# Report on GRC 2021 Asia Pacific Regional Meeting

## Introduction

The Global research council (GRC) 2021 Asia Pacific Regional Meeting was held by the National Natural Science Foundation of China (NSFC) on 29-30 November 2021. The aim of this meeting is to provide a platform for the Asia Pacific's GRC participants to discuss the objectives and selected themes for the 10th GRC Annual Meeting which will be hosted by the National Secretariat of Science, Technology, and Innovation of Panama (SENACYT, Panama) and the National Science Foundation (NSF, United States).

The virtual meeting started with welcome remarks from Li Jinghai, President of NSFC and Michael Bright, GRC Executive Secretary. These were followed by introduction to GRC, introduction to the Background Paper of annual meeting themes or working groups, and moderated discussion among all meeting delegates.

This report focuses on the major outcomes of the following topics which were discussed through the meeting:

1. Research ethics, integrity and culture in the context of rapid results research
2. Science technology workforce development
3. Responsible Research Assessment (RRA)
4. Discussion on Gender and Equality, Diversity and Inclusion (EDI)
5. GRC Roadmap and Vision

Please refer to the Annex for further information on the programme of the event.

## 1. Research ethics, integrity and culture in the context of rapid results research

This topic was moderated by Payam Parsizadeh, Director of Science Diplomacy, Iran National Science Foundation (INSF). Participants agreed that it is a timely topic in the context of rapid results research and COVID-19, and they attached importance to the research and ethic.

### 1.1 Main discussed issues

(1) In the context of rapid results research, almost all participants hold the same standard as ordinary research without compromising research ethics and integrity, but they process the application at a relatively quicker pace.

(2) While recognizing the importance of this topic, some participants admit that this topic has not been discussed sufficiently. In the context of rapid result research, funders need to relook the methodology and opportunity.

(3) With limited and concentrated resources poured in rapid results research area, the system might not be sustainable and it could influence the routine jobs of funders.

(4) There are risks for the scientists to lose their reputation and integrity and for the public to lose trust in science in the context of rapid research. A challenge for funders to gain public trust is to convince the public that rapid research emphasizes not only speed but also quality and principles.

(5) Research ethics and integrity cannot be addressed alone by funders and need to be worked with different types of organizations or parties, such as research organizations, universities, to ensure that they uphold research integrity; with regional bodies who set the code of conduct and share good practice; with researchers themselves to encourage them to abide the codes and principle.

(6) Funding agencies need help researchers to understand what is good ethics and integrity by promoting good ethics. Education and raising awareness is important. Training courses could be provided and strengthened for the students even in the undergraduate stage.

(7) Local research ethic context will not be sufficient when it comes to international collaboration. Each nation needs to consider the regional and global research ethic requirement.

(8) In regards to the security of the research and improper government interference, although research funding agencies have minimal abilities to change the foreign policies of the government and it's not realistic to expect too much from the GRC participants to respond to these issues. But GRC is a good platform for sharing the challenges. The core value of the platform provided by GRC is open science and international cooperation. Without confirmed evidence, regarding individual integrity violation as research security issues may fuel bias, racial profiling and hurt public trust in science.

(9) To protect integrity and research security in international collaboration, participants

reported that they normally trust the partner institution they are working with. Apart from trust, participants believes government level and funder level agreements and GRC frameworks, principles, set of rules and statements for participants funders to sign on are equally important.

(10) Research organizations and agencies should adopt the same understanding of research integrity and show that they are adopting effective measures.

### 1.2 Practices, experience and comments shared by participating agencies

***National Research Foundation (NRF) of Singapore*** follows the Singapore Statement on Research and integrity which incorporates the Code of Conduct. NRF has established a network of research integrity for institutions to share best practices and resources to promote responsible research in Singapore.

***Indonesia National Research and Innovation Agency (BRIN)*** included the topic of research and ethic in a recently released Law on science and technology system in 2019. Much effort are spent on the improvement of Government regulations on research ethics.

***Japan Science and Technology Agency (JST)*** supports GRC's statement on research ethics and integrity, and is willing to promote the message in the Japanese research community taking into account both national and international codes. The notion of Research ethics, integrity and culture is widely recognized in Japan. JST recommends open access to researchers but it's not mandatory to include open access papers in research proposals or reports.

***Japan Society for the Promotion of Science (JSPS)*** suggested that the role and responsibility of funding agencies in regards to research ethics and integrity need to be strengthened. Funding agencies need to shoulder the responsibility to support the proper implementation of research ethics, in both domestic and international science communities.

***Ministry of Business, Innovation and Employment, New Zealand (MBIE)*** is working with research organizations to raise awareness about the trust of research and put together a guide on trusted research to provide guidance for both institutions and researchers. MBIE provides information to the university so that they can set procedures and guidelines for the staff.
In response to COVID, MBIE set up the COVID-19 Innovation Acceleration Fund which followed a standard assessment process but was very fast paced. The assessment of proposals was shortened from several weeks to 2 days. MBIE's focus was on short funding rounds and funding fundable proposals.
Some applicants were critical of the streamlined process.

***National Research Foundation (NRF), Korea*** launched the COVID-19 response program last year and streamlined the peer review process. However, it didn' t loosen the research projects' implementation regulation. To avoid any negative effects of the abrupt

response, education regarding research integrity and ethics should be offered more frequently to the researchers despite its urgency.

***Science and Engineering Research Board (SERB)*** recommend GRC come up with some measures and policies to deal with research ethics in the international collaboration against activated interference of government in the new context.

***National Science Foundation, Sri Lanka (NSF SL)*** suggested that GRC should lead all the partners to set up ethics guidelines reflecting emerging fields such as stem cell research and other cutting-edge research areas.

***Iran National Science Foundation (INSF)*** didn't sacrifice anything, such as standards of reviewing, ethical approach to funding research, in the new context. INSF also tried to convey this message to the general public and science community to assure them nothing has been compromised. There are some policies against Iran by some countries, and foreign researchers, universities and funding bodies who want to collaborate with the Iranian peers are dissuaded, bullied and threatened disregards of the research areas even for the global challenges such as climate change. And Iranian researchers engaged in cutting edge research are being targeted normally through peer review publications (coerced, arrested or even assassinated).

***National Natural Science Foundation of China (NSFC)***

Research integrity in China is moving towards the rule of law approach based on rules and regulations to guide the research integrity and ethics. China established National Committee for Research Ethics in Science and Technology in 2020 to build up a full-coverage, well-directed, standard, orderly, and coordinated governance system for research ethics through establishing and perfecting institutional norms, governance mechanisms, supervision and ethical review. Now China has a series of laws with ministries enacting the implementation and adopts a unified zero-tolerance approach towards academic misconduct.

NSFC focus on 4 parties in regards to research ethics and integrity, including applicants, Applicant Institutions, Review Experts and NSFC Staff. In total, NSFC focuses on five Aspects to promote research integrity and scientific culture, including *education, motivation, regulation, supervision and punishment.*

Education:

(1) NSFC arranges conferences on NSFC management, training workshops and seminars, on-site supervision of panel review meetings to create an enabling environment.
(2) NSFC is planning to roll out a scientific integrity educational handbook and an educational video containing cases of scientific misconduct for warning.
(3) NSFC requires integrity department for the host institution and encourages applicant-institutions to conduct courses on research integrity and ethics for staff and students

Regulation

(1) In terms of regulation, In 2009, NSFC formulated the “Code of NSFC Staff Professional Ethics and Conduct”. In 2015, NSFC formulated “Code of Conduct for NSFC Review Experts”.
(2) In 2020, NSFC revised the Regulation on Adjudicating Research Misconducts Related to NSFC Funded Projects. The following are regarded as research misconduct according to the latest Regulation:
    - Falsification/fabrication/plagiarism
    - Dealing/ghostwriting
    - False/concealing information
    - Getting funds through improper means such as bribery or benefit exchange
    - Violating the code of conduct for review/research ethics/authorship
(3) Since last year, NSFC has been formulating “Research Code of Conduct for Funded Project by NSFC” which will cover the four parties including researchers/applicants and host institutions, based on the code of NSFC staff conduct and Code of review expert conduct.

Supervision

(1) NSFC is constantly working on improving the supervision system. NSFC established the Supervision Committee in 1998. It is the first academic supervision body under a government agency in charge of science and technology management in China. Since then all the allegations and complaints shall be trailed by the committee.
(2) NSFC strengthens supervising the key points through the whole process of funding, including:
    - Letter of commitment before submitting proposals/reviewing since 2018;
    - Similarity checking of the proposals in the system since 2012;
    - On-site supervision during panel review meeting since 2007;
    - the annual performance evaluation/inspection of the project fund.
(3) Re-supervision: supervising the performance of supervisory duties of the host institution
(4) Co-supervision: cooperating and interacting between other RI institutes in China as well as overseas.

Punishment

*NSFC holds the principles of “Zero tolerance” and “Joint punishment”.* Other than the independent investigation, in order to make joint punishment, NSFC will make more efforts to cooperate with other central governments in China, such as the Ministry of Education, the Ministry of Science and Technology etc., to build a credit record system of research integrity.

### 1.3 Other questions raised during the meeting

(1) Open access and pre-print

It has been discussed for years but there still lacks a major direction among national

funding agencies. The draft discussion paper described the risks of early publication papers on page 9, but there's no concrete discussion on the position funders should take towards open access and pre-print. Is it because this problem is better discussed in other fields, or is it because it's still in a premature stage for discussion?

(2) Researchers' responsibility

Funders should ask researchers to do the self-report in the international collaboration to actively control the situation at a premature stage. Researchers need to candidly report their relationship with their foreign entities.

## 2. Science technology workforce development

This topic was moderated by Li Wencong, Director, Division of Asia, Africa and International Organizations, Bureau of International Cooperation, NSFC. Participant agencies share practices and experiences of supporting young researchers and female researchers and engaging with industry.

### 2.1 Main discussed issues

(1) Basic and applied STEM education are essential to the response to the rapid technological changes. Funders need to mobilize all resources including female and young researchers.

(2) Young researchers face enormous financial and psychological pressure but they are not given sufficient support. Funders can help to improve their treatment and create enabling and stable environment for young and early career researchers in the S&T Workforce so that they are willing to take risks.

(3) International circulation of brain powers can help researchers gain experience in different research cultures and environments, advance their careers, and build research networks.

(4) Generally female researchers shoulder more household duties (eg. housework, childcare, elderly care) in Asia culture. To promote the active participation of female researchers, the support systems should be improved for both female and male researchers in balancing research with childcare/nursing care.

(5) Setting up female role models of STI who has achieved accomplishment in S&T can encourage female young generations.

(6) There's a "brain drain" problem in developing countries. The continuous migration of educated people and professionals from developing countries to developed countries usually leads to the loss of knowledge and talents in developing countries where they are urgently needed. It is important to promote the development of the research workforce in developing countries through international cooperation. Nurturing the talented researchers that are urgently needed by the developing country and encouraging them to come back to their home country could be a way to build the bridge of international cooperation.

(7) The collaboration of university and industry can stimulate each other for the cultivation of an industrial mindset. One of the challenges faced by some funders is to engage companies and ensure good employment outcomes for Ph.D. students in university and industry.

## 2.2 Talented researcher supporting schemes

### 2.2.1 Japan's Policy and JSPS Programs for Fostering the Next Generations of Talented Researchers

2.2.1.1 Japan's Policy

Japan's general policy is to support young researchers and female researchers and advance the international circulation of talented researchers. Developing frontiers of knowledge and strengthening research capabilities is regarded as sources of value creation in the 6th Science, Technology, and Innovation Basic Plan (FY2021-2025).

(1) Rebuilding the environment to produce diverse and outstanding research

a. To improve the treatment of doctoral students and expand career paths, the following measures were adopted:
   - Increase financial support for doctoral students
   - Expand doctoral students' career paths in industry and government

*Numerical goals:*
   - Triple the number of doctoral students who receive an amount of support equivalent to living expenses.
   - Increase the number of doctoral degree holders in fields of science and technology employed in industry by about 1,000 per year

b. Development of an environment in which young researchers can play active roles in universities

   *Measures*
   - Provide posts for excellent young researchers; foster them and use their talents

   *Numerical goals*
   - Increase the number of university faculty members under age 40 by 10%.
   - Increase the percentage of age 35-39 tenured and tenure-track faculty members in research universities by 10%.

c. Promotion of active participation of female researchers

   *Measures*
   - Improve the environment and support systems for balancing research with childcare/nursing care for both female and male researchers
   - Toward securing greater research diversity, increase the participation of female researchers including in leadership positions

   *Numerical goals*
   - Percentages of female researchers newly hired in universities: 20% in science,15%in engineering, 30% in agriculture,30% in medicine, dentistry, and pharmacy, 45%in humanities, and 30% in social sciences
   - Percentages of female faculty members among university presidents, vice presidents professors:20% starting period, 23% by 2025(177% as of 2020)

d. Promotion of basic and academic research
e. Promotion of international joint research and international brain circulation
   - Doing research overseas, researchers can gain experience in different research cultures and environments, advance their careers, and build research networks with overseas colleagues.
   - Building research hubs that allure talented and motivated researchers from around the world, including top-level researchers, some of whom participate online
   - Providing study opportunities for young researchers at overseas institutions
   - Increasing opportunities for overseas research experiences
   - Inviting excellent researchers from other countries to Japan; promoting the employment of foreign researchers
f. Securing research time
g. Promotion of the humanities and social sciences and creation of the convergence of knowledge
h. Integrated reform of the competitive research funding system

(2) Construction of new research systems (promotion of open science and data-driven research, etc.)

(3) Promoting university reform and expanding functions for strategic management

2.2.1.2 JSPS Programs for Fostering the Next Generations of Talented Researchers

The aim is to provide environments for researchers to work independently.

(1) **JSPS Research Fellowships for Young Scientists** offers four categories of fellowships:

a. Doctoral Course Student (DC)
b. Postdoctoral Fellow (PD)
c. Restart Postdoctoral Fellow (RPD)
d. Superlative Postdoctoral Fellow (SPD)

**Fellowship Categories** $1=¥110

| Categories (Number of Fellowships in FY2021) | Eligibility | Tenure | Monthly Allowance |
|---|---|---|---|
| DC (4,196) | · Enrolled in doctoral course | 2yrs or 3yrs | $1,818 |
| PD (1,000) | · Within 5 years after receiving doctoral degree | 3yrs | $3,291 |
| RPD (214) | · Hold a doctoral degree<br>· May suspend research activities for three months or longer for childbirth and/or child raising | | |
| SPD (24) | · Excellent researchers chosen from PD candidates | | $4,055 |

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**(2) Promoting the international circulation of talented researchers**

a. Cross-border Postdoctoral Fellowship
b. Overseas Research Fellowships
c. Overseas Challenge Program for Young Researchers
d. JSPS International Fellowships for Research in Japan


| Researchers Exchanged | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|---|---|---|---|---|---|
| Postdoctoral Fellowships | 1,126 | 1,142 | 1,150 | 1,083 | 757 |
| Invitational Fellowships | 356 | 307 | 261 | 236 | 44 |

e. Frontiers of Science (FoS) Symposium
f. HOPE Meetings with Nobel Laureates
   - ✓ Give opportunities for excellent PhD students and young researchers in the Asia-Pacific and Africa to engage in interdisciplinary discussions with Nobel laureates and interact their peers.
   - ✓ Foster future scientific leaders in the region
   - ✓ Cultivate in the participants wider perspectives and deep knowledge through various activities with the laureates and peers.
g. Core to Core Program

**(3) Promoting Gender Equality**

JSPS, whose mission it is to advance science, has established the Basic Guidelines for Promoting Gender Equality in JSPS Programs was established March 30, 2020 for the purpose of further carrying out its role of providing stable and sustainable support for the activities of researchers by placing a high level of priority on promoting the equal participation of women in areas of science.

**Concrete Measures**

1) Promoting the establishment of an environment in which researchers can advance their activities irrespective of gender
2) Expanding female researcher participation in JSPS's decision making process
3) Raising awareness and building networks

**JSPS systems for supporting work-life balance of Researchers**

1) Research Fellowship for Young Scientists

Support for resuming research for childbirth and childcare

2) Restart Postdoctoral Fellowship (RPD)

Support for young research who have suspended their research activities for three months or longer due to childbirth or child raising

3) Restart Research Abroad (RRA)

Support for the overseas stays of young researchers who have suspended their research activities due to life events such as childbirth, child raising, and elderly care

4) Research Activity Start-up(Grants-in Aid (KAKENHI)category)

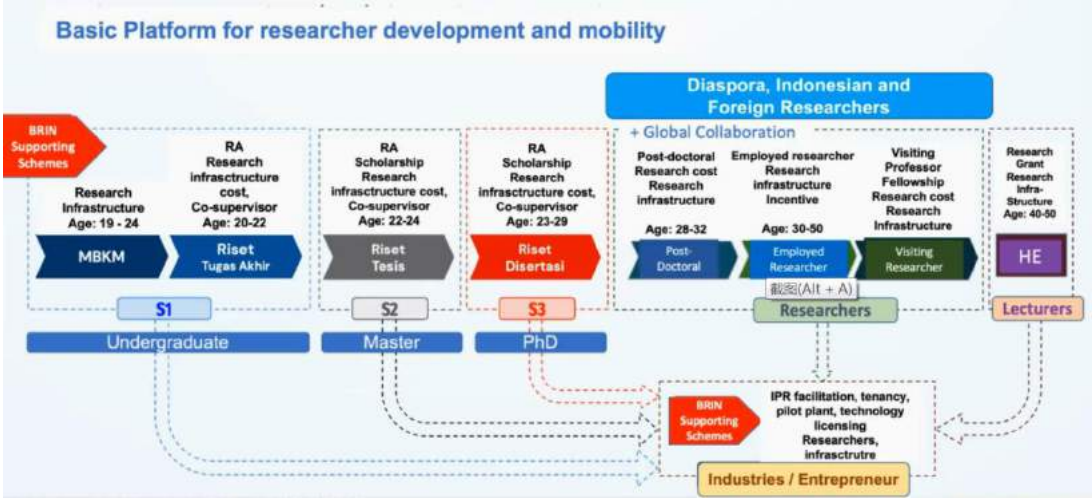
Support for researchers just hired at a research institution and researchers returning to the lab after suspending their research for such reasons as taking childcare leave

**(4) JSPS's Basic Concept on Program Operation for Fostering the Next Generations of Talented Researchers**

- Toward raising the standard of future scientific research giving support to young researchers that allows them to concentrate on their own work, while advancing the international circulation of talented researchers.
- Providing opportunities for international study to excellent young researchers
- Fostering researchers who can challenge the pioneering of new knowledge irrespective of their country, age. gender, or research field

### 2.2.2 Research and Innovation Talent Development of Indonesia National Research and Innovation Agency (BRIN)

As a newly established organization, BRIN has recently developed a scheme to promote the talents.




BRIN provide the support for undergraduate, master and PhD student. Post graduate are invited to be government researchers (around 10 %). To increase the capacity of researcher and attract global researchers, BRIN invite senior researchers from abroad to work in the lab for 3 months to 24 month as visiting researchers. Due to the relatively weak research capacity, currently BRIN accelerate its capacity by tapping global researchers.

### 2.2.3 NSFC's measures to support S&T workforce development

As one of its missions is to identify and foster talented researchers, NSFC supports the development of the Science and Technology Workforce through 17 programs.
Among these programs, a system of 6 programs was formed specifically to support the researchers in different age groups at various career stages.

(1) Young Scientists Fund
**YSF** is open to young researchers aged under 35. Every year, NSFC supports more than 20000 projects in this category, providing the first bucket of gold for researchers to start their careers.

(2) Excellent Young Scientists Fund
**Excellent YSF** aims at supporting professionals with potentials aged under 38 to further promote their career development. Every year NSFC selects around 600 proposals

(3) National science fund for distinguished young scholars
**National science fund for distinguished young scholars** is designed to cultivate leading talents. Every year NSFC funds around 300 projects to support outstanding researchers and scientists under the age of 45 who has achieved remarkable results and showed huge potential of future career development.

(4) Science fund for creative research group
NSFC supports around 50 projects of **Science fund for creative research group.** This program opens to prominent scientists under 55 who lead their research teams to explore the frontiers of science.

(5) Basic science center program
NSFC funds about 20 projects of **Basic science center program** every year to support elite scientists under 60 leading research teams to explore the next frontier of science, creating high international impacts in their fields of studies.

(6) Fund for less developed regions
To promote local S&T and economic and social development, NSFC supports and attracts science researchers in less developed regions through **Fund for less developed regions** by selecting around 3500 proposals every year.

NSFC sets different review criteria and systemic evaluation processes for the above-mentioned programs:

- For career starters, NSFC emphasizes their innovative ideas and potential for future development.
- For distinguished researchers, NSFC places equal emphasis on their past achievements and future possibilities.
- When evaluating projects conducted by research teams, NSFC focuses on the overall strength of the team, the ability of the academic leading applicant and the collaboration of the team members.

For the applicants who received the fund, NSFC has simplified the process of the use of the fund and the budget compiling. Researchers can make adjustments easier, and NSFC don't retrieve surplus funds when the project is completed. For the Talents programs, Applicants are not required to prepare budgets in their proposals, and there is no proportional limit on items of expenses. With these efforts, NSFC hopes that researchers can devote more time to their concrete research work and produce more high-quality results.

Apart from nurturing Chinese researchers, all NSFC's programs are open to international scientists. NSFC welcomes outstanding researchers applying for NSFC's programs through Chinese host institutions to promote cooperation with Chinese researchers.

To promote diversity and inclusion in the STEM workforce, NSFC has made the following efforts:
(1) In regards to gender, considering the fact that female researchers may require a longer time to finish their research projects during pregnancy and nursing, NSFC has raised the age limit for female applicants for the Talents Programs (Young Scientists Fund and Excellent YSF) to the age of 40 (35 and 38 for men). In the panel review, NSFC increases the number of female experts to include more female perspectives. In making a funding decision, NSFC gives priority to female applicants under equal conditions. The proportion of female scientists in all funded projects of NSFC has increased to 32.87% in 2021.

(2) In regards to the economic status, and ethnicity, NSFC sets Fund for less developed regions to support capacity building and talent fostering in 19 remote and underdeveloped areas in central and western regions. The total number of projects selected is around 3500 every year.

### 2.2.4 NSF Sri Lanka's initiatives towards Science and Technology Workforce Development in the country

As highlighted in the GRC discussions following key roles of the funding agencies are much important to build sound S & T workforce in their respective countries:

- Offering guidance to policy makers
- Providing programmes that can have catalytic and multiplicative effects on the career paths

As per the National R & D survey statistics published in 2018, there are 103 S & T personnel (Full Time Equivalent - FTE) in Sri Lanka whereas the South Western Regional Average is around 289 (FTE).

Being the premier science funding agency of the country, National Science Foundation of Sri Lanka (NSF) conducts a few impactful activities in line with the above two criteria to cater to the need of enhancing capacities and the critical mass of the Science and Technology workforce of the country as follows.

A) **Research and Development Survey of Sri Lanka**
Sri Lanka is one of the countries in South Asia, which has a long history of measuring and publishing the performance of R&D activities of the country. The National Science Foundation is mandated by the Science and Technology Development Act.No.11 of 1994 to regularly conduct the National R&D Survey. Accordingly, the Science Technology and

Policy Research Division (STPRD) of the NSF conducts the National R&D survey annually and publishes the 'Statistical Handbook on Research and Development of Sri Lanka' based on the survey findings. The indicators in the handbook are worked out based on the guidelines provided by OECD manuals meeting the international standards.

According to OECD definitions, the institutions that get involved in R&D activities are identified. All the R&D related institutions are grouped into following four categories.

1) Government R&D Institutes
2) R&D in Business Enterprises
3) R&D in Higher Educational Institutes
4) R&D in Private Non-Profit Organization

The required information to compute the indicators is collected from those institutions either directly by the NSF or other relevant authorities such as the University Grant Commission and the Department of Census and Statistics. Currently, the Survey mainly focuses on measuring the R&D activities of institutions. Further information is also captured on organizations' innovation, primarily targeting the Business Enterprises Sector. These innovation indicators provide insights into product/ process developments and improvements in the country. The published statistics are available in http://www.nsf.ac.lk/index.php/science-for-all/publications/home-7.

The information generated are shared with the local policy making bodies and think tanks to prepare national gap analysis and policy planning which also cater to upgrading the status of the S & T workforce of the country. Such information are also shared with the UNESCO Institute of Statistics (UIS) by the NSF.

## B) Programmes to build capacities of the Science and Technology Workforce

### Facilitation of Overseas Special Training

NSF has devised two key capacity building programmes to strengthen the science and Technology workforces of the country through the building of capacities with the input of overseas expertise input.

'Overseas Special Training Programme (OSTP)' and the 'International Partnerships for Science and Technology (IPSAT)' are two funding programmes established to provide scholarships and Fellowships to postgraduate students, early career and senior researchers, academics, technologists and S & T personnel across all STEM disciplines both from public and private sectors for short term training having world-class facilities with overseas expertise to address key national needs.

Prior to the COVID 19 pandemic, OSTP was mainly facilitating overseas visits of local S & T personnel to acquire new knowledge, techniques and skills whereas the IPSAT was aimed at organizing training programmes within the country for the local STEM workforce with facilitated visits of eminent experts from overseas. With the post-pandemic travel

restrictions and funding challenges, new modes of re-orienting these grants schemes in an online setting to achieve the expected output are currently being sought after.

**C) Grants for capacity building**

Through the award of research scholarships and fellowships for doctoral & postdoctoral studies and research assistantships, NSF indirectly contributes to develop the critical mass of the Science and Technology workforce of the country. For example, 28 PhDs, 86 MPhils and 04 MDs have been facilitated by the NSF during the last 10 years though there had been some slow down in such degree output as a result of the COVID 19 pandemic during the past couple of years.

Through its technology development grants scheme, private-public partnerships are fostered joining SMEs and R & D. NSF encourages academics to collaborate with the potential industrial partners in the long run thereby indirectly contributing to the development of the capacities of the S & T workforce in the industry sector.

### 2.3 Practices, experience and comments shared by participating agencies

***Japan Science and Technology Agency (JST)*** supports junior high and high school to be more interested in science courses. Set up female role models of STI who have achieved accomplishment in S&T. Provide long-term support for young researchers who are unwilling to take risks if they are concerned about the stability. Offering young researchers a stable environment can have a big impact. JST also provided a physical platform where university and industry can work together and stimulate each other for the cultivation of industrial mindsets.

***National Research Foundation (NRF) of Singapore*** works closely with other government agencies. Specifically for the R&D manpower, NRF works closely with the Ministry of Education in setting the number of Ph.D. scholarships that are awarded by the public universities. NRF also sets soft targets for the university in terms of the profile of the student they are attracting to ensure diversity, adjust stipends for disciplines that are more employable and in demand in the industry. NRF offers overseas Ph.D. and post-graduate scholarships and ensures several tiers of research funding by setting 30% R&D budget towards basic and investigated research.

To address the problem of engaging companies and ensuring good employment outcomes of Ph.D. students in university and industry, NRF has several initiatives, one is partnering with companies in joint Ph.D. training by setting co-supervisors and funds to incentive companies to set cooperate research labs in universities. The second one is encouraging public researchers to consider scientific issues but also economic interests relevant to the company. Third, to ensure the employment of graduate students, NRF has an entrepreneur training program. Finally, NRF tracks the number of researchers leaving or joining the industry after their Ph.D. studies or post-doc studies.

***Ministry of Business, Innovation and Employment, New Zealand (MBIE)*** is currently

gathering evidence from researchers in universities, businesses and research organizations in New Zealand through surveys to better understand researchers current situation and career paths. A diversity lens (gender, age, ethnicity) is key to improving employment opportunities. Gathering this information can inform MBIE of the gaps and help set the future direction.

MBIE released a major discussion paper (Future Pathways) to help create a modern, future-focussed research system for New Zealand. The research system has not changed for 30 years. One of the workstreams is focused on the workforce. MBIE is keen to get input from the research sector so that New Zealand has a research system that attracts and retains excellent talent, while offering attractive and flexible careers and career pathways. As a ministry, MBIE hopes to have a broader influence on workforce development.

***Iran National Science Foundation (INSF)*** provides a reliable and steady source of funds for young researchers (Ph.D. students and post-doc students). For young researchers, docs and postdocs, the competition is fierce. The second important peer review criterion is the proportionate inclusion of young researchers in the proposals.

INSF has funding schemes that include the private sector and industries. INSF has created a platform for industry and provides half of the funding with the industry.

The problem of brain drain is a huge challenge for INSF. INSF has schemes for hiring back researchers who have left, but the rate of leaving is higher than that of return.

Regarding the EDI, the GRC working group catalyzes some of the significant steps INSF takes. INSF has involved more female researchers and reviewers in the panel.

Regarding funds in less developed areas, INSF has a special quota for some of the universities or institute through MoUs. In 2017, through a program that targeted young researchers in universities in less developed areas as reviewers, INSF received more proposals from their universities and the success rate was increased.

***National Research Foundation (NRF), Korea*** supports young researchers and the S&T workforce through multifaceted approaches. NRF encourages graduate and undergraduate students to conduct research as research assistants in the R&D grants in order to attract them to S&T fields. NRF supports various research programs to foster post-doctoral and Ph.D researchers that will lead the future. NRF focuses on the university innovation programs, such as Brain Korea 21 to advance diversity in S&T workforce. NRF also supports university's cooperation with industries to meet their demand in S&T workforce. Through international mobility programs, NRF encourages young researchers to conduct international collaborative research.
Barrier: young researchers concentrated in a certain industry

***National Research Council of Thailand (NRCT)*** supports funds for developing the country's manpower from young researchers to senior researchers under the "Research and Innovation Framework 2022", Platform 1: Development of human resources, learning institutes and ecosystem of science, research and innovation, Program 5: Promote frontier research and basic research that Thailand has potential as follows:

(1) Graduate Researcher Development Program
(2) Research and Researchers for Industries (RRI) Program
(3) The Royal Golden Jubilee Ph.D. Program
(4) Development of Career Paths for Early Researchers Program
(5) Grant for Young Talented Researchers
(6) Grant for Mid-career Researchers
(7) Grant for Mid-career Talented Researchers
(8) Senior Researchers Promotion Grant
(9) Distinguished Research Professor Grant

## 3. Responsible Research Assessment (RRA)

This topic was moderated by Joanne Looyen, Manager Service Design and Reporting, Ministry of Business, Innovation and Employment (MBIE), New Zealand.

### 3.1 Keynote presentations

Mohammed Ahmad S. Al-Shamsi, co-chair of GRC RRA working group from King Abdulaziz City for Science and Technology (KACST), Saudi Arabia, introduced RRA working group, key themes and objectives, and reviewed the progress of GRC in RRA subject.

James Wilsdon, Research on Research Institute (RoRI), Digital Science Professor of Research Policy Information School, University of Sheffield, delivered a report entitled *RRA: progress, obstacles and the way ahead*, which defines the notion of RRA and highlights the priorities. (Please refer to Annex 2 for further information on the slides.)

Zou Liyao, Director General from Bureau of International Cooperation of NSFC reported NSFC's actions on RRA and introduced an improved evaluation mechanism which includes identifying 4 categories of research and developing specific review criteria, developing a mechanism for the selection of the most appropriate and responsible reviewers following principles of Responsibility, Credibility, and Contribution (RCC) of reviewers.

***4 categories of research and Category-Specific Review***

(1) Breaking Ground: Funding creative ideas
(2) Extending Frontiers: Focusing on the frontiers of science in unique ways
(3) Solving Challenging Problems: Supporting application-inspired basic research
*(4)* Crossing Disciplines: Encouraging transdisciplinary and convergent research

***Funding Interdisciplinary Research in NSFC***

In November 2020, NSFC established a new Department of Interdisciplinary Sciences

(DIs) to provide proactive support and necessary mechanisms to foster research across disciplinary boundaries. The establishment of fair and effective assessments of interdisciplinary research proposals is clearly a challenge for funding agencies. Here are the pilot approaches of NSFC DIS:

(1) Specialist panels composed of reviewers in the same field of the proposal and reviewers who have broader academic backgrounds
(2) Interactive panel review process with applicants attending the panel expressing their thoughts and answering questions from the panelists
(3) Less weight to the number of publications, more weight to the original ideas in the publications; less weight to the order of authorship, more weight to the actual contribution of an author to the published work.
(4) Candidates of the talent program should present their views on a set of pre-designed questions and take on-site questions from the panelists

### 3.2 Other Discussions

Participants are looking forward to seeing how the working group can help the funders deal with the challenges and how to use AI-assisted assessment. Another challenge for New Zealand: a large initiative with the aim of including indigenous people in the research system. In terms of research assessment, there are some challenges in how to assess indigenous knowledge and who should be doing the assessment.

## 4. Discussion on Gender and Equality, Diversity and Inclusion (EDI)

This topic was moderated by Thilinakumari Kandanamulla, who is the Asia Pacific Regional Co-representative of the GRC Gender Working Group from the National Science Foundation of Sri Lanka.

### 4.1 An introduction to the GRC GWG and the Work streams

Adrean Bream, Science Europe, Co-lead of the GRC Gender Working Group gave an introduction to the GRC GWG and the Work streams. GRC GWG originate the mandate from the Statement of Principles of GRC since 2016 (*Statement of Principles and Actions Promoting the Equality and Status of Women in Research*).

**GWG Progress 2019-2021**

In accordance with the workplan endorsed at the 2019 Annual Meeting, accomplishments include:

***Advancing Statement of Principles/Sharing Good Practice/Lessons Learned***

- Conducted a survey on gender disaggregated data among GRC participating organisations.
- Published Gender-Disaggregated Data at the Participating Organisations of the Global Research Council, Results of a global survey launched at the May 2021 GRC Annual Meeting.
- Published a statement and resources on responses to COVID-19 GWG measures to address Covid 19 effects on researchers from an EDI perspective.

***Supporting GRC and Member Orgs. in Embedding EDI- Global and Regional***

- Expanded membership of the group
- Secured renewed mandate from GB
- Participated in the Conference on Responsible Research Assessment- developed speakers and questions to embed EDI
- Annual Meeting-hosted Dialogue Session
- Participated and presented at all regional COVID-19 seminars

***Engagement in International R&/Landscape/Strategic Partnerships***

- Strategic partnerships: e.g. ISC, FORGEN, Gendered Innovations, Gender Summits
- UN Research Roadmap for COVID-19 Recovery
- Individual Councils

***Broader EDI***

Initial scoping on future - bullying and harassment, and gender dimension in research.

***Renewed Mandate***-Five-year vision, subject to annual approval and renewal by the Governing Board.

***Vision***

- Our vision for the GWG is aligned with the GRC vision for the next decade to "champion a more equitable, diverse and inclusive future which harnesses the diversity of talent which can contribute to the research and innovation enterprise"
- This vision is guided by the principle of "harnessing a diversity of talent and ideas, while recognising that the equality and status of women in research should be considered together with broader equality and diversity issues.
- Our goal is to contribute to position the GRC as a leading voice on the promotion of equality, diversity and inclusion in the international research and innovation ecosystem.

***Advancing this vision and goal requires:***

- Moving beyond gender to support diversity, i.e., the participation of other underrepresented and equity seeking groups.
- Strengthening the representation of the group within the regions to enhance regional and local relevance.
- Focusing on advocacy and advancing specific actions as relevant in the regions; and to advance peer learning and experience sharing on the capacity strengthening areas identified as requiring action.
- Supporting individual funding agencies that request assistance on a medium-term level.
- Continuing partnerships with like-minded organisations and initiatives.
- Integrating discussions on equity, diversity and inclusion within the annual thematic areas early in the process.

***Work Plan: 2021-2022***

1) To assist participant organizations as they advance their work on disaggregated data to guide policy and change.
    - Identifying the relevant data for each regional and national environment and

context.

- Collecting disaggregated data across the various processes in the research and grants management pipeline-on applications, reviews and funding
- Developing and expanding consistent indicators to support efforts of comparative analysis.
- Developing qualitative studies that can yield insights on obstacles faced by less represented groups when navigating the research environment.

2) To assist participant organizations in advancing the integration of sex, gender and diversity dimensions (such as race/ethnicity, language, disability, social background, etc.) to foster high-quality research that yields benefits for all.

- Identifying the relevant categories and variables for the different regions and contexts.
- Studying initiatives already being implemented by participant organizations in this regard.
- Sharing relevant experiences and promoting comparative studies to better identify region or discipline-specific challenges.

3) To assist participant organizations that face demands to act in regard to sexual harassment and bullying

- Developing case studies of policies adopted in different regions
- Developing a synthesis report of policies
- Sharing experiences and promoting dialogue among participant organizations.

### 4.2 Presentations on Gender and EDI Aspects of Annual Meeting Topics

Miyoko O. Watanabe, Executive Director of Diversity Promotion Office of Japan Science and Technology Agency (JST) delivered presentations on the Gender and EDI aspects of 'Research Ethics, Integrity and Culture in the Context of Rapid Results Research'
The female ratio of computer science is declining. And female ratio in high salary jobs is lower than its counterparts. Most of the decision-makers are men. Systemic bias may influence the data prepared. Gender equality 1.0 focuses on women and girls, Gender equality 2.0 focuses on diversity.

Margaret Hyland, Victoria University of Wellington, New Zealand, Vice-Provost (Research) delivered presentations on the Gender and EDI aspects of and 'Science and Technology Workforce Development', introduced New Zealand perspective on how to include more perspectives of indigenous people (Maori and Pacific researchers) in the research system. Funders should have a broader definition of what Excellence looks like in terms of research that incorporate the value of engagement and application of research Rather than simply considering the academic papers and citations, MBIE considers the value Maori researchers created in engagement with research communities.
Value and contribution are far more effective than simply increasing the number. Funding agencies should set expectations about research outcomes. Funders valuing the contribution of the groups due to their different perspectives will have a big impact.

### 4.3 Practices, experience and comments shared by participating agencies

***National Natural Science Foundation of China (NSFC)*** attaches great importance to supporting female researchers. Since 2010, NSFC has introduced a series of policies to promote diversity and inclusion of female researchers in the STEM workforce.
(1) In making funding decisions, NSFC gives priority to female applicants under equal conditions;
(2) NSFC raised the age limit for female applicants for the Talents Programs (Young Scientists Fund and Excellent YSF) to the age of 40 (35 and 38 for men).
(3) Considering the fact that female researchers may require a longer time to finish their research projects during pregnancy and nursing, they can apply for extending the project implementation for as long as 24 months.
(4) NSFC increased the proportion of female experts to include more female perspectives in the panel review and consultation.

Above mentioned policies have greatly improved female researchers' career progression. Take the Young Scientists Fund for an example, as one of the most widely applied funds for young scientists and career starters, the proportion of female applicants has grown from 37% to 48%, and the proportion of female researchers awarded increased from 33% to 43% when NSFC introduced the policy on raising age limit in 2011.

Nevertheless, the proportion of female researchers is still relatively low compared with their male counterparts in applying for some types of competitive programs of NSFC, and there's still room for improvements for us funders. NSFC will continue its efforts on creating enabling environment for female researchers and promoting diversity and inclusion in the STEM workforce.

***Ministry of Business, Innovation and Employment (MBIE), New Zealand***
Due to the COVID, international travel for researchers has been difficult so MBIE launched the MBIE Science Whitinga Fellowship aimed at supporting excellent early career researchers in the New Zealand research science system. Diversity targets for Māori, Pacific and Female researchers were established. MBIE introduced a new process to allocate the fellowships which involved independent assessment and those that passed the assessment then went into a structured ballot.

## 5. GRC Roadmap and Vision

This topic was moderated by Michael Bright, GRC Executive Secretary. The Introduction to the GRC Vision and Roadmap was followed by a moderated discussion among all meeting delegates.

(1) Participant organizations generally agree with GRC's vision and objectives.
(2) Participants appreciate the work of the GRC ESG group and express thanks to GRC's activities, including working group activities, the networking of executives,

practice collecting and sharing.

(3) GRC could pay more attention to regional cooperation and leverage the regional resources, such as regional meetings, to facilitate communication and bilateral and multilateral collaboration.

(4) Most participants support the idea of thematic discussions on new and emerging areas of science and technology, and research fields of common interests, such as climate change and COVID-19.

(5) GRC can help set up the multilateral framework which will be very effective and efficient for international collaboration. Using an existing multilateral frameworks to collaborate can flexibly respond to different risks.

(6) GRC facilitating multilateral collaboration can start with some common principles underpin that cooperation and facilitate at the regional level.

(7) Most participants are happy with the virtual model of GRC and showed concerns about shifting to a membership-based organization. Justifying the subscription fee for some participants can be difficult and can sometimes improve the workload. GRC should consider different models and analyze the pros and cons of diffident models before ending up a subscription model.

(8) With regards to Bilateral and multilateral collaboration using the GRC platform, GRC can first decide on a set of principles for conducting international collaborations ethically.

(9) To engage the region more while keeping the current format, GRC needs new approaches regarding the ESG and ESG members and think about what roles do region has to play, how many members for each region, and how to select ESG members.

## List of organisations participating in the meeting:

Indonesia National Research and Innovation Agency (BRIN)
Iran National Science Foundation (INSF)
Japan Science and Technology Agency (JST)
Japan Society for the Promotion of Science (JSPS)
King Abdulaziz City for Science and Technology (KACST), Saudi Arabia
Ministry of Business, Innovation and Employment, New Zealand (MBIE)
National Natural Science Foundation of China (NSFC)
National Research Council of Thailand (NRCT)
National Research Foundation (NRF) of Singapore
National Research Foundation (NRF), Korea
National Science Foundation, Sri Lanka (NSF SL)
National Science Foundation, United States
National Secretariat of Science, Technology, and Innovation of Panama (SENACYT)
Research on Research Institute (RoRI)
Science and Engineering Research Board (SERB)
Science Europe
Thailand Science Research and Innovation (TSRI)

UK Research and Innovation, India
UK Research and Innovation, United Kingdom
Victoria University of Wellington, New Zealand

# Annex 1

## Agenda

**Monday 29 November 2021 (Day 1)**

| Time (UTC+8) | Items | Speakers |
|---|---|---|
| **14:00-14:05** | Welcome | Li Jinghai,<br>President of NSFC |
| **14:05-14:15** | Welcome and Presentation of GRC | Michael Bright,<br>GRC Executive Secretary |
| **14:15-14:25** | Self-introduction of Participants | |
| **Topic 1: Research ethics, integrity and culture in the context of rapid results research**<br>Moderator: Payam Parsizadeh, Director of Science Diplomacy, Iran National Science Foundation (INSF) | | |
| **14:25-14:40** | Background Paper introduction | Mike Steele,<br>Program Officer,<br>Division of Research on Learning,<br>National Science Foundation, United States |
| **14:40-15:50** | Panel discussion<br>(5-10 minutes each)<br>Moderated discussion among all meeting delegates of Topic 1 | Moderator:<br>Payam Parsizadeh,<br>Director of Science Diplomacy,<br>Iran National Science Foundation (INSF) |
| **15:50-16:00** | *Break* | |
| **Topic 2: Responsible Research Assessment (RRA)**<br>Moderator: Joanne Looyen, Manager Service Design and Reporting, Ministry of Business, Innovation and Employment (MBIE), New Zealand | | |
| **16:00-16:15** | RRA working group introduction | Mohammed Ahmad S. Al-Shamsi<br>(co-chair of RRA working group),<br>King Abdulaziz City for Science and Technology (KACST), Saudi Arabia |
| **16:15-16:30** | Keynote presentation | James Wilsdon,<br>Research on Research Institute (RoRI), Digital Science Professor of Research Policy Information School,<br>University of Sheffield |
| **16:30-16:45** | Keynote presentation | Zou Liyao,<br>Director General,<br>Bureau of International Cooperation,<br>NSFC |
| **16:45-17:00** | Panel discussion<br>(5 minutes each)<br>Moderated discussion among all meeting delegates | Moderator:<br>Joanne Looyen,<br>Manager Service Design and Reporting, Ministry of Business, Innovation and Employment (MBIE) |
| **17:00-17:05** | *Wrap up and closing for Day 1* | |

**Tuesday 30 November 2021 (Day 2)**

| Time (UTC+8) | Items | Speakers |
|---|---|---|
| **14:00-14:05** | Welcome | Zhang Yongtao,<br>Deputy Director,<br>Bureau of International Cooperation,<br>NSFC |
| **Topic 3: Science technology workforce development**<br>Moderator: Li Wencong, Director, Division of Asia, Africa and International Organizations, Bureau of International Cooperation, NSFC | | |
| **14:05-14:20** | Background Paper introduction | Andrea De Jesus & Reynaldo A. Lee V.,<br>National Secretariat of Science, Technology, and Innovation of Panama (SENACYT) |
| **14:20-15:30** | Panel discussion<br>(5-10 minutes each)<br><br>Moderated discussion among all meeting delegates of Topic 3 | Moderator:<br>Li Wencong,<br>Director, Division of Asia, Africa and International Organizations,<br>Bureau of International Cooperation,<br>NSFC |
| **15:30-15:40** | *Break* | |
| **Topic 4: Discussion on Gender and Equality, Diversity and Inclusion (EDI)**<br>Moderator: Thilinakumari Kandanamulla, Asia Pacific Regional Co-representative of the GRC Gender Working Group (National Science Foundation, Sri Lanka) | | |
| **15:40-15:50** | An introduction to the GRC GWG and the Work streams | Adrean Bream,<br>Co-lead, GRC Gender Working Group (Science Europe) |
| **15:50-16:00** | Presentation on 'Research Ethics, Integrity and Culture in the Context of Rapid Results Research: Gender and EDI aspects' | Miyoko O. Watanabe,<br>Executive Director,<br>Director of Diversity Promotion Office<br>Japan Science and Technology Agency (JST) |
| **16:00-16:10** | Presentation on 'Science and Technology Workforce Development: Gender and EDI aspects' | Margaret Hyland,<br>Vice-Provost (Research),<br>Victoria University of Wellington,<br>New Zealand |
| **16:10-16:25** | Brief Panel Discussion of the Heads of Research Councils (HORCs) | Moderator:<br>Nicola Jenkin,<br>Asia Pacific Regional Co-representative of the GRC Gender Working Group<br>(Ministry Businsess Innovation and Employment, New Zealand) |
| **16:25-16:35** | *Break* | |
| **Topic 5: GRC Vision and Roadmap**<br>Moderator: Michael Bright, GRC Executive Secretary | | |
| **16:35-16:50** | Introduction to the GRC Vision and Roadmap | Moderator:<br>Michael Bright,<br>GRC Executive Secretary |
| **16:50-17:30** | Moderated discussion among all meeting delegates | |
| **17:30-17:40** | *Wrap up and closing* | |

## Questions for Discussion

***Research Ethics, Integrity and Culture in the Context of Rapid-results Research***

1. What do you see as the most critical threats to research ethics?
2. What are the most critical messages for funding agencies to communicate to the global scientific community around ethical rapid response research?
3. How can funding agencies ensure that research ethics standards are not compromised due to the pressure to advance science rapidly?
4. How should research organizations and funding agencies distinguish between principled international collaboration and improper foreign government interference? What tools are or should be made available to do so?
5. How can research organizations and funding agencies promote international collaboration and openness while protecting research integrity and security?
6. How can research organizations and funding agencies promote disclosure and manage conflicts of interest and conflicts of commitment and ensure the integrity of the merit review process?
7. How can funding agencies provide guidance and incentives to research organizations to strengthen research integrity? What new policies and processes might research organizations or funding agencies consider given new and emerging threats, including from actors that subvert existing rules?

***Responsible Research Assessment (RRA)***

1. What has worked well and what are the challenges from your perspective of RRA?
2. Can you describe your perspective of a positive research culture and how that would improve responsible research assessment?

***The Science and Technology Workforce Development***

1. What is the role of research councils in the development of an S&T workforce, how can these councils interact with universities and other knowledge institutions?
2. How would you define/frame the challenges to achieving a broad S&T workforce in your country? What are the barriers?
3. How are funding agencies promoting diversity and inclusion in the STEM workforce regarding gender, economic status, and ethnicity?
4. How can research funding agencies build national capacity while balancing the need to build global collaboration?
5. What are policy and strategic approaches to creating more public-private partnerships to develop a vibrant S&T workforce?
6. How do funding agencies demonstrate the benefits and impact of investment in S&T workforce education, nationally, as well as globally?

***Gender and Equality, Diversity and Inclusion (EDI)***

1. Have any of your funding policies and programmes been particularly effective in promoting diversity and inclusion in the STEM workforce regarding gender, economic status, and ethnicity? For example do they support career progression and equity, diversity and inclusion practices, and consider impacts on wellbeing and inclusion? Are there any you would recommend to other research councils / funding agencies as being worth pursuing?
2. What guidance can funding agencies give to research organizations to strengthen research integrity, particularly given pressure to develop science rapidly? Do you have any approaches you would particularly recommend?
3. What resources or assistance could the GWG provide in order to develop initiatives and address concerns regarding the ***Future of the Research Workforce*** theme and ***the Research Ethics, Integrity and Culture in the Context of Rapid-results Research*** theme.

***GRC Roadmap and Vision***

1. What does the Vision and its objectives mean to GRC participants, especially at the regional level, what role do participants see themselves playing in helping the GRC to realise it?
2. How can we increase the impact and uptake of the GRC's Statement of Principles by participant organisations? Can we build upon the case study and working group models, do participant organisations find them valuable?
3. What role should and can the GRC play in the future in terms of actively facilitating and promoting greater bilateral and multilateral collaboration between participant organisations?
4. Should the GRC have thematic discussions on new and emerging areas of science and technology with a focus on the opportunities for international collaboration and the challenges they present for science policy? Do you have any suggestions?
5. Is the current 'virtual' model sustainable, is it time to consider alternative models for the GRC to be able realise its Vision, even if this meant a subscription model?

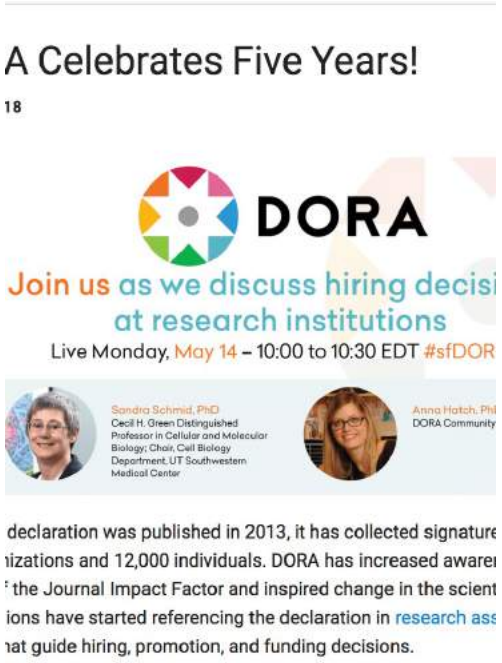
Annex 2. James Wilsdon-RRA progress, obstacles and the way ahead, which defines the notion of RRA and highlights

RoRI RESEARCH ON RESEARCH INSTITUTE

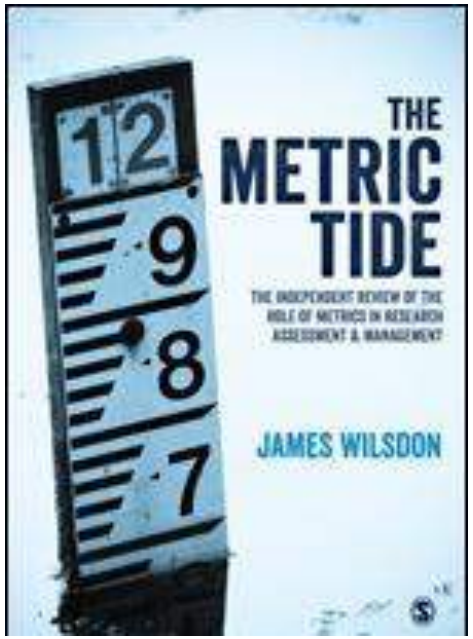
# Responsible research assessment (RRA): progress, obstacles & the way ahead

Global Research Council 2021 Asia Pacific Regional Meeting, 29-30 November 2021

James Wilsdon, RoRI & University of Sheffield
j.wilsdon@sheffield.ac.uk; @jameswilsdon
http://www.researchonresearch.org/

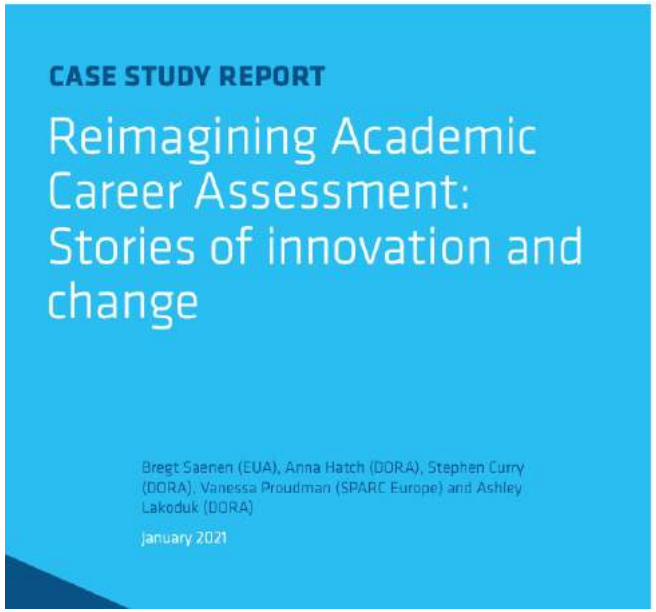


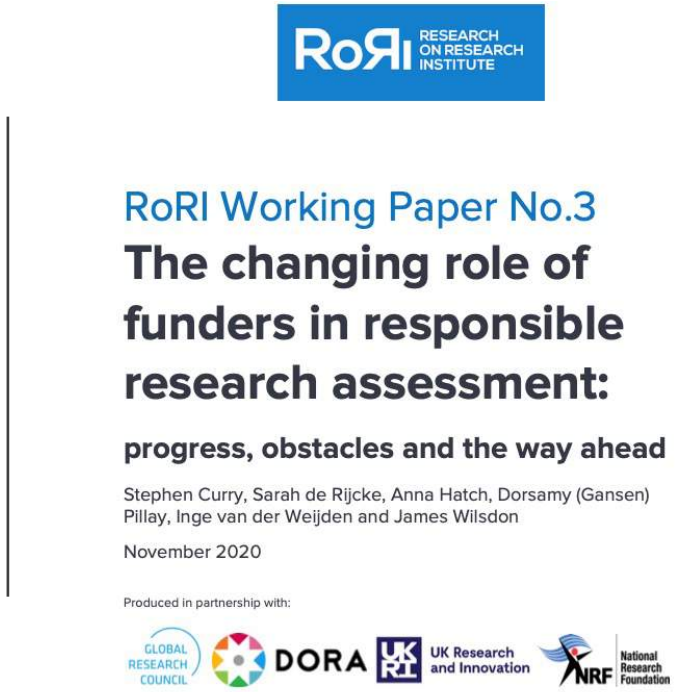






# From responsible metrics….





# …to responsible research assessment


# Defining RRA

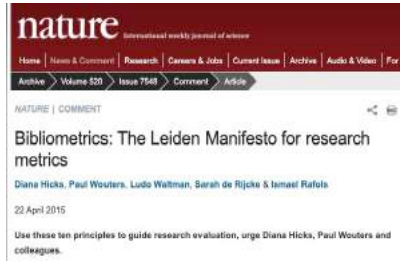
**Responsible research assessment (RRA)** is an umbrella term for approaches to assessment which incentivise, reflect and reward the plural characteristics of high-quality research, in support of diverse and inclusive research cultures.

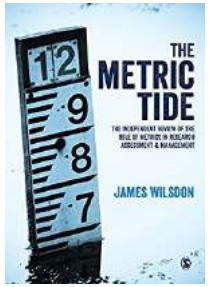
RRA draws on broader frameworks for responsible research and innovation (RRI), and applies these to the development and application of evaluation, assessment and review processes.

While RRI is commonly used as a broad framework for the governance of research and innovation, and notions of 'responsible metrics' can be applied at a micro level to indicators themselves, the idea of RRA encourages funders, research institutions, publishers and others to focus attention on the methodologies, systems and cultures of research assessment.

# Fifteen movers and shapers

DORA




science in transition


HuMetricsHSS
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inorms


SCIENCE GRANTING COUNCILS INITIATIVE SGCI IOSRS INITIATIVE DES ORGANISMES SUBVENTIONNAIRES DE LA RECHERCHE SCIENTIFIQUE

GLOBAL YOUNG ACADEMY

Helsinki Initiative on Multilingualism
Hi!

FOLEC Latin American Forum for Research Assessment
CLACSO

SCIENCE EUROPE
Shaping the future of research

eua EUROPEAN UNIVERSITY ASSOCIATION

wellcome


CHEERFUL
WHISTLING
PERMITTED

# Global Research Council Survey methodology


Online survey: 23 questions

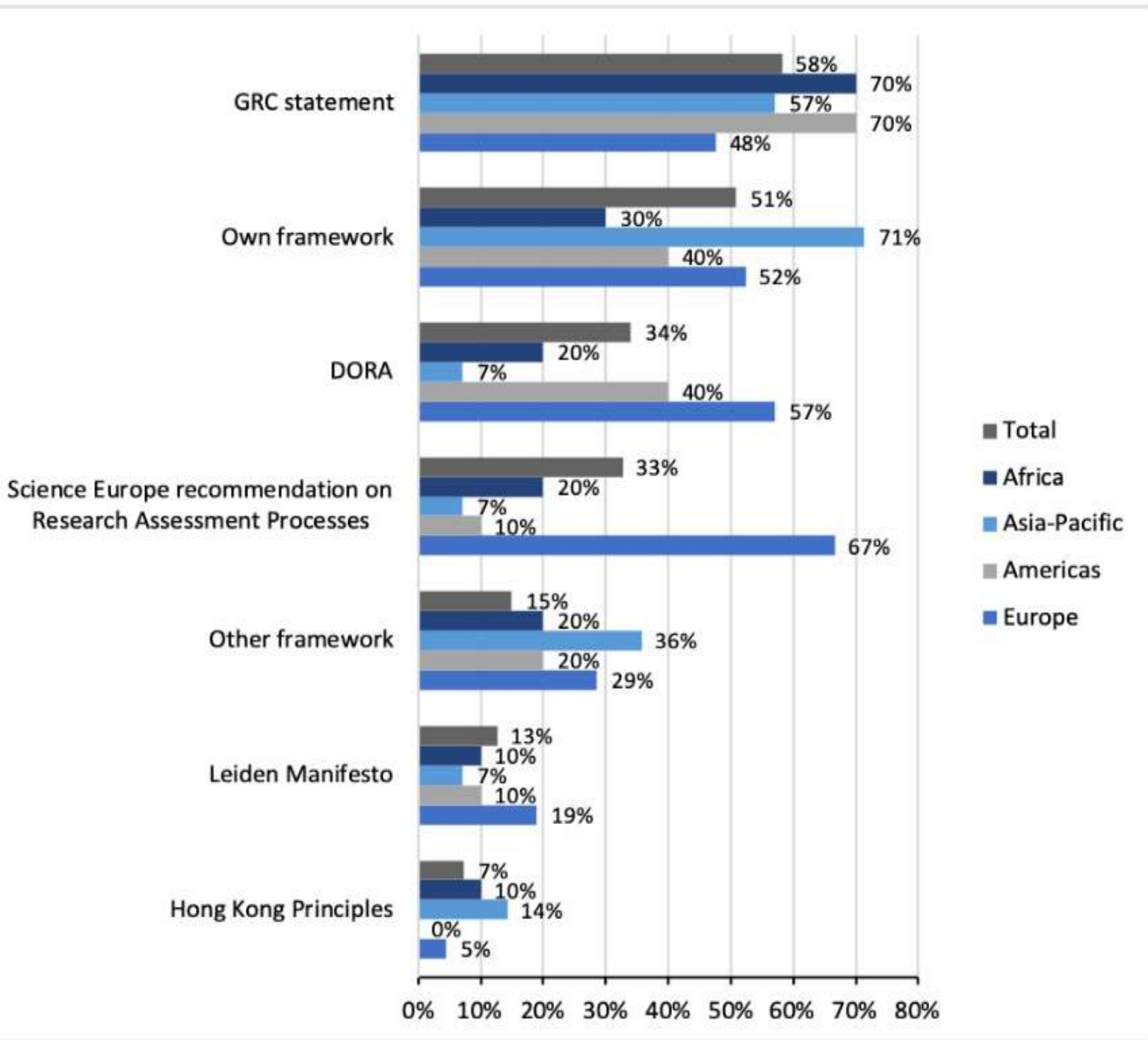
Open from September-October 2020

Completed by 55 organisations / 46% response rate

| | N | % |
|---|---|---|
| Africa and Middle-East *(Sub-Saharan Africa, North Africa & Middle East)* | 10 | 18.2 |
| Asia-Pacific | 14 | 25.5 |
| Americas | 10 | 18.2 |
| Europe | 21 | 38.2 |
| *Total* | 55 | *100* |

*Table 1: Respondents by geographical region*

# Endorsements of existing RRA Frameworks



# Research Assessment Indicators

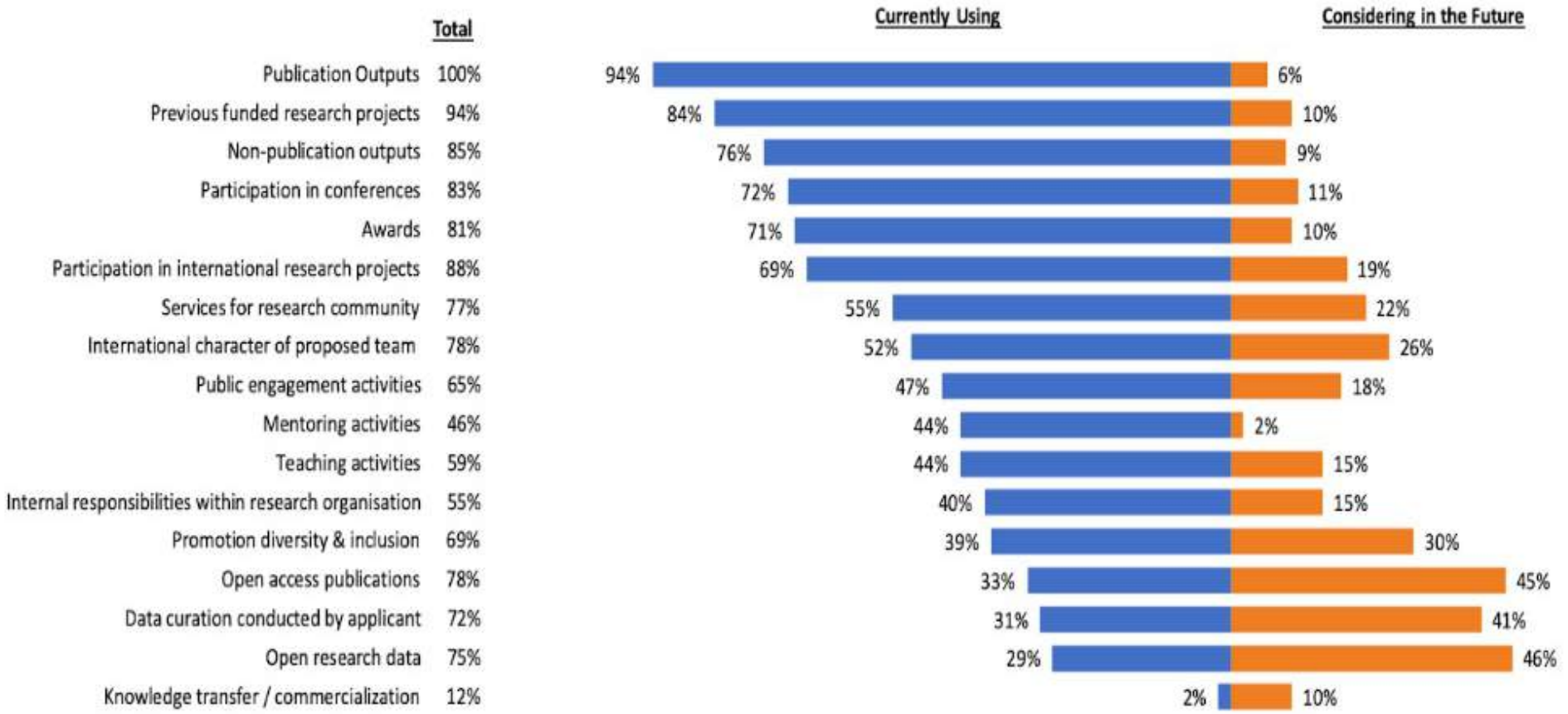



*Figure 3: Research assessment indicators (to be) used by GRC participating organisations who responded to the survey (n=50, missing n=5)*


wellcome

Grant funding | What we do | Who we ar

Find a scheme | Guidance | Develop your research

ON THIS PAGE



## Responsible and fair research assessment

We are committed to making sure that when we assess research outputs during funding decisions, we consider the intrinsic merit of the work, not the title of the journal or publisher.

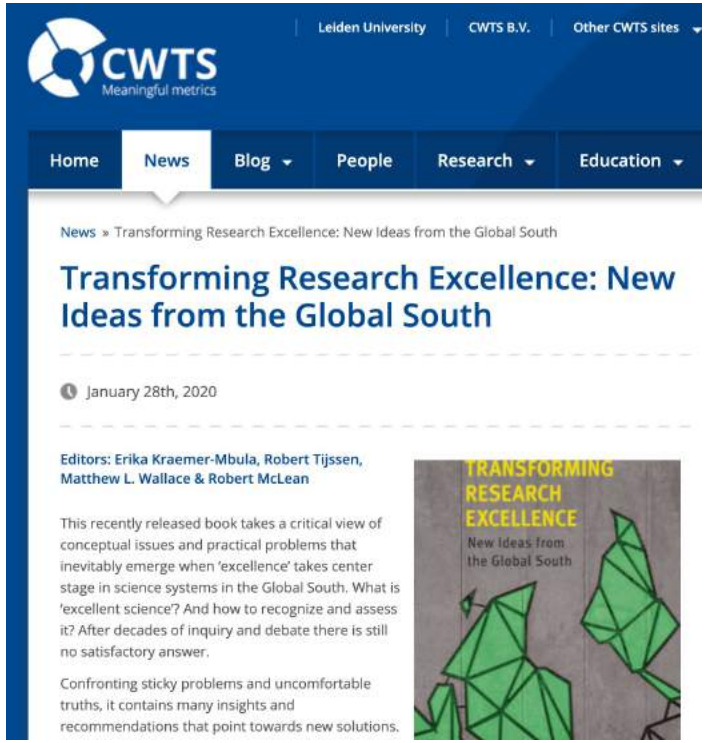
All Wellcome-funded organisations must also publicly **commit to this principle**. For example, they can sign the **San Francisco Declaration on Research Assessment**, **Leiden Manifesto** or equivalent. We've produced **guidance for organisations on responsible and fair approaches for research assessment**, that sets out three high-level requirements and other activities they could consider to support these.

We may ask organisations to show that they're complying with this as part of our organisation audits.

## Compliance and sanctions

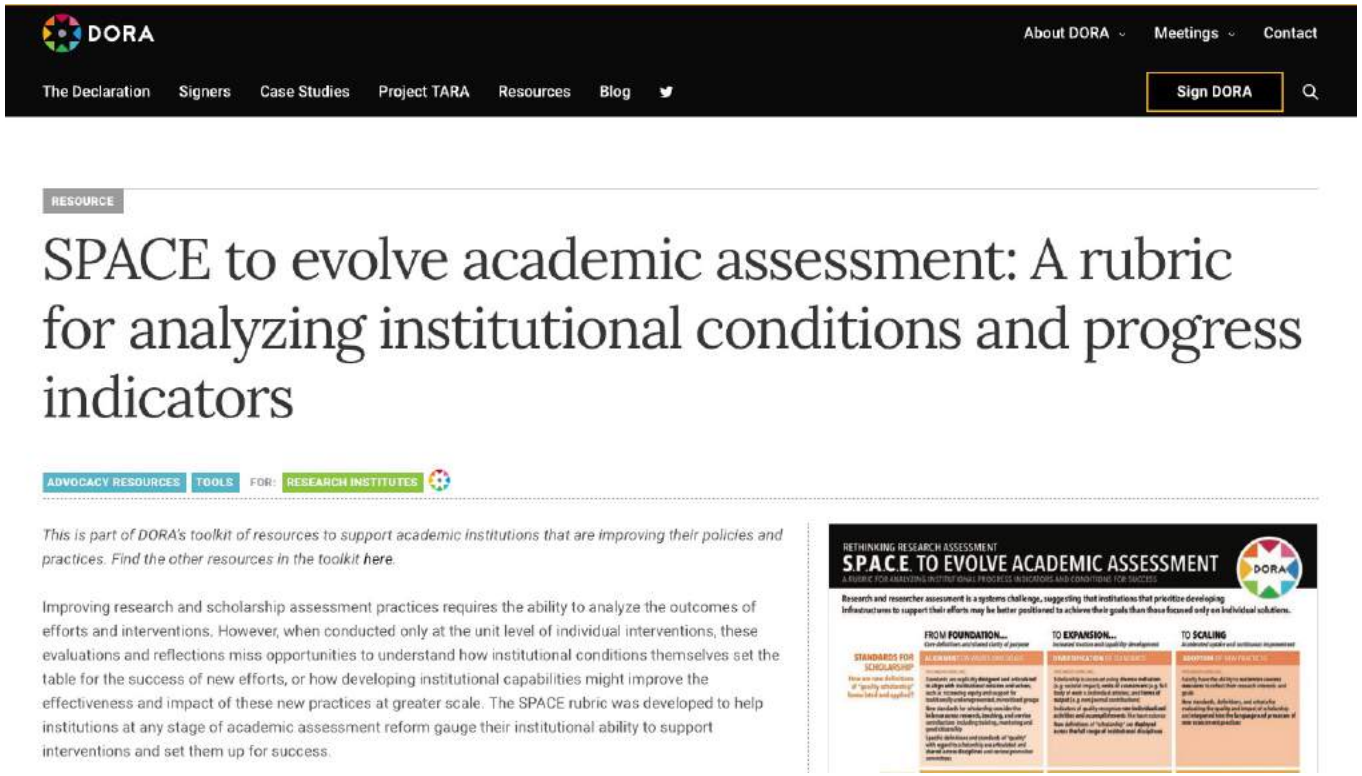
Researchers and organisations who do not comply with this policy will be subject to appropriate sanctions. These may include Wellcome:

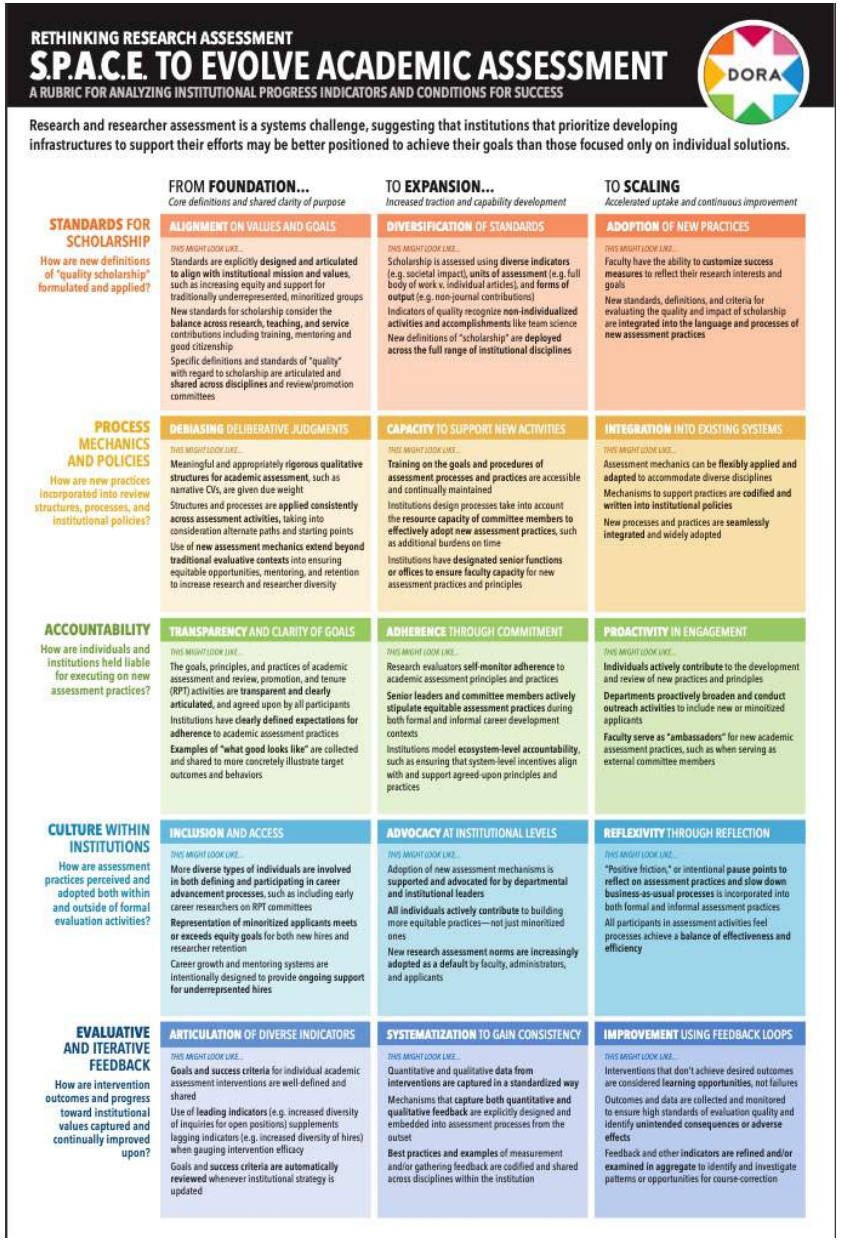





# Priority 1: Continue to build national and international coalitions for responsible research assessment

# Priority 2: Strengthen guidance & templates to translate principles into institutional policies & practices

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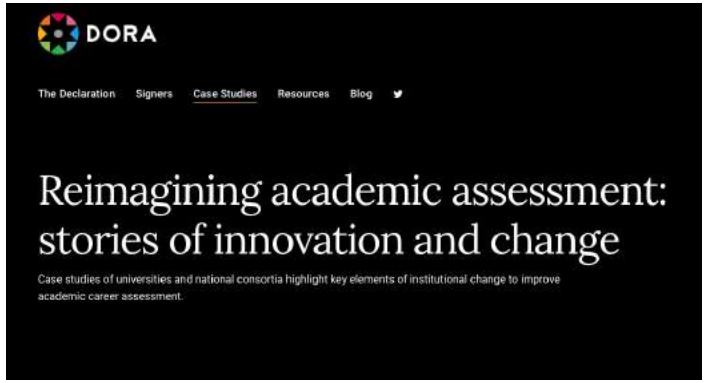
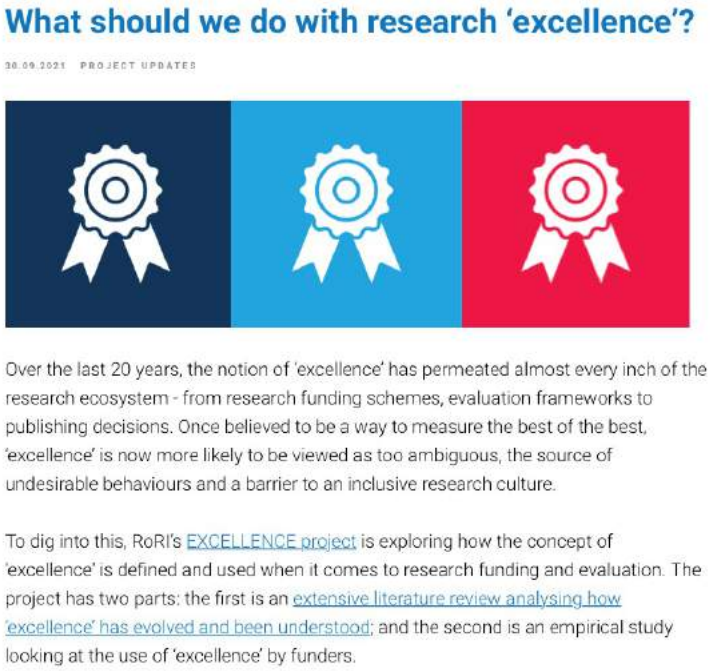



# Priority 3: Experiment, evaluate & amplify what works

The international journal of science / 22 July 2021

nature

## Responsible assessment faces the acid test

**The University of Liverpool is planning lay-offs using controversial measures. How should the movement for responsible research respond?**

A leading UK university has become mired in a public dispute over how it is assessing researchers' performance. The evolving situation at the University of Liverpool is being watched closely by concerned academics around the world — and is raising questions about whether more needs to be done to ensure that universities assess their researchers equitably. At the end of last month, the leaders of some of the world's foremost responsible-research initiatives — the Hong Kong Principles, the INORMS Research Evaluation Group, the Leiden Manifesto and the Metric Tide — wrote a strongly worded letter arguing that the University of Liverpool's proposals remain

"Does the research community need a body with the

redundancy. In response to the threat of redundancies, researchers took industrial action during May, June and July.

One influential initiative is choosing to negotiate privately with the university. This is the organization behind the San Francisco Declaration on Research Assessment (DORA), an international voluntary agreement through which research organizations vow to conduct research assessment responsibly.

DORA's signatories pledge not to use metrics such as the Journal Impact Factor to evaluate researchers, and to be transparent in the criteria used to make decisions on matters such as hiring and promotion. Liverpool is one of some 2,200 organizations that have signed the declaration. DORA is in talks with the university, but choosing not to reveal further details. A statement on DORA's website says that it expects signatories to abide by their pledges, while also reiterating that it is not a regulatory body.

DORA's approach — to resolve disputes constructively but without publicity — has had some effect. Liverpool initially included the field-weighted citation metric on its criteria for redundancies, but dropped that after consultation with DORA. However, there are conflicting views of whether this puts Liverpool in the clear. The university told *Nature* its amended criteria are "in keeping with the principles of DORA". In response, a DORA spokesperson said there are "ongoing concerns". Such mixed messages show

LEIDEN MANIFESTO FOR RESEARCH METRICS

inorms

About the INORMS Research Evaluation Group

THE HONG KONG PRINCIPLES FOR ASSESSING RESEARCHERS

THE METRIC TIDE

To:

Professor Dame Janet Beer, Vice-Chancellor of the University of Liverpool.

cc: Professor Anthony Hollander, Pro-VC for Research, University of Liverpool
Professor Louise Kenny, Executive Pro-VC for Research, Faculty of Health and Life Sciences, University of Liverpool
All members of the Senate of the University of Liverpool.

25th June, 2021.

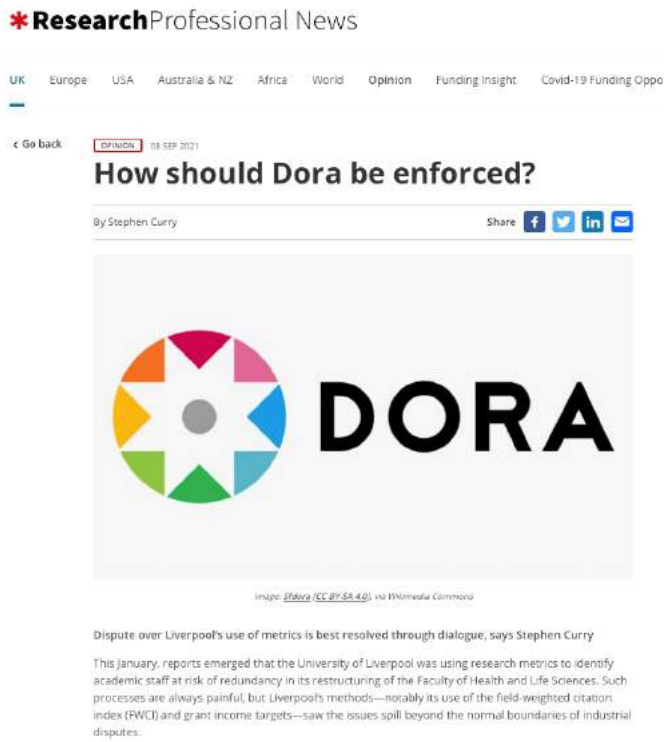
Dear Professor Dame Janet Beer,

We write as recognised experts in the responsible use of research metrics.

We note from the published document 'Managing Change: Project SHAPE Phase 2 Amended Proposals', that the primary metric used by the University of Liverpool in the 'rounded assessment' used for redundancy selection is research grant income. We further note that a range of other qualitative metrics are used in the selection process, along with some broader categories such as "evidence of significant non-research income."

However, we remain highly concerned that those proposals remain very squarely out of line with accepted practice in the sector.

First, we do not see it as acceptable that a University can remove staff *en masse* primarily because of a failure to meet a specified research income threshold. We believe that any issue of research performance must be dealt with using established procedures that have broad support of academic staff, and that those procedures should take into account the full range of contributions to research. We note, in particular, that none of the published criteria recognise essential research tasks like peer review, supervision and mentoring. This narrow view of research contribution does not address the need for humility and diversity, set out in *The Metric Tide*, and is in breach of principle 5 of the *Hong Kong Principles for Assessing Researchers* and principle 2 of *the Leiden Manifesto*.



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OPINION 08 SEP 2021

## How should Dora be enforced?

By Stephen Curry

Share

DORA

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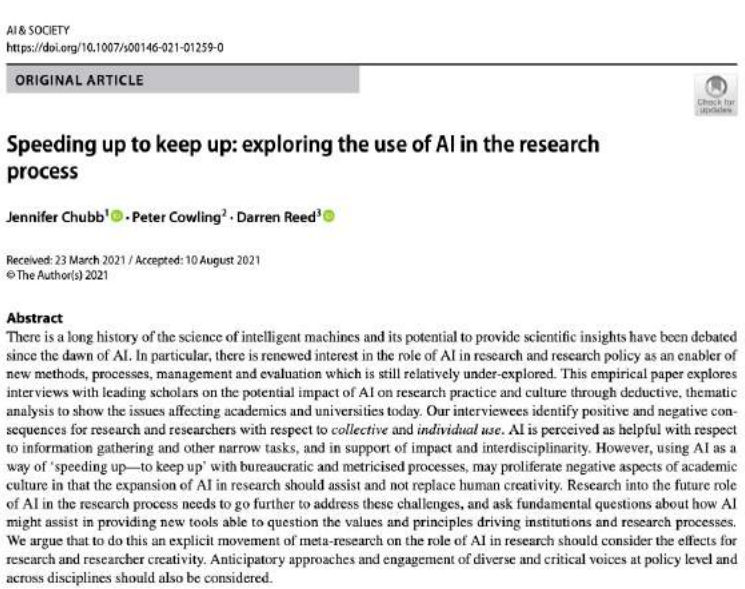
Dispute over Liverpool's use of metrics is best resolved through dialogue, says Stephen Curry

This January, reports emerged that the University of Liverpool was using research metrics to identify academic staff at risk of redundancy in its restructuring of the Faculty of Health and Life Sciences. Such processes are always painful, but Liverpool's methods—notably its use of the field-weighted citation index (FWCI) and grant income targets—saw the issues spill beyond the normal boundaries of industrial disputes.

# Priority 4: Develop more sophisticated frameworks for compliance, accountability & enforcement



AI & SOCIETY
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ORIGINAL ARTICLE

## Speeding up to keep up: exploring the use of AI in the research process

Jennifer Chubb[1] · Peter Cowling[2] · Darren Reed[3]

Received: 23 March 2021 / Accepted: 10 August 2021


**Abstract**
There is a long history of the science of intelligent machines and its potential to provide scientific insights have been debated since the dawn of AI. In particular, there is renewed interest in the role of AI in research and research policy as an enabler of new methods, processes, management and evaluation which is still relatively under-explored. This empirical paper explores interviews with leading scholars on the potential impact of AI on research practice and culture through deductive, thematic analysis to show the issues affecting academics and universities today. Our interviewees identify positive and negative consequences for research and researchers with respect to *collective* and *individual use*. AI is perceived as helpful with respect to information gathering and other narrow tasks, and in support of impact and interdisciplinarity. However, using AI as a way of 'speeding up—to keep up' with bureaucratic and metricised processes, may proliferate negative aspects of academic culture in that the expansion of AI in research should assist and not replace human creativity. Research into the future role of AI in the research process needs to go further to address these challenges, and ask fundamental questions about how AI might assist in providing new tools able to question the values and principles driving institutions and research processes. We argue that to do this an explicit movement of meta-research on the role of AI in research should consider the effects for research and researcher creativity. Anticipatory approaches and engagement of diverse and critical voices at policy level and across disciplines should also be considered.

GRANTS

## AI is selecting reviewers in China

*The tool is already saving time for the country's major grant funding agency.*

BY DAVID CYRANOSKI

China's largest funder of basic science is piloting an artificial intelligence (AI) tool that selects researchers to review grant applications, in an attempt to make the process more efficient, faster and fairer. Some researchers say the approach by the National Natural Science Foundation of China (NSFC) is world-leading, but others are sceptical about whether AI can improve the process.

Choosing researchers to peer review project proposals or publications is time-consuming and prone to bias. Several academic publishers are experimenting with AI tools to select reviewers and carry out other tasks. And a few funding agencies, including some in North America and Europe, have trialled simple AI systems, some of which match keywords in grant applications to those in publications of other scientists to identify potential reviewers.

The NSFC is building a more sophisticated system that will crawl online scientific-literature databases and scientists' personal




Humanities & Social Sciences Communications

ARTICLE

https://doi.org/10.1057/s41599-020-00703-8 OPEN

## AI-assisted peer review

Alessandro Checco[1✉], Lorenzo Bracciale[2✉], Pierpaolo Loreti[2], Stephen Pinfield[1✉] & Giuseppe Bianchi[2]

The scientific literature peer review workflow is under strain because of the constant growth of submission volume. One response to this is to make initial screening of submissions less time intensive. Reducing screening and review time would save millions of working hours and potentially boost academic productivity. Many platforms have already started to use automated screening tools, to prevent plagiarism and failure to respect format requirements. Some tools even attempt to flag the quality of a study or summarise its content, to reduce reviewers' load. The recent advances in artificial intelligence (AI) create the potential for (semi) automated peer review systems, where potentially low-quality or controversial studies could be flagged, and reviewer-document matching could be performed in an automated manner. However, there are ethical concerns, which arise from such approaches, particularly associated with bias and the extent to which AI systems may replicate bias. Our main goal in this study is to discuss the potential, pitfalls, and uncertainties of the use of AI to approximate or assist human decisions in the quality assurance and peer-review process associated with research outputs. We design an AI tool and train it with 3300 papers from three conferences, together with their reviews evaluations. We then test the ability of the AI in predicting the review score of a new, unobserved manuscript, only using its textual content. We show that such techniques can reveal correlations between the decision process and other quality proxy measures, uncovering potential biases of the review process. Finally, we discuss the opportunities, but also the potential unintended consequences of these techniques in terms of algorithmic bias and ethical concerns.

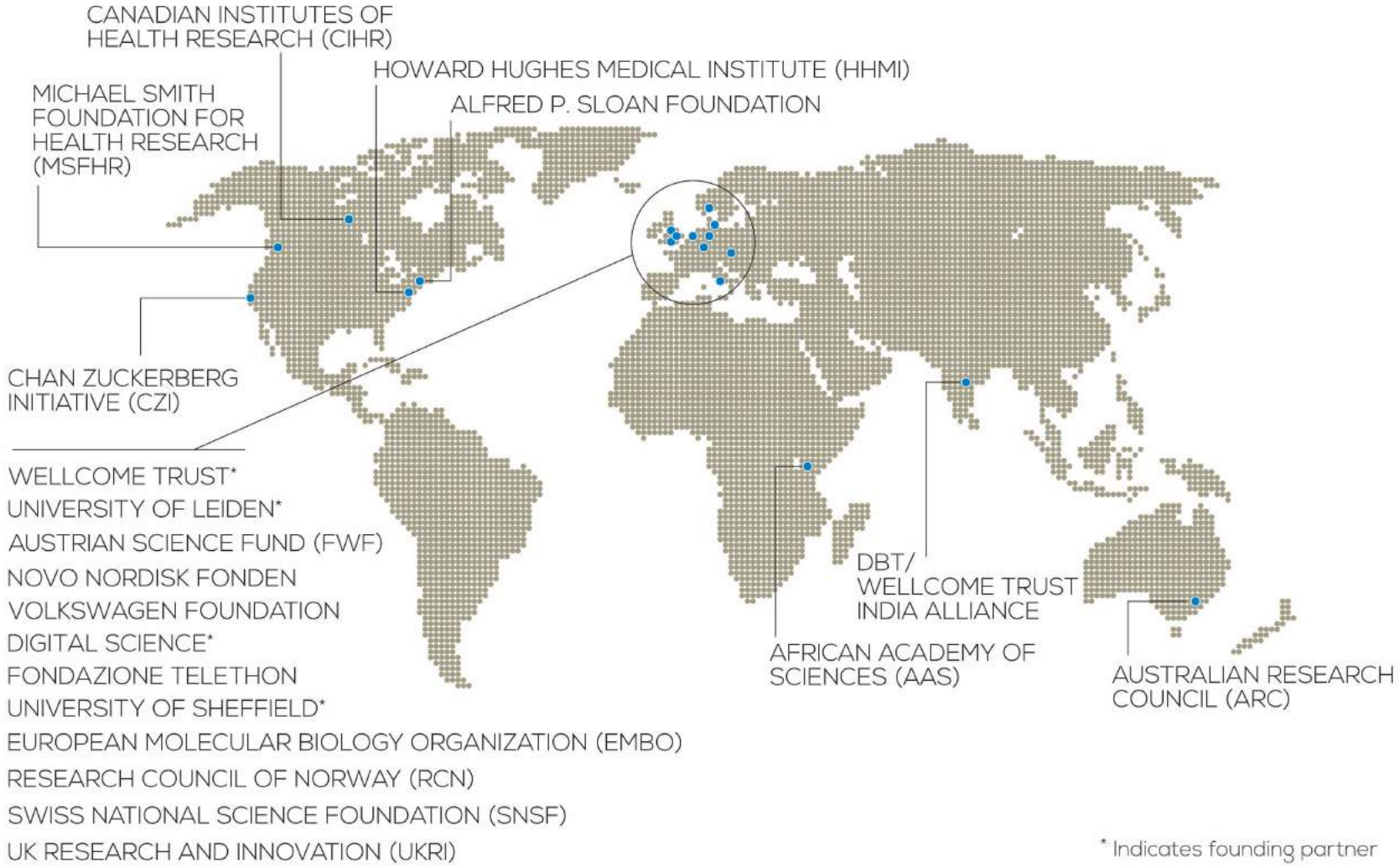
# Priority 5: RRA needs to anticipate and keep pace with new tools and technologies of assessment and evaluation

RoRI RESEARCH ON RESEARCH INSTITUTE

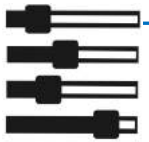
# The RoRI pilot consortium

## Founding Partners:

Wellcome Trust
Digital Science
University of Sheffield
CWTS, Leiden University



# RoRI first-wave projects with funders (2020/21)



## CRITERIA

**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

## EXCELLENCE

**Summary**

Initiatives like the UK's Research Excellence Framework, Germany's Exzellenzinitiative and Switzerland's Eccellenza grants have put excellence at the centre of research policy and evaluation. This project will assess the ways in which the idea of excellence is currently used by key actors in the research ecosystem and the functions it serves in specific practices and processes in order to explore its possible futures. It will include detailed case studies of 10 funders.

**Partners**: African Academy of Sciences; Australian Research Council; Canadian Institutes of Health Research; Austrian Science Fund (FWF); Michael Smith Foundation for Health Research; National Institute for Health Research (UK); Swiss National Science Foundation; Wellcome Trust.

## FAIRware

**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.

**Partners:** Canadian Institutes of Health Research; National Institute for Health Research (UK); Swiss National Science Foundation; Wellcome Trust.

## PATHWAYS

**Summary**

The scope of this work is careers in research, broadly defined, with an empirical and policy focus on six countries: Austria, Canada, Denmark, Germany, UK and USA. The project will be designed and delivered by a team drawn from RoRI strategic partners in these countries, and a wider network of data, research and policy partners.

**Partners:** Canadian Institutes of Health Research; Chan Zuckerberg Initiative; Austrian Science Fund (FWF); Howard Hughes Medical Institute; Michael Smith Foundation for Health Research; National Institute of Health Research (UK); Novo Nordisk Fonden; Sloan; UKRI; Volkswagen Foundation; Wellcome.

## RANDOMISATION

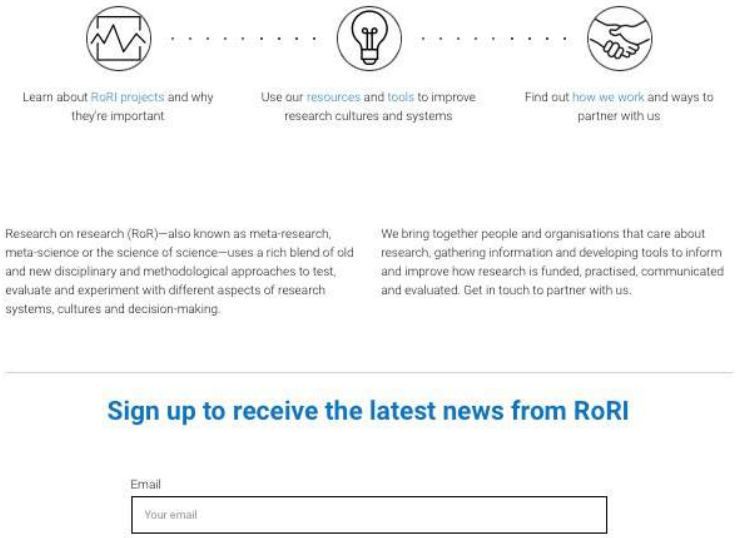
**Summary**

There is growing interest in the use of randomisation and lottery-type mechanisms in grant funding. By linking and supporting a series of linked and phased experiments with uses of focal, or targeted randomisation in funding processes (our preferred term to the sometimes misleading "lotteries"), and facilitating closer alignment and learning between these, the RoRI consortium could effectively undertake the largest multi-funder, cross-country trial and analysis of these techniques.

**Partners:** Australian Research Council; Canadian Institutes of Health Research; Chan Zuckerberg Initiative; EMBO; Austrian Science Fund (FWF); Michael Smith Foundation for Health Research; National Institute of Health Research (UK); Novo Nordisk Fonden; Sloan; Swiss National Science Foundation; UKRI; Volkswagen Foundation; Wellcome.

RoRI RESEARCH ON RESEARCH INSTITUTE



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