



# Shifting the research assessment system to enable the adoption of open knowledge practices

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[www.slido.com](http://www.slido.com)

code: #F0708

# Open Science / Research aims at

*“increasing research quality, boosting collaboration, speeding up the research process, making the assessment of research more transparent, promoting public access to scientific results, as well as introducing more people to academic research”*

**Friesike, S. & Schildhauer, T. (2015). Open Science: many good resolutions, very few incentives, yet. In: Welp, I.M., et al (Eds.). *Incentives and Performance. Governance of Research Organizations*. Springer**

# EC's 8 areas of Open Science / Research

1. Rewards and Incentives
2. Research Indicators and Next-Generation Metrics
3. Future of Scholarly Communication
4. European Open Science Cloud
5. FAIR Data
6. Research Integrity
7. Skills and Education
8. Citizen Science

Major stakeholders:



Research & E-Infrastructures



Research Libraries



Universities & Research Performing Organisations



Policy Making Organisations



Research Funding Organisations



Publishers



Researchers



Scientific Societies & Academies



Citizen Science & Public Engagement Organisations

# Main barriers to uptake of Open Research

- Primary focus of evaluation is:
  - on final scholarly output (vs what you have done)
  - its venue of publication
  - ingrained across system: research - researcher - institution
- Not enough support at ground level - awareness + understanding: why and how
- Lack of skillset
- Requires collective action among stakeholders
- Lack of infrastructure and funding to:
  - Capture and share wide range of outputs
  - Capture and integrate metadata
  - Capture broader range of indicators

# How might we overcome these barriers

- **Enabling policies around open knowledge practices:**
  - maximise consistency between organisations and stakeholders;
  - minimise confusion and complexity;
  - make sure implementable by others
- **Tools & infrastructures** – make easy for research community to act in an Open Research way
- **Metadata & interoperability** – maximise reporting; minimise duplication of effort
- **Training** – at all levels and across all stakeholders; focus on how and why
- **Rewards & incentives** – rethink how researchers & institutions are evaluated, and desired open behaviours recognized and incentivised

# Moving to a more holistic & balanced research evaluation system



# DORA

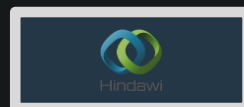
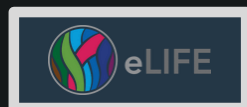
[sfdora.org](http://sfdora.org)



@DORAssessment

Signed by >500 organizations and >12,500 individuals

Supporting organizations





## Good Practices

Research Institutes



DORA's ultimate aim is not to accumulate signatures but to promote *real* change in research assessment. One of the keys to this is the development of robust and time-efficient ways of evaluating research and researchers that do not rely on journal impact factors. We are keen to gather and share existing examples of good practice in research assessment, including approaches to funding and fellowships, hiring and promotion, and awarding prizes, that emphasize research itself and not where it is published.

If you know of exemplary research assessment methods that could provide inspiration and ideas for research institutes, funders, journals, professional societies, or researchers, [please contact DORA](#).

### University of California, Berkeley

#### Department of Molecular and Cell Biology & Helen Wills Neuroscience Institute

Applications for assistant professor positions were designed to highlight the significance of an applicant's accomplishments rather than default to using journal-based metrics as a substitute for research quality. The [advertisement](#) asked applicants to summarize their major research accomplishments, ongoing and planned research program, and contributions to diversity. Applicants were also asked to select three significant articles from their list of publications and describe the impact of each.

### University College London

University College London (UCL) released its [Academic Careers Framework](#), which

Funders

Professional Societies

[Research Institutes](#)

Examples include:

- **CRUK** - describe significance and impact of 3-5 key research achievements:  
*preprints, training delivered, contribution to consortia, patents, and sharing of key datasets, software, novel assays and reagents, and research publications*
- **FWF** - up to 10 most important scientific/scholarly research achievements – beyond publications:  
*e.g. awards, conference papers, keynote speeches, important research projects, research data, software, codes, preprints, exhibitions, knowledge transfers, science communication, licenses, or patents.*
- **EMBO** - Applicants asked to not use Impact Factors.
- **NIH** - Use bio-sketches: summary of impacts of contributions.
- **University Medical Center Utrecht** - Involve all career-stages to co-develop policies to measure societal impact / research excellence – signifies agreement to be judged by the criteria.





# Evaluation of Research Careers fully acknowledging Open Science Practices

Rewards, incentives and/or recognition for researchers practicing Open Science

[https://ec.europa.eu/research/openscience/index.cfm?pg=rewards\\_wg](https://ec.europa.eu/research/openscience/index.cfm?pg=rewards_wg)

Open Science Career Assessment Matrix (OS-CAM)	
Open Science activities	Possible evaluation criteria
<b>RESEARCH OUTPUT</b>	
<b>Research activity</b>	Pushing forward the boundaries of open science as a research topic
<b>Publications</b>	Publishing in open access journals Self-archiving in open access repositories
<b>Datasets and research results</b>	Using the FAIR data principles Adopting quality standards in open data management and open datasets Making use of open data from other researchers
<b>Open source</b>	Using open source software and other open tools Developing new software and tools that are open to other users
<b>Funding</b>	Securing funding for open science activities
<b>RESEARCH PROCESS</b>	
<b>Stakeholder engagement / citizen science</b>	Actively engaging society and research users in the research process Sharing provisional research results with stakeholders through open platforms (e.g. Arxiv, Figshare) Involving stakeholders in peer review processes
<b>Collaboration and Interdisciplinarity</b>	Widening participation in research through open collaborative projects Engaging in team science through diverse cross-disciplinary teams
<b>Research integrity</b>	Being aware of the ethical and legal issues relating to data sharing, confidentiality, attribution and environmental impact of open science activities Fully recognizing the contribution of others in research projects, including collaborators, co-authors, citizens, open data providers
<b>Risk management</b>	Taking account of the risks involved in open science
<b>SERVICE AND LEADERSHIP</b>	
<b>Leadership</b>	Developing a vision and strategy on how to integrate OS practices in the normal practice of doing research Driving policy and practice in open science Being a role model in practicing open science
<b>Academic standing</b>	Developing an international or national profile for open science activities Contributing as editor or advisor for open science journals or bodies
<b>Peer review</b>	Contributing to open peer review processes Examining or assessing open research
<b>Networking</b>	Participating in national and international networks relating to open science
<b>RESEARCH IMPACT</b>	
<b>Communication and Dissemination</b>	Participating in public engagement activities Sharing research results through non-academic dissemination channels Translating research into a language suitable for public understanding
<b>IP (patents, licenses)</b>	Being knowledgeable on the legal and ethical issues relating to IPR Transferring IP to the wider economy
<b>Societal impact</b>	Evidence of use of research by societal groups Recognition from societal groups or for societal activities
<b>Knowledge exchange</b>	Engaging in open innovation with partners beyond academia
<b>TEACHING AND SUPERVISION</b>	
<b>Teaching</b>	Training other researchers in open science principles and methods Developing curricula and programs in open science methods, including open science data management Raising awareness and understanding in open science in undergraduate and masters' programs
<b>Mentoring</b>	Mentoring and encouraging others in developing their open science capabilities
<b>Supervision</b>	Supporting early stage researchers to adopt an open science approach
<b>PROFESSIONAL EXPERIENCE</b>	
<b>Continuing professional development</b>	Investing in own professional development to build open science capabilities
<b>Project management</b>	Successfully delivering open science projects involving diverse research teams
<b>Personal qualities</b>	Demonstrating the personal qualities to engage society and research users with open science Showing the flexibility and perseverance to respond to the challenges of conducting open science



## OSPP-REC

Open Science Policy Platform Recommendations



<https://ec.europa.eu/research/open-science/index.cfm?pg=open-science-policy-platform>

Name	Representative organisation and Affiliation	Stakeholder Group
Sergio Andreozzi	The EGI Foundation	Open Science Platforms/Intermediaries
Michela Bertero	EU-LIFE (Alliance of 13 top research centres in life sciences to support and strengthen European research excellence), co-founder; Head of the International and Scientific Affairs Unit, CRG (Centre for Genomic Regulation, Barcelona, Spain)	Research Organisations
Kurt Deketelaere	League of European Research Universities (LERU), Secretary General	Universities
Paul Ayris	LERU co-Chair of the INFO Community (alternate representative)	
Jennifer Edmond	Digital Research Infrastructure for Arts and Humanities (DARIAH), Member of the DARIAH-IE steering committee	Open Science Platforms/Intermediaries
Manuela Epure	The Alliance of Central and East European Universities (ACEU), Vice-President	Universities
Michele Garfinkel	The European Molecular Biology Organization (EMBO), Manager of the EMBO Science Policy Programme	Research organisations
Tuija Hirvikoski	European Network of Living Labs (ENoLL), elected President	Research organisations
Kristiina Hormia Poutanen	Association of European Research Libraries (LIBER), President	Libraries
Matthias Kleiner	Science Europe, Member of Governing Board	Funding Organisations
Stephan Kuster	Science Europe, Secretary General (alternate representative)	
Wolfram Koch	European Association for Chemical and Molecular Sciences (EUCHEMS), Member of Executive Board	Academies/Learned Societies
Ernst Kristiansen	European Association of Research and Technology Organisations (EARTO), Treasurer and Member of Executive Board	Research organisations
Rebecca Lawrence (OSPP-REC Chair)	F1000, Managing Director	Open Science Platforms/Intermediaries
Sabina Leonelli (OSPP-REC Rapporteur)	Global Young Academy (GYA), elected Member	Academies/Learned Societies

Norbert Lossau	European University Association (EUA), Vice-President of the University of Göttingen	Universities
Karel Luyben	The Conference of European Schools for Advanced Engineering Education and Research (CESAER), Vice-President Research, and Chairman of the Task Force on Open Science	Universities
Michael Mabe	International Association of Scientific, Technical and Medical Publishers (STM), Chief Executive Officer	Publishers
Philip Carpenter	STM Board Member (alternate representative)	
Catriona J. MacCallum (OSPP-REC Rapporteur)	Open Access Scholarly Publishers Association (OASPA), Chair of Policy Committee; Director of Open Science (Hindawi)	Publishers
Paul Peters	OASPA President (alternate representative)	
Natalia Manola	OpenAIRE, an open access infrastructure, Managing Director	Open Science Platforms/Intermediaries
Eva Méndez Rodríguez	Young European Research Universities Network (YERUN); Deputy Vice-President for Scientific Policy, Open Science, Universidad Carlos III de Madrid	Universities
Christophe Rossel	European Physical Society (EPS), Past-President	Academies/Learned Societies
Matthew Scott	GÉANT (A pan-European collaboration on e-infrastructure and services for research and education), Chief Programmes Officer	Open Science Platforms/Intermediaries
Steve Cotter	GÉANT Chief Executive Officer (alternate representative)	
Jan-Eric Sundgren	Business Europe, Chairman of the Working Group for Research, Technology and Innovation	Open Science Platforms/Intermediaries
Michela Vignoli	Young European Associated Researchers Network (YEAR), Board Member	Academies/Learned Societies
Johannes Vogel (OSPP Chair)	European Citizen Science Association (ECSA), Chair	Citizen Science Organisations
Maike Weisspflug	European Citizen Science Association (alternate representative)	
John Wood	Research Data Alliance (RDA), Co-Chair, and Chair of RDA Europe	Open Science Platforms/Intermediaries

# OSPP-REC: Next-generation indicators

## Research Indicators and Next-Generation Metrics

Evaluations of individual researchers or of research groups **should not use journal brand or Impact Factor as a proxy for research quality**. Those responsible for hiring, promotion, funding and/or the evaluation of researchers must **use a broader, tailored range of quantitative and qualitative indicators** of research activity, progression and impact that [incentivises](#) and rewards open research practice. All **publication venues must prominently display a broad range of indicators** for all research outputs.

Quantitative and qualitative **indicators need to be identified and developed for research assessment that captures the full range of contributions** to the knowledge system. These should reflect the complexity and varied context of the research environment, the specific characteristics of the research being undertaken, as well as the new kinds of questions and results that might emerge in an open system.

**Experiments, pilots and case studies assessing the validity of such indicators need to be undertaken urgently, and** included as part of FP9 with appropriate funding allocated to support them. The results and data of these pilots must be made publicly available as exemplars for further implementation.

**All researchers need to be identified through an ORCID ID.** Best practice for [CV/biosketch evaluation](#) **should be developed** and publicly showcased to encourage a **broader recognition of the range of verifiable (and especially open) contributions** individuals make to the knowledge system, including teaching and peer review, and the production of a broad range of output types. The career narrative should be central to the evaluation of individual researchers as it provides the crucial context in which indicators can be interpreted.

The **data, metadata and methods that are relevant to research evaluation**, including but not limited to citations, downloads and other potential indicators of academic re-use, **should be publicly available for independent scrutiny and analysis** by researchers, institutions, funders and other stakeholders.



Research & E-Infrastructures



Policy Making Organisations



Researchers



Research Libraries



Research Funding Organisations



Scientific Societies & Academies



Universities & Research Performing Organisations



Publishers



Citizen Science & Public Engagement Organisations

# OSPP-REC: Rewards & incentives

## Rewards and Incentives

Funders, research institutions and other evaluators of researchers should actively **develop/adjust evaluation practices and routines to give extra credit to individuals, groups and projects who integrate Open Science within their research practice.**

**Studies must be commissioned and funded to propose guidelines for best practice and tools for research assessment** by 2019, together with an **active delivery plan and associated timeline for their implementation.**

These guidelines must take into account career stage and discipline, and be appropriately tailored to their target such as individual, institution and so forth. **Exemplars of innovation and good open science practice must be collated, taking into account** the DORA Declaration, the Leiden Manifesto, the OS-CAM and other relevant initiatives.

Public research performing and funding organisations (RPOs/RFOs) should **provide public and easily accessible information about the approaches and measures being used to evaluate researchers, research and research proposals.**

The traditional academic career structure disincentivises Open Science because of the current focus on tenured positions based solely or largely on publication output. **Institutions need to have a career and reward structure for all researchers, and particularly for Early Career Researchers (ECRs), that values and promotes a diverse range of outputs, activities and career directions.** This should include facilitating a means by which researchers can, for example, move between academia and industry or between national jurisdictions.



Research & E-Infrastructures



Policy Making Organisations



Researchers



Research Libraries



Research Funding Organisations



Scientific Societies & Academies



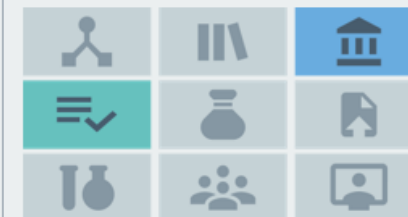
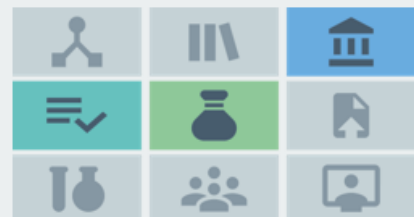
Universities & Research Performing Organisations



Publishers



Citizen Science & Public Engagement Organisations





# Upcoming EC Expert Group report

Indicator Frameworks for Fostering Open Knowledge Practices in Science and Scholarship

*Expert Group on Indicators for Researchers' Engagement with Open Science*

*(Paul Wouters, Ismael Ràfols, Alis Oancea, Shina Caroline Lynn Kamerlin, J. Britt Holbrook, Merle Jacob)*

## Key points:

- Manage and plan for unintended consequences and/or 'steering' effect of indicators
- Don't create incentives for only tokenistic / superficial change in behaviours
- Tailor suite of indicators to field, project, type of entity measuring etc

# Areas of focus of report

Three levels for indicator use regarding Open Science:

1. scientific system as a whole, including the infrastructures that are required for open science;
2. research performing organization and research funding organization; and
3. individual researcher or research group.

Key dimensions of an indicator framework:

- Goal of monitoring/evaluation
- Mission of research
- Level of assessment
- Disciplinary structures, epistemic cultures and research approaches
- Stakeholders, audiences and beneficiaries
- Research environment

# Four Open Indicator Toolboxes proposed

Indicators to measure:

1. **Open knowledge infrastructures** at national, international and disciplinary levels
2. **Open knowledge capabilities** in research communities (incl support personnel)
3. **Pioneering open knowledge practices** – qualitative, case-study based – to garner support from research communities
4. **Individual-level** for careers – based on principles of responsible metrics e.g. Metric Tide, Leiden Manifesto and DORA declaration.

+ long list of indicators, tools to measure them, strengths, weaknesses, potential, risks etc



# OSPP – building on recommendations

- Research can be viewed, managed, accessed and assessed in terms of *integrity of processes*, rather than only as **products**
- Often miss **focus on goals** for open knowledge practice:
  - Goal → specific objective → indicators → data sources
  - Where data sources currently do not exist, can we develop something
- Now move *beyond declarations* to practical implementations & experiments

Open Science, as a shared responsibility between all stakeholders, should:

1. Ensure research is ethical and conducted with integrity
2. Recognise diverse outputs and contributions
3. Recognise diverse communication channels
4. Facilitate access to and discoverability of research findings (such as publications, data, software and methods)
5. Actively engage with the public
6. Actively support open knowledge practices across the organisation

# National OS Coordinators

## OSPP-REC

### ■ Member State coordination

- Share best practice
- Bring consistency to policies across national borders
- Coordination between stakeholders at the national level

### ■ Several European countries have or actively pursuing OS Coordinator approach:

- The Netherlands
- Finland
- Ireland?

### ■ Potential Open Science Coordinators Network for Europe

## Open Science Policy Platform Recommendations

### 2. Recommendations

#### 2.1. General recommendations

In addition to the specific targeted recommendations in the matrix below, we call upon all Member States and stakeholders to:

1. **Appoint national coordinators and task forces for the implementation of Open Science.** This instrument must foster the development of funded national plans and the alignment of the Open Science policy agenda across all stakeholders involved including Member States to ensure the coordinated action required for tangible change towards an Open Science approach.

# The Netherlands



nationaal  
platform  
open  
science

[Home](#) [Open Science](#) [National Platform Open Science](#) [Themes](#) ▾

[Home](#)

## National Platform Open Science

The parties involved in the National Plan Open Science come together on the Platform and ensure that the Netherlands progresses towards achieving its aims and closely monitors developments.

### Focus points for the National Platform

The focus for the Platform is to create acceleration with regard to the [three key areas of the National Plan Open Science](#). In this regard we have the following focus points:

- [Set quantitatively and qualitatively measurable elements](#) in line with the existing national and European monitoring. This should not involve a heavy administrative burden.
- [Share knowledge and experience](#) with each other and establish links.
- [Respond to new developments in the field of open science](#), which may involve additional actions being taken.

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## Open Working

An Experiment in Open Working from 4TU.Centre for Research Data & TU Delft Research Data Services (Note! This is a test site, so URLs may change!)

[HOME](#) [ABOUT OPEN WORKING AT TU DELFT](#) [DATA STEWARDSHIP](#) [DATA CHAMPIONS](#) [DMP CATALOGUE](#) [CONTACT](#)

JANUARY 25, 2019

## Data Stewardship at TU Delft – 2018 Report

Open Working from

4TU. CENTRE FOR  
RESEARCH DATA

and

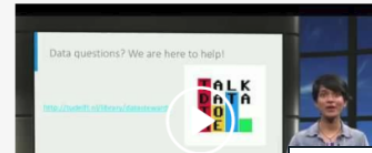
TU Delft

SEARCH

CATEGORIES

### Data Stewardship

What can a Data Steward do for you?  
Check it out:



Contact your data steward for:

- Setting up secure data storage
- Advice on good data management practice
- Information about data archiving
- Tips on increasing impact with data sharing
- Preparing data management plans
- Any other data questions

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U bent hier: [Home](#) > [Actueel](#) > Open Science and Research Data Management Train-the-Trainer Bootcamp

**Wanneer**  
17-04-2019 (Europe/Amsterdam / UTC200)

**Waar**  
NWO - zaal 300, Laan van Nieuw Oost-Indië 300, Den Haag,

**Naam contactpersoon**

Open Science and Research Data Management Train-the-Trainer Bootcamp

Are you supporting researchers in Open Science and Research Data Management (RDM) and looking for ways to make your training more effective? Join this full-day Train-the-Trainer Bootcamp organized by FOSTER, CESSDA, ELIXIR and DANS.

### Data Steward Knowledge and Skills Workshop

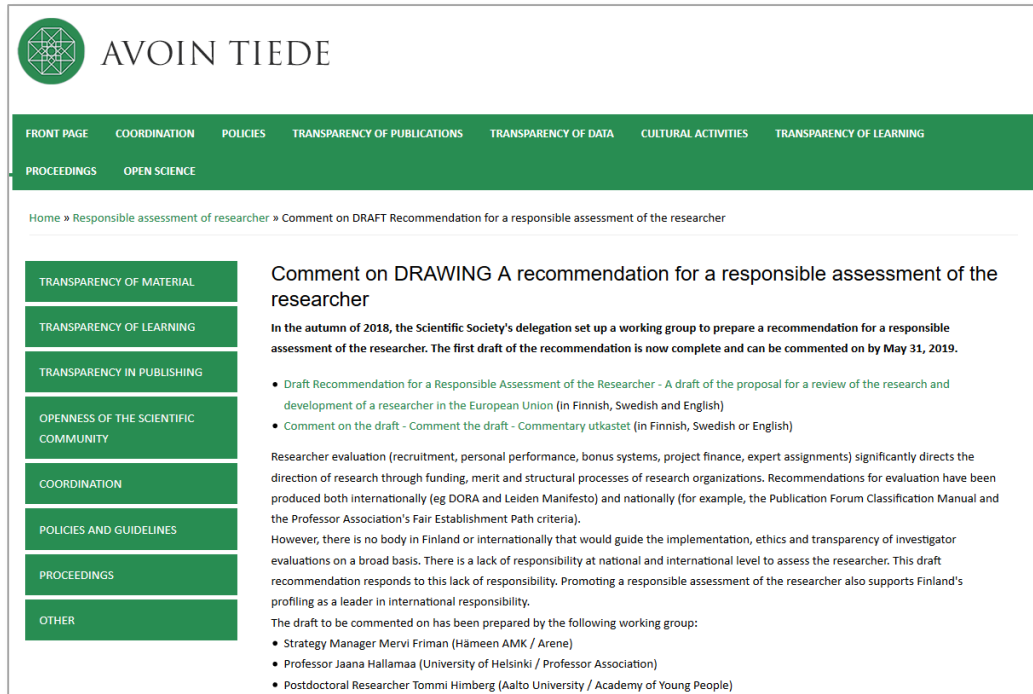
11 JUNE 2019  Holland Heart House, Utrecht

A working meeting with and for the Data Steward Community

Faculty of 1000 Ltd

# Recommendations from Finland

<https://avointiede.fi/fi/luonnos-tutkijan-vastuullinen-arviointi>



The screenshot shows the Avoin Tiede website interface. At the top left is the logo and the text "AVOIN TIEDE". Below it is a green navigation bar with links: FRONT PAGE, COORDINATION, POLICIES, TRANSPARENCY OF PUBLICATIONS, TRANSPARENCY OF DATA, CULTURAL ACTIVITIES, TRANSPARENCY OF LEARNING, PROCEEDINGS, and OPEN SCIENCE. The main content area has a breadcrumb trail: Home » Responsible assessment of researcher » Comment on DRAFT Recommendation for a responsible assessment of the researcher. On the left is a vertical menu with categories: TRANSPARENCY OF MATERIAL, TRANSPARENCY OF LEARNING, TRANSPARENCY IN PUBLISHING, OPENNESS OF THE SCIENTIFIC COMMUNITY, COORDINATION, POLICIES AND GUIDELINES, PROCEEDINGS, and OTHER. The main text area is titled "Comment on DRAWING A recommendation for a responsible assessment of the researcher". It contains a paragraph: "In the autumn of 2018, the Scientific Society's delegation set up a working group to prepare a recommendation for a responsible assessment of the researcher. The first draft of the recommendation is now complete and can be commented on by May 31, 2019." This is followed by two bullet points: "Draft Recommendation for a Responsible Assessment of the Researcher - A draft of the proposal for a review of the research and development of a researcher in the European Union (In Finnish, Swedish and English)" and "Comment on the draft - Comment the draft - Commentary utkastet (in Finnish, Swedish or English)". Below this is a paragraph about researcher evaluation and its impact, followed by another paragraph stating that the draft recommendation responds to a lack of responsibility. At the bottom, it lists the working group members: Strategy Manager Mervi Friman (Hämeen AMK / Arene), Professor Jaana Hallamaa (University of Helsinki / Professor Association), and Postdoctoral Researcher Tommi Himberg (Aalto University / Academy of Young People).

## Principles:

1. Transparency
2. Integrity
3. Fairness
4. Competence

## Ten areas of focus:

1. Transparent definition of objectives & criteria of the evaluation
2. Researcher is primarily evaluated qualitatively
3. Evaluation materials comprehensive
4. Evaluators unbiased
5. Equality of the process: field, career phase, gender/ethnicity
6. Research significance & quality evaluated broadly – balance research / societal impact
7. Recognise researcher's activity in community
8. Evaluate research as part of their research community/research group
9. Consider researcher's own objectives - self-evaluation
10. Recognise benefit of evaluation to evaluated party

# Need top-down + bottom up

Frameworks

**LEIDEN MANIFESTO FOR RESEARCH METRICS**

Home Video version Translations Blog

10 principles to guide research evaluation with 23 translations, a video and a blog

**RESPONSIBLE METRICS**

About The Metric Tide

**The Metric Tide**

**Next-generation metrics:  
Responsible metrics and evaluation for open science**

Report of the European Commission Expert Group on Altmetrics

*James Wilson*, Professor of Research Policy at University of Sheffield (UK)  
*Judit Bar-Ilan*, Professor of Information Science at Bar-Ilan University (IL)  
*Robert Frodeman*, Professor of Philosophy at the University of North Texas (US)  
*Elisabeth Lex*, Assistant Professor at Graz University of Technology (AT)  
*Isabella Peters*, Professor of Web Science at the Leibniz Information Centre for Economics and at Kiel University (DE)  
*Paul Wouters*, Professor of Scientometrics and Director of the Centre for Science and Technology Studies at Leiden University (NL)

Now need bottom-up driven implementations

Need to make it easy for researchers:  
Research funders need to fund development of infrastructure + skills training  
Back to considering what research for, what it delivers, and designing connected ecosystem

# OSPP next steps: Practical Commitments for Implementation

- OSPP working with major initiatives to coordinate set of pilots using new approaches to assessment at:
  - Stakeholder level e.g. university associations
  - Institutional level
  - National level
  - Domain-specific level
- Ensure open evaluation of these pilots and dissemination of results
- Use successes to support uptake and broader adoption by others, including work required by other stakeholders

# Questions?

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