Research on Research: Work in Progress

The Work of RoRI, 2020-21

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Our five aims for the pilot phase (2020-2021)

To support and build capacity for interdisciplinary, mixed-method and translational RoR in and across research systems worldwide *(research role)*

To connect academic RoR capabilities to the data and analytical resources of our founding and strategic partners *(translation role)*

With these partners, to experiment, coproduce and test new tools, indicators, funding modes, decision and evaluation frameworks *(innovation role)*

To critically evaluate RoR methods and support engagement with RoR data and evidence by decision makers and wider society *(brokerage role)*

To create an independent space for RoR learning, networking and collaboration between researchers, policymakers, funders and technologists *(facilitator role)*
Our consortium (as of Sept 2020)

Founding Partners:

- Wellcome Trust
- Digital Science
- University of Sheffield
- CWTS, Leiden University

Strategic Partners (for pilot phase, 16 partners from 12 countries and regions):

- African Academy of Sciences
- Australian Research Council (ARC)
- Austrian Science Fund (FWF)
- Canadian Institutes of Health Research (CIHR)
- Chan Zuckerberg Initiative (CZI)
- European Molecular Biology Organization (EMBO)
- Howard Hughes Medical Institute (HHMI)
- DBT/Wellcome Trust India Alliance
- Michael Smith Foundation for Health Research (MSFHR)
- National Institute for Health Research (NIHR)
- Novo Nordisk Foundation
- Research Council Norway (RCN)
- Alfred P. Sloan Foundation
- Swiss National Science Foundation (SNSF)
- UK Research and Innovation (UKRI)
- Volkswagen Foundation
RoRI consortium partners as co-designers and co-producers

“An international consortium of funders, academics and technologists committed to transformative and translational research on research.”
Research on research landscape: Initial analysis

RoR taking place in a number of different disciplinary areas
Using different methods and theories
Often taking place in silos
RoRI aims to work across boundaries

RoRI landscape report to be published in the autumn

Based on publications identified by a group of experts
Summary
Funders need their proposal selection processes to do one thing: select the proposals most likely to meet their objectives. Various inequalities in funding rates may exist, such as gender or field inequalities. The selection process a funder uses may mitigate or exacerbate these inequalities. The project will use data from many funders who each use different selection processes in different contexts. The outputs will help funders understand the potential drivers of inequalities in research funding and identify where mitigation is possible.

Partners: Australian Research Council; Canadian Institutes of Health Research; Chan Zuckerberg Initiative; EMBO; Austrian Science Fund (FWF); Michael Smith Foundation for Health Research; Novo Nordisk Fonden; Research Council Norway; W/DBT India Alliance; UKRI; Wellcome Trust

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RoRI working with publishers (2020/21)

**PEER REVIEW**

*Experiments in peer review*

**Summary**

All or almost all publishers are experimenting with new forms of peer review and ‘quality control’ widely conceived. Some of these experiments are taking place in the context of COVID-19 (e.g. Rapid Reviews project, various preprint initiatives), while others have a more general focus, for instance on increasing transparency and openness of peer review. There is a great deal of heterogeneity in the types of experiments. Some involve refining existing models of peer review, others involve radically reshaping notions of validation in scholarly communication (e.g. ‘disseminate – review – curate’ models). This project will aim to study this broad range of experiments in peer review. The first phase of the project will create an inventory of current experiments in peer review. The second phase will undertake detailed case studies of selected experiments.

**DIVERSITY**

*Diversity in scholarly communication*

**Summary**

The issue of equality, diversity and inclusion in scholarly communication (e.g. in terms of gender, geography, language, discipline, etc.) has been highlighted in our conversations with a number. In these conversations, different levels at which diversity can be analysed have been discussed (e.g. who submits research, who reviews research, who gets published). There are opportunities for large-scale quantitative analyses of diversity in scholarly communication, although data availability and sharing is a challenge. To get an in-depth understanding of issues around diversity, such quantitative analyses will be combined with qualitative approaches.

**ALIGNMENT**

*Alignment of incentives (publishers, funders and others)*

**Summary**

A number of publishers have expressed an interest in the topic of alignment activities and incentives between different actors in research, particularly through publishers and funders collaborating. Given RoRI’s extensive partnership working with funders and RoRI’s aim to facilitate collaboration between different stakeholders in the research system, we seem to be well positioned to study this topic. The topic is, however, challenging of embedded notions of quality and quality indicators (metrics) in the system, and because of histories of competition or even confrontation that sometimes exist in the research system both within and between actor groups.
For project updates and further details, please visit:
ResearchOnResearch.org or @RoRIInstitute
Appendix

PROJECT DETAILS
CRITERIA

How do grant application criteria influence inequalities in research funding?

Timetable: June 2020 – Sept 2021

Summary:
Whether they use application forms, interviews, metrics, internal review, external review or a lottery, funders want their selection processes to efficiently select those proposals most likely to meet their objectives. Despite recognition of the importance of diversity, persistent inequalities in funding are observed across many settings. This project will use the RoRI Funder Data Platform to: a) examine evidence for funding inequalities in terms of gender and field bias; and b) test different explanations for the presence or absence of these inequalities, using a mixture of qualitative and quantitative data. The findings will help funders understand potential drivers of inequalities in funding and identify where mitigation is possible through changes to selection processes.

Core team lead(s):
Sarah de Rijcke (CWTS)
Matt Thakur (Wellcome)

Partners:
ARC; CIHR; CZI; EMBO; FWF; MSFHR; Novo Nordisk Fonden; RCN; NWO; W/DBT India Alliance; UKRI; Wellcome

Anticipated outputs:
• Fully integrated, standardised dataset containing funding decision data from all participating partners.
• RoRI working paper on unintended bias in funding decisions.
• Peer-reviewed article.
EXCELLENCE
Transforming ‘excellence’: definitions, applications & alternatives in the evaluation, management & measurement of research
Timetable: July 2020 – Sept 2021

Summary:
Initiatives like the UK’s REF, Germany’s Excellence Initiative and Switzerland’s Eccellenza grants have put excellence at the centre of research policy and evaluation. However, the concept remains ambiguous, and is often operationalised through reliance on a small number of metrics. Critics argue that it creates perverse incentives in research, and some have called for the concept to be pluralised, taking account of additional evidence and indicators, such as non-academic impact or openness. Others have argued for scrapping the concept entirely, as little more than a buzzword. This project will assess ways in which the concept of excellence is currently being used by RoRI partners and other key actors in research systems, and how these definitions and uses are changing and can be improved.

Core team lead(s):
Stephen Pinfield (Sheffield)
Thomas Franssen (CWTS)

Partners:
AAS; ARC; CIHR; CZI; EMBO; FWF; MSFHR; NIHR; SNSF; Wellcome

Anticipated outputs:
• Position paper on evolving ideas & uses of ‘excellence’;
• Report with case studies of changing uses of excellence in RoRI partners & other funders;
• Web-based tool for self-development of quality notions in funding arrangements;
• Peer-reviewed article
**FAIRware**

An open source software tool to assess the FAIR status of research outputs

*Timetable: June 2020 – Sept 2021*

**Summary:**
This project aims to build open source software tool(s) to allow researchers, institutions and funders to assess and improve the ‘FAIRness’ of the research outputs they produce. Over recent years, the FAIR principles (Findability, Accessibility, Interoperability, Reusability) have gained considerable traction as a basis for describing how research data, and potentially other research outputs, should be documented and shared to ensure that they can be discovered, accessed and used effectively, such that their value is maximised.

**Core team lead(s):**
Danil Mikhailov (Wellcome)
Adam Dinsmore (Wellcome)

**Partners:**
CIHR; FWF; NIHR; SNSF; Wellcome

**Anticipated outputs:**
- Active online open source community of like-minded developers.
- Suite of tools designed to empower researchers, funders and institutions to maximise the value of their research outputs.
Summary:
This project will explore career pathways in research, broadly defined, with an empirical and policy focus on six countries: Austria, Canada, Denmark, Germany, UK and USA. The project team will be drawn from RoRI partners in these countries, and a wider network of data, research and policy partners. It will follow a modular structure, conducted via desk analysis and online meetings: Phase 1 will explore the data landscape, and identify opportunities to improve quality and access to existing data; Phase 2 will identify how collaboration in definition, generation and monitoring of career data can inform research policy and management, and support more diverse and inclusive research cultures; Phase 3 will culminate in a global online conference on 'reforming the postdoctoral experience' accompanied by a detailed report.

Core team leads:
Anne-Marie-Coriat (Wellcome)
Claire Fenton (Wellcome)

Partners:
CIHR; CZI; FWF; HHMI; MSFHR; Novo Nordisk Fonden; Sloan; UKRI; Volkswagen Foundation; Wellcome

Anticipated outputs:
- Initial report on data definitions, strengths, gaps across 6 countries;
- Working paper on a global framework for research career data & journal article;
- Online conference (w/ partners) and major report on Reforming the Postdoctoral Experience.
Interest is growing in uses of randomisation (or lottery mechanisms) in grant funding, and a handful of funders are now undertaking experiments at various scales. By supporting RoRI partners in a series of trials and facilitating alignment & learning across these, the consortium aims to undertake the largest analysis of such techniques to date. It will explore effects on bias, burden, legitimacy of process; and longer-term outcomes. This will be the first stage in a wider series of funder experiments, designed to test and evaluate different modes of allocation and evaluation, and their relationship to bias, diversity and inclusion.

**Anticipated outputs:**
- Initial review of existing work on funding randomisation & insights from prior/ongoing partner experiments, to inform the agenda and design of this project
- Support for partners in design, delivery and evaluation of a next wave of trials
- Structured learning from trials & paper summarising findings & cross-funder comparisons
- Final policy report on 'Research Funding & the Modal Mix' analysing randomisation alongside other modes of peer review, panel evaluation, use of metrics & other methods, such as sandpits

**Core team lead(s):**
James Wilsdon (Sheffield)
Helen Buckley Woods (Sheffield)

**Partners:**
ARC; CIHR; CZI; EMBO; FWF; MSFHR; NIHR; Novo Nordisk Fonden; NWO; RCN; Sloan; SNSF; UKRI; Volkswagen Foundation; Wellcome