University of Reading

The road to Open Research: promoting and fostering a sharing culture at the University of Reading
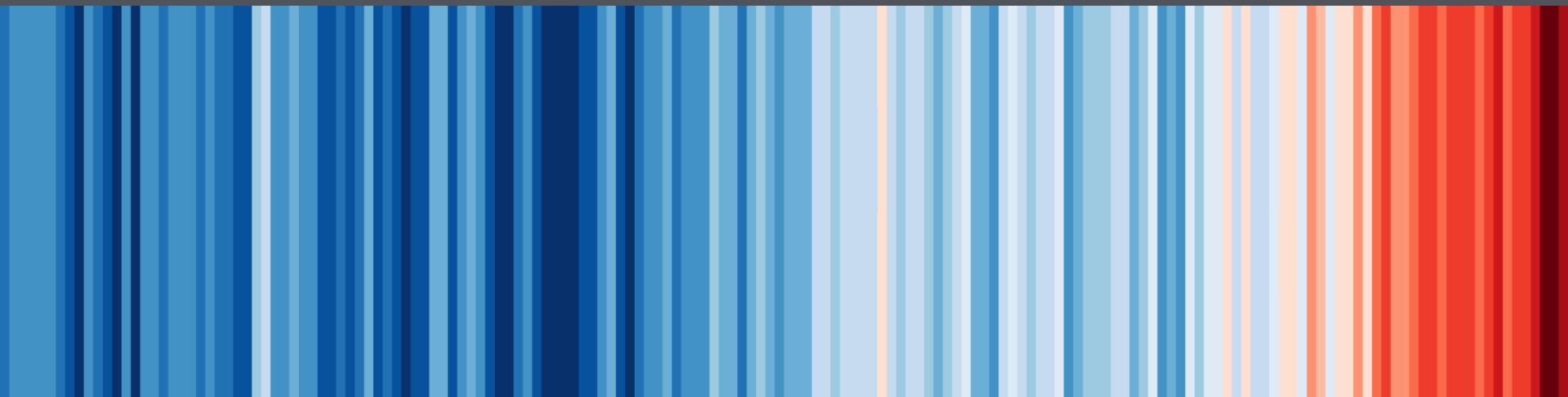
M25: The Future of Libraries. 30th March 2021

Robert Darby, Research Data Manager
Karen Rowlett, Research Publications Adviser

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Outline

The background to our initiative

Open Research 2016-2021

Where we are now and what have we learned?

University of Reading

- Research-intensive for size
  - 17,800 students (1,100 PhDs); >1,100 research-active staff (2019/20)

- 2014-16
  - Research restructured to align more closely to REF
  - Investment in new FTE for Research Services, impact, research assessment, RDM, RPA

Key players

- Senior management
  - Phil Newton: Research Dean for Environment

- Library
  - Alison Sutton: Institutional Repository Manager
  - Karen Rowlett: Research Publications Adviser

- Research Services
 - Robert Darby: Research Data Manager

Motivations

- We are not open enough!
  - REF-driven OA compliance was high, but no evidence of broad willingness to adopt open practices
  - Low adoption of OA publication routes unless mandated
  - Low levels of data and code sharing: absence of policy enforcement and positive incentives
  - Poor staff attendance at OA and RDM training

- Research support not integrated
  - Publications and RDM functions split between Library and Research Services
  - Library did not have a strategic focus on research support

IS THERE A REPRODUCIBILITY CRISIS?

7% Don't know

52% Yes, a significant crisis

3% No, there is no crisis

1,576 researchers surveyed

38% Yes, a slight crisis

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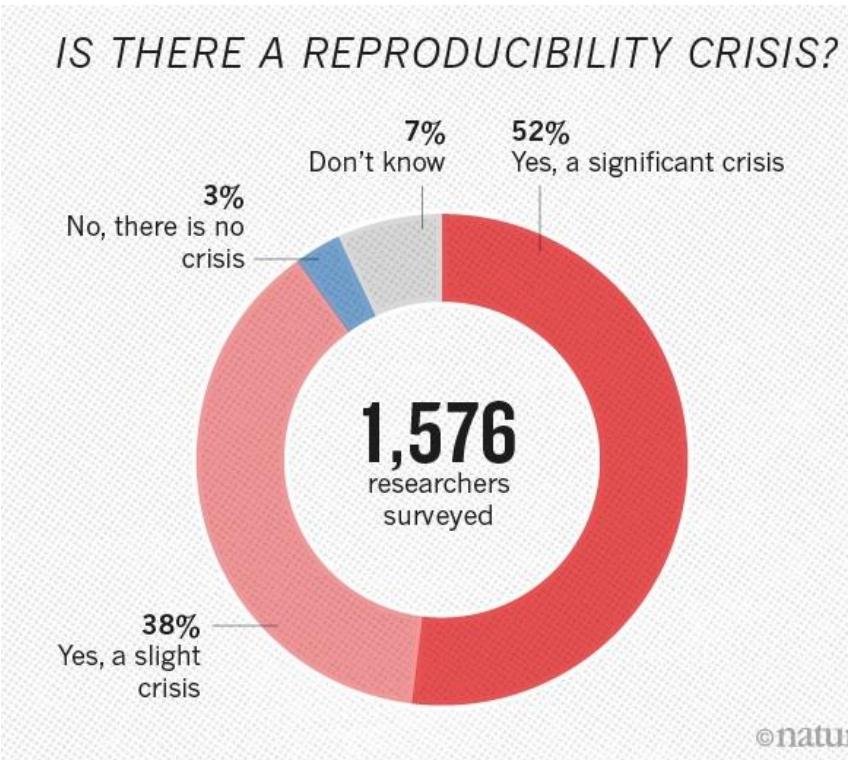
BBC
Science & Environment

Most scientists 'can't replicate studies by their peers'

By Tom Feilden
Science correspondent, Today programme

22 February 2017

GETTY IMAGES

Scientists attempting to repeat findings reported in five landmark cancer studies confirmed only two

- >50% of researchers could not reproduce their own experiments

- >70% could not reproduce the work of others

Nature 533, 452–454 (26 May 2016). http://dx.doi.org/10.1038/533452a

'Open science refers to the process of making the content and process of producing evidence and claims transparent and accessible to others. Transparency is a scientific ideal, and adding 'open' should therefore be redundant. In reality, science often lacks openness: many published articles are not available to people without a personal or institutional subscription, and most data, materials and code supporting research outcomes are not made accessible, for example, in a public repository.'

Munafò, M. et al. A manifesto for reproducible science. Nat Hum Behav 1, 0021 (2017). https://doi.org/10.1038/s41562-016-0021

San Francisco Declaration on Research Assessment

◆

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 developed a set o Declaration on Re scientific disciplir Declaration.

LEIDEN MANIFESTO FOR RESEARCH METRICS

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

Research evaluation has become routine and often relies on metrics. But it is increasingly driven by data and not by expert judgement. As a result, the procedures that were designed to increase the quality of research are now threatening to damage the scientific system. To support researchers and managers, five experts led by Diana Hicks, professor in the School of Public Policy at Georgia Institute of Technology, and Paul Wouters, director of CWTS at Leiden University, have proposed 10 principles for the measurement of research performance: the Leiden Manifesto for Research Metrics published as a comment in Nature.

Hicks, Wouters, Waltman, de Rijcke, Rafols, Nature, April 23, 2015

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University of Reading

Open in Practice 2017

- Full-day conference

- External speakers (academics, publishers, data services) on reproducibility, OA, digital humanities, data sharing, open peer review, preprints

- 90 attendees:
    - 50 research-active (staff, some PhD students)
    - External guests, professional services, senior management

- **Outcomes**
    - Started the conversation
    - Engaged senior management
    - Kicked off follow-on activities

https://tinyurl.com/uor-oip-2017

Open Research Statement

- Championed by Research Dean and developed following *Open in Practice*

- Broadcast clear commitment to aims and principles of Open Research

- Tie together existing open policies (OA and research data)

- Inform strategic, co-ordinated policy and service development

- Inspire researchers with positive examples of benefits and possibilities

Consultation – Spring 2018

- Consultation survey sent to ~2,100 research-active staff and PGRs
  - 55 responses

- Most respondents supportive in principle – but in practice?
  - Apart from policy-driven OA, evidence of Open Research activities patchy

- Misconceptions and negative perceptions
  - 'Not relevant to Arts and Humanities'
  - 'Preprints undermine peer review'
  - 'More box-ticking for academics'

- Purpose of Statement unclear
  - 'Is it a policy?... What am I supposed to do?... What if I don't do it? '
  - 'Will there be more resources and support?'

'How might we establish an Open Research culture in the University?'

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HOME   ABOUT   ACTIVITIES   PUBLICATIONS   CONTACT   🔍

Home › Publications › Open Science and its role in universities: a roadmap for cultural change

Open Science and its role in universities: a roadmap for cultural change

📅 Year of publication:	May 2018
⬛ Type of paper:	**Advice paper**
👥 Author(s):	› Paul Ayris (University College London)
	› Alea López de San Román (LERU Office)
	› Katrien Maes (LERU Office)
	+ See all

https://tinyurl.com/leru-open-science
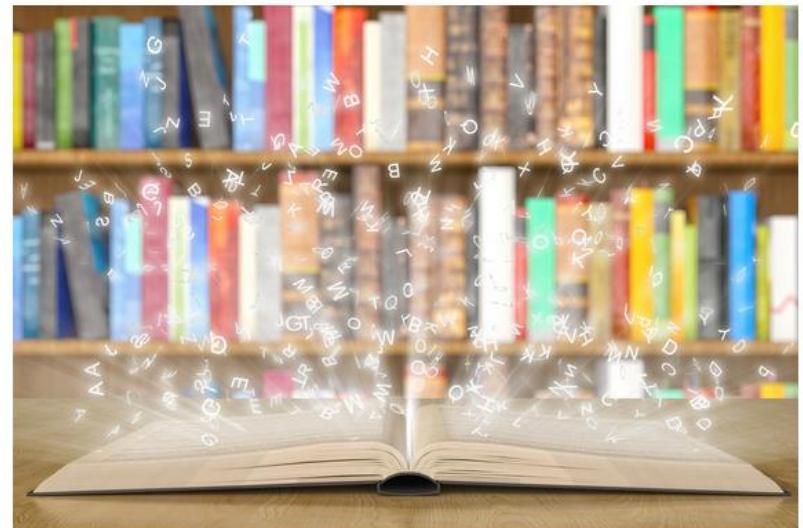
OPEN RESEARCH

UNIVERSITY OF READING STATEMENT ON OPEN RESEARCH

This statement sets out the University's commitment to the aims and principles of Open Research. We explain what it is and why it is important. We encourage our research community to explore the possibilities and benefits of using open practices in their research, to discuss their needs with us and to draw on the available support. On this page you will also find links to useful guidance and resources for researchers relating to Open Research.

The University of Reading will increase the quality, integrity and accessibility of our research by supporting a growing culture and practice of Open Research. We will use modern technologies and practices of scholarship to improve access to research, transparency in the research process, and reproducibility of results, and to promote efficient methods of scholarly communication.

Read more   ⌄

USEFUL LINKS

12 things you can do to be open

Further information on Open Research

Research Data Management

Download PDF of our Statement on Open Research

Open Research Handbook

Our commitment to the UK Reproducibility Network

https://tinyurl.com/uor-openresearch

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12 THINGS YOU CAN DO TO BE OPEN

12 things you can do to be open

Here are 12 things you, as a researcher, can do to be more open. Some will be applicable to all research, others are possibilities which might be relevant to some disciplines and contexts more than others.

Explore the possibilities; be as open as you can be, and as closed you need to be. The University's publications and research data support teams are here to help you tackle any or all of these. Please contact us if you need support or would like more information.

General tips for good practice which are likely to be required by research organisations, funders and publishers:

1. Make your research publications Open Access. This can be done either via the publisher (Gold Open Access) or through deposit in CentAUR, the University's publications repository (Green Open Access), under a suitable open licence.* Monographs as well as articles can be published by Open Access means.

2. Make it FAIR. If you collect or create primary data that support your research findings, make them FAIR (Findable, Accessible, Interoperable and Re-usable) by depositing them in a data repository under an open licence, in usable formats and with appropriate documentation and metadata, and cite the data using the DOI or other unique identifier in your publications.

3. Release your code. If you create research software or write code to perform data analysis, preserve and release the (commented, documented) code under an open licence using a data repository or code repository platform (e.g. the University's GitLab or GitHub), and cite the code in your publications, by version and using a DOI or other unique identifier where possible.

4. Archive web resources for long-term preservation and use. If you create an open web resource, such as an online database or a digital collection, implement it using open standards (e.g. following Text Encoding Initiative Guidelines) and sustainable infrastructure to optimise its usability, and archive the content and resource documentation to a suitable data repository for long-term preservation.

Opportunities to make your practice more open, not all of which will be appropriate to all disciplines and contexts:

https://tinyurl.com/uor-12things

https://libguides.reading.ac.uk/open-research

OPEN RESEARCH CASE STUDIES

In these case studies, researchers at the University of Reading explain how they have used open practices to carry out and communicate their research, and explore the benefits and challenges of being open.

If you are a researcher or research student at the University and would like us to publish your Open Research case study, find out more here.

REPRODUCIBILITEA READING

ReproducibiliTea Reading is a group of researchers and students who meet regularly to learn about reproducible research and develop their Open Research skills, as part of the international ReproducibiliTea initiative.
→
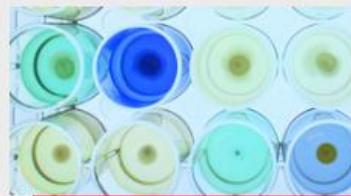
DESIGNING A ROBOT FOR MICROBIOLOGICAL IMAGING

Open Source hardware has been used in the design of a robot

PHD RESEARCH IMPACT AND VISIBILITY

Postdoctoral researcher in the School of Agriculture, Policy and Development at the University, highlights how early engagement

https://tinyurl.com/uor-casestudies

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https://tinyurl.com/uoropen2019

Open in Practice 2019

- UoR researchers showcasing their Open Research

- Open Research Award competition

- 90 attendees (again)
  - 45 research-active
  - Professional services and senior management

- **Outcomes**
  - Disappointing turnout
  - 'Preaching to the converted'
  - Too broad and long – shorter more focused workshops better

Research & Enterprise Services and Library
University of Reading
Open in Practice 2019
Opportunities and Challenges
A multidisciplinary Open Research conference for University staff and research students

Thursday 4th April 2019
09:00-17:00

Van Emden Lecture Theatre
Edith Morley Building

- *Is Open Research better research?*

- *Can open methods create new research possibilities?*

- *How do you learn what to do, and find the right methods and tools for the job?*

- *What is the University doing – and what should it be doing – to help you?*

This conference will explore the opportunities and practical challenges presented to researchers and the University by Open Research. The programme will feature:

- Keynotes from Open Research champions Dr Danny Kingsley (Cambridge) and Professor Stephen Curry (Imperial College London)

- Presentations from University of Reading academics who are implementing open practices in their work

- Lightning talks from entrants in the University's inaugural Open Research Award competition* (winner to be announced on the day)

- A panel discussion on an Open Research plan for the University, led by Professor Parveen Yaqoob, Pro-Vice-Chancellor (Research & Innovation)

Register
https://bit.ly/2zMIjgb
Twitter
#UoRopen
Contact
r.m.darby@reading.ac.uk
0118 378 6161

*Open Research Award entries will be accepted until 1st March. Staff and PhD students can apply. See registration page for details.

Open Research Award

- Run in lead-up to *Open in Practice*

- Researchers and PhD students invited to submit individual or team case studies

- Cash prize for the winner!

- Shortlist offered publication as Open Research case study

- Shortlist presented lightning talks at *Open in Practice* with audience voting to select winner

- Good level of interest – 17 entries

https://tinyurl.com/uor-openaward

CALL FOR OPEN SCIENCE AWARDS

The University of Groningen Library (UB) and the Open Science Community Groningen (OSCG) launch the annual Open Research Award. The award celebrates the many ways in which academics make their research more accessible, transparent or reproducible.

Open Research Prize 2020

Overview

The University of Bristol supports open research, in all its forms, as reflected in our revised promotion criteria and broad commitment to transparency in research. As part of this, we have launched an Open Research Prize, which is now open to submissions from all researchers (including postgraduate research students) in all disciplines across the university.

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Other developments

2017

- <u>OA monographs fund</u>
  - Balance out OA funding across University
  - Engage our humanities community
  - 9 monographs and one chapter funded so far

2018

- <u>Responsible metrics statement</u>
  - Adopts Leiden manifesto principles

2019

- Examples of Open Research can be added in support of academic promotions (to Associate Professor/Professor)
- Newly appointed Director of University Library and Collections Services & University Librarian is very engaged with providing research support in the Library

2020

- Reading joins UK Reproducibility Network

2021

- Digital Humanities Research Hub established in Library and a new Project Officer (0.8FTE) post

The Baptized Muse

Early Christian Poetry as Cultural Authority

Karla Pollmann
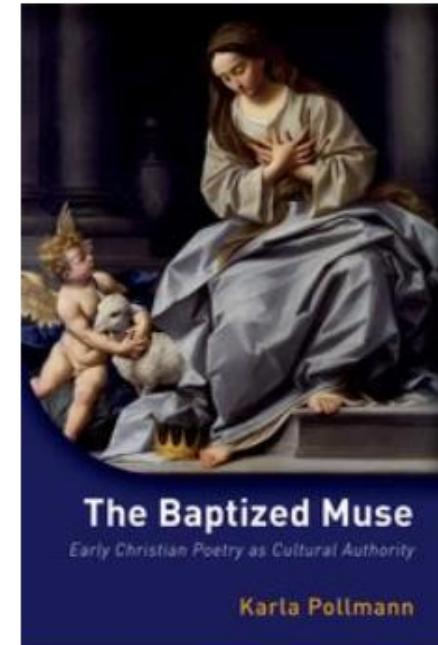
Research programming

- Research Data Manager undertook survey into research programming and software practices in 2017
  - Widespread poor practice and absence of training, with consequences for research quality and reproducibility

- Led to dialogue with Digital Technology Services (DTS) about support and training needs, and further requirements gathering

- 2020: two DTS staff regraded as Research Software Engineers (RSEs) with a remit to implement research support and training services

Governance and services 2019

- <u>Research and Innovation Strategy</u>: commitment to build a culture of open and reproducible research

- Committee for Open Research and Research Integrity (CORRI)
  - Broader Open Research remit
  - Initiated development of Open Research Action Plan

- Library Research Engagement Group established
  - Research Data Manager moves from Research Services to Library

Open Research Action Plan

3-year funded <u>Open Research Action Plan</u> approved November 2020 - £42K earmarked for activities

- Recruitment of Schools-based Open Research champions (staff or student)

- Small funds for researcher-led projects/initiatives with an Open Research focus

- Training programme: <u>Software Carpentry</u>, statistical skills for reproducible research

- Communications and engagement activities, Open Research Awards, etc.

- Embedding Open Research norms in recruitment, promotion and assessment processes

Recruiting Champions

- Call has gone out for volunteers to act as open research champions

- Modelled on Data Champions program run by University of Cambridge

- Small role at 0.05 FTE, 12 month term

- 27 applications received from 8 academics, 5 post-docs and 14 research students

- Training will begin in April 2021

- Hoping that champions embedded within departments and groups will be able to work at grassroots level

Where are we now?

- Open Research has given us a shared language to discuss related needs across the University
  - Brings together accessibility, transparency and reproducibility
  - Embraces a wider range of practices and developing support
  - Some evidence of more researcher engagement

- Higher profile for research support in Library

- Increased buy-in at senior management level

- Professional services (Library, Research Services, DTS) are working more strategically to develop and deliver support to staff and students

The wider world has changed

- Open Access: Plan S, UKRI policy, OA monographs in next REF

- REF 2021 environment statements: Open Research and reproducibility

- FAIR Principles

- Publishers' policies on data and code

- UK Reproducibility Network

- Responsible research assessment

- Universities' Open Research statements: https://tinyurl.com/yxjm628v

What have we learned?

- Open Research presents opportunities for HE libraries:
  - develop and expand research support services
  - make new connections with researchers and leaders
  - inform and lead in areas of research strategy

- Be agile, open and inclusive – make researchers part of the solution, not a problem to be fixed

- High-level statements are a fine thing, but you need to cultivate from the ground

- Be prepared for the long haul - nothing will happen quickly

Thank you

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