

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Number of publications and the open access status of them at UTU 2015-2017

- No Open Access
- Hybrid publication channel
- Open Access publication channel
- Green Open Access

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The percentage of the open access publications at UTU 2015-2017

- 2015: 26%
- 2016: 40%
- 2017: 45%

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The amount of the open data sets or data with open metadata.
LEO LAHTI’S VIEWS ON PLAN S
WE HAVE NOW ACCEPTED, REALIZED AND EVEN COMMITTED THAT THERE NEEDS TO BE VARIOUS WAYS OF MEASURING RESEARCH AND IMPACT THROUGHOUT THE RESEARCH PROCESS.

THERE IS YET TO BE SOLVED HOW TO GET THERE IN REALITY.

→ SUGGESTIONS?