# CoARA

## SLIDE KIT OF PRESENTATIONS OF THE
## VIRTUAL BRAINSTORMING EVENT

### MAY 16-17 2024

**Organized by the working group "Supporting the Alignment of Research Assessment Systems with COARA in Biomedical Disciplines through Administrative Reforms and Governance (SAGA)"**

Organizers

Dr. Iris Uribesalgo (SAGA co-chair, EU-LIFE), Dr. Jess Rohmann (Charité), Dr. Marie Witt (Max Delbrück Center), Prof. Antonio Paoli, M.D. (University of Padova), Dr. Paula Samsó (IDIBAPS), Dr. Tracey Weissgerber (BIH at Charité), Fabian Hempel, (BIH at Charité), Dr. Miriam Kip (SAGA co-chair, BIH at Charité)

# CONTENT

Day 1        Focus on institutional research assessment

- **Introduction and goal setting**, Dr. Miriam Kip, Chair SAGA

- **System level of research Assessment**
  - "Role of national research assessment system on the CoARA implementation on the local level – the case of Italy", Prof. Antonio Paoli, University of Padova

- **Institutional assessment and monitoring**
  - "Research Information Systems", Dr. Sophie Biesenbender, Head of Office of the Commission for Research Information in Germany
  - "Useful tools: Open Sciences dashboard", Dr. Kelly Cobey, Co-chair DORA, Leader Metaresearch and Open Science Program, University of Ottawa

Day 2        Focus on individual and project levels of research assessment

- **Short recap of the first day, goal setting for Day 2,** Dr. Miriam Kip, Chair SAGA

- **Quantitative indicators for the assessment of individual researchers**
  - "How to recognize a good (bibliometric) indicator for the assessment of individual researchers", Dr. Stephan Gauch, Robert K. Merton Center for Science Studies, Humboldt University Berlin

- **Criteria and good assessment practices for project funding and hiring, promotion and retention**
  - "No one-size fits all: assessment of diverse research profiles in biomedicine", Dr. Michela Bertero, Strategy Director, August Pi i Sunyer Biomedical Research Institute (IDIBAPS), Barcelona
  - "Useful tools – the MERIT portal: advancing research assessment for appointments through infrastructure", Dr. Miriam Kip, BIH and Charité

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# WELCOME!

# VIRTUAL BRAINSTORMING EVENT: DAY 1

WG    "SUPPORTING THE ALIGNMENT OF RESEARCH ASSESSMENT SYSTEMS WITH COARA IN BIOMEDICAL DISCIPLINES THROUGH ADMINISTRATIVE REFORMS AND GOVERNANCE (SAGA)"
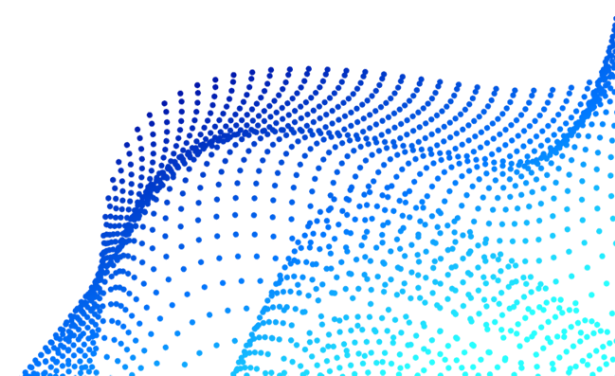
May 16th 2024

Virtual Meeting – Welcome and Introduction to the event

Miriam Kip, Charité and BIH

# WELCOME!

- Organizing team
- Dr. Iris Uribesalgo, SAGA co-chair, EU-LIFE, Europe,
- Dr. Jess Rohmann, Institute for Public Health, Charité, Germany,
- Dr. Marie Witt, Max Delbrück Center, Germany,
- Prof. Antonio Paoli, M.D., University of Padova, Italy,
- Dr. Paula Samsó, Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Spain,
- Dr. Tracey Weissgerber, Berlin Institute of Health at Charité, Germany
- Dr. Miriam Kip, SAGA chair, Berlin Institute of Health at Charité, Germany,
- Fabian Hempel, Berlin Institute of Health at Charité, Germany

- We meet once per month (each first Monday)
- The WG is open to everybody
- Come as you are
- Contact: miriam.kip@bih-charite.de

23 Members
- from Italy, the Netherlands, Germany, Spain, Portugal, and Belgique
- afiliated with, among others, Coimbra University (Portugal), Universidade Lusófona (Portugal), Yerun (Belgique), IRCCS Ospedale Galeazzi - Sant'Ambrogio, Università Vita-Salute San Raffaele (Italy), Erasmus MC Rotterdam (Netherlands), and Consejo Superior de Investigaciones Científicas (Spain)

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# PURPOSE OF THE EVENT

- Co-creation of an action plan template (white paper)

**Role of Administration and Governance** on the **advancement** of **research assessments** in alignment with **CoARA** in biomedical institutions 2024 - 2027

- Flexibility of the format → active participation

- Your input is the most important aspect

- Richness and diversity of institutional experiences count the most

- There are no wrong answers or questions

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# CODE OF CONDUCT VBS

- Inclusive, respectful interaction
- Open to diversity of opinions and perspectives
- Discussion contributions (verbal and in the chat) are project-related - no forwarding or communication to third parties
- No derogatory statements
- No distribution of screenshots of chat histories or people via social media without consent
- The event is recorded for internal purposes only (pseud. transcript as data basis for the template)
- All contributions will be credited (member checking)
- Become part working group and join our writing team!

# STRUCTURE OF THE EVENT

- 2-days event
- Free and open discussion time, time for collaboration (in person, in the chat)
- Writing time (documents – links in chat)
- Short input talks
- Structured discussion times
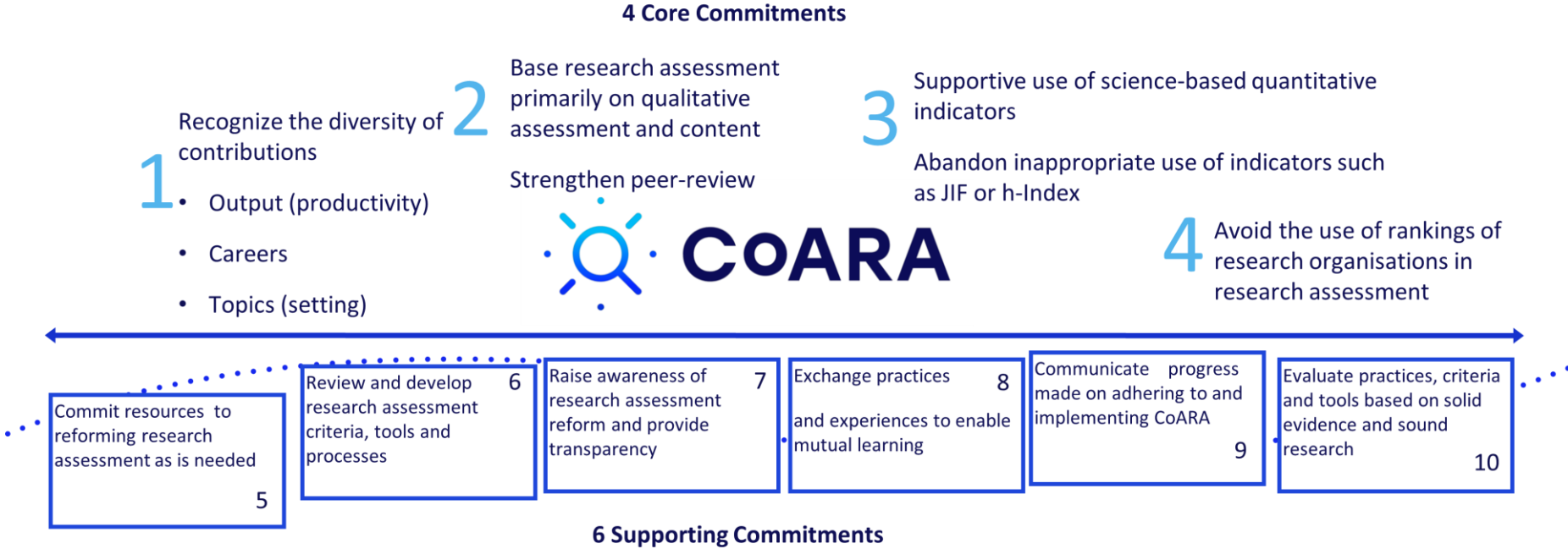- End-of day wrap-up and happy hour
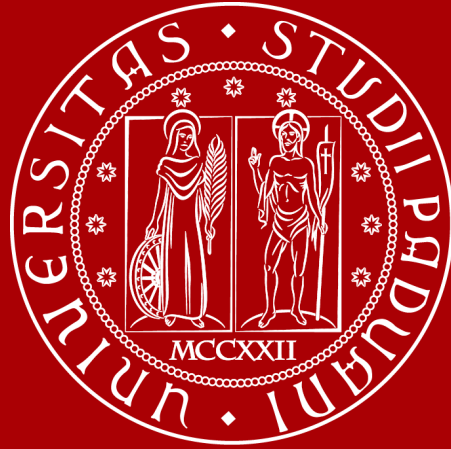
- Agenda: see link in chat or
**https://drive.google.com/file/d/1MmrYmtMdsW15e8OaxFJT6nqUmlLt9KgN/view?usp=sharing**

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# ONE COARA – MANY PATHWAYS

- **Compliance with ethical principles** and integrity, reduction of the risk of bias
  - Safeguarding the **freedom of research**
  - **Maintaining the independence of institutions** while avoiding contradictions in evaluation procedures within an institution
  - **Transparency** with regard to the evaluation criteria and tools for the evaluation, open access for those evaluated to the evaluation criteria and collected data on which an evaluation is based

- The focus is
  - On the quality and impact of the research on the research itself, on society.
  - Different quality criteria are used for the assessment (multidimensional evaluation)
  - Elements of open science and the early sharing of methods, data and other research output is an important prerequisite for research quality
  - Recognition of diversity, inclusion and collaborations

# ONE COARA – MANY PATHWAYS



**4 Core Commitments**

1. Recognize the diversity of contributions
   - Output (productivity)
   - Careers
   - Topics (setting)

2. Base research assessment primarily on qualitative assessment and content

   Strengthen peer-review

3. Supportive use of science-based quantitative indicators

   Abandon inappropriate use of indicators such as JIF or h-Index

4. Avoid the use of rankings of research organisations in research assessment

5. Commit resources to reforming research assessment as is needed

6. Review and develop research assessment criteria, tools and processes

7. Raise awareness of research assessment reform and provide transparency

8. Exchange practices and experiences to enable mutual learning

9. Communicate progress made on adhering to and implementing CoARA

10. Evaluate practices, criteria and tools based on solid evidence and sound research
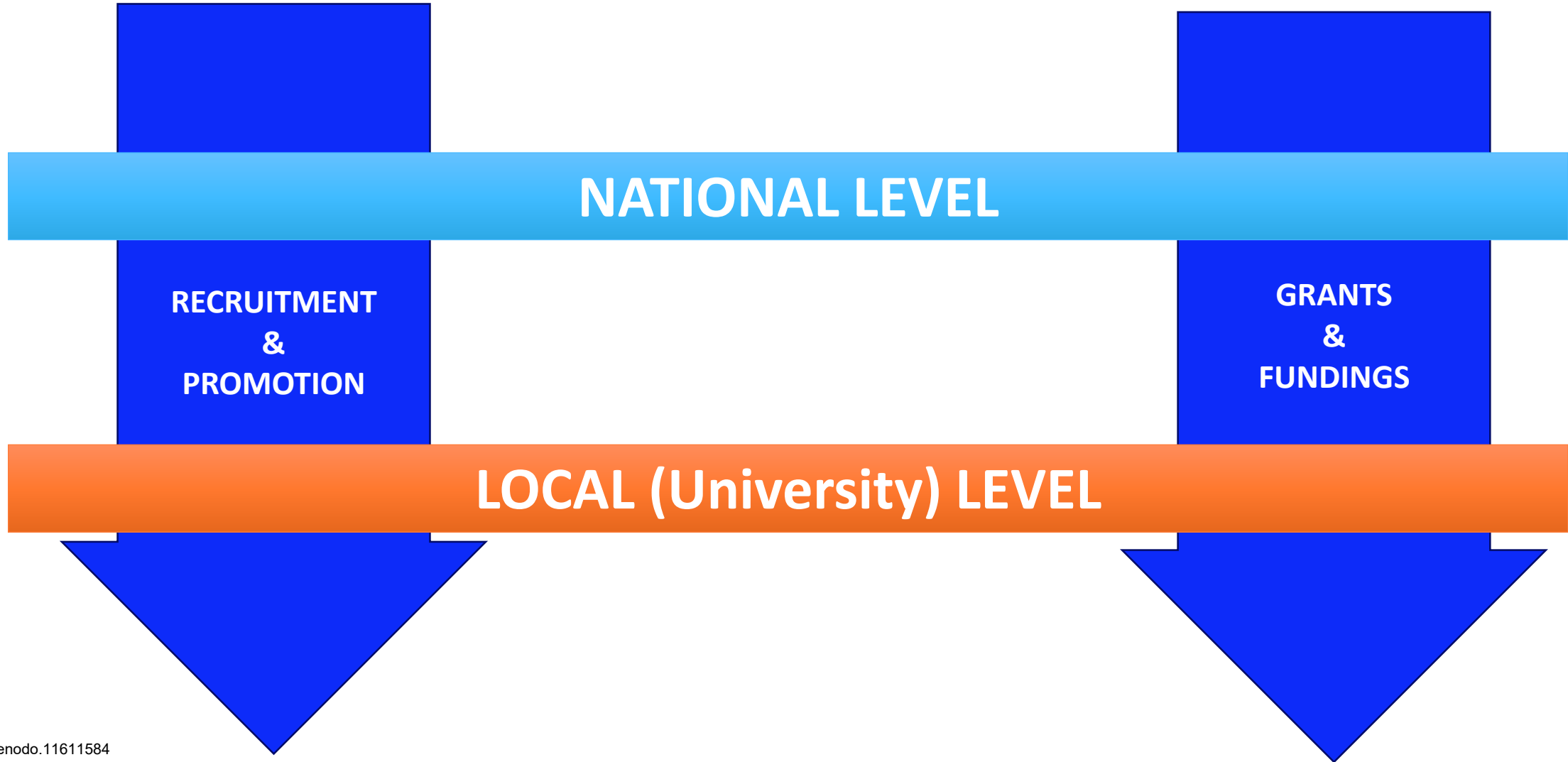
**6 Supporting Commitments**

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**ROLE OF NATIONAL RESEARCH ASSESSMENT SYSTEM ON THE COARA IMPLEMENTATION ON THE LOCAL LEVEL**
**THE CASE OF ITALY**
Prof. Antonio Paoli

The National Research Program (PNR), established by Legislative Decree 204/1998, is the programmatic document guiding research investment policies in Italy, in which state administrations, coordinated by the Ministry of University and Research, contribute to its realization.

The PNR sets out the general objectives and implementation methods of the interventions in which both central public administrations (Ministries, primarily the Ministry of University and Research) and regional administrations participate, utilizing resources available in their budget forecasts or budgets, in line with their competencies and specificities, while respecting the distribution of regulatory and administrative responsibilities.

**MUR**

**CALENDARIO BANDI**

## 2021

| Entro fine mese di | Riferimento intervento | Risorse disponibili in euro |
|---|---|---|
| Ottobre | Fondo Italiano Scienza (FIS) | 50.000.000,00 |
| Dicembre | Fondo edilizia Universitaria | ~~1.400.000.000,00~~ |
| | PRIN | 738.556.000,00 |
| | V Bando L. 338/2000 | 407.000.000,00 |
| | PNRR M4C2 - Centri Nazionali | 1.600.000.000,00 |
| | PNRR M4C2 - Ecosistemi innovazione | 1.300.000.000,00 |
| | PNRR M4C2 - Infrastrutture ricerca | 1.080.000.000,00 |
| | PNRR M4C2 - Infrastrutture innovazione | 500.000.000,00 |

## 2022

| Entro fine mese di | Riferimento intervento | Risorse disponibili in euro |
|---|---|---|
| Marzo | PNRR M4C1 - PHD per Ricerca, PA e patrimonio culturale | 144.000.000,00 |
| | PNRR M4C2 - Partenariati estesi | 1.610.000.000,00 |
| Maggio | PNRR M4C2 - PHD innovativi per impresa | 200.000.000,00 |
| Giugno | Fondo Italiano Scienza (FIS) | 173.322.000,00 |
| Dicembre | PRIN | 368.751.000,00 |
| | PNRR M4C1 - Alloggi studenti | 660.000.000,00 |
| | PNRR M4C2 - Progetti presentati giovani ricercatori | 600.000.000,00 |

*Aggiornato al 30.10.2021*

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**FONDO ITALIANO PER LA SCIENZA**

In order to promote the development of fundamental research, Legislative Decree 73/2021 established, within the budget forecast of the Ministry of University and Research, the "Italian Fund for Science," with an annual financial allocation of €50 million for the year 2021 and €150 million starting from the year 2022.

The calls issued by the Ministry of University and Research aim to promote the development of fundamental research by funding projects conducted by emerging researchers (Starting Grant - The Junior PI must be at the beginning of their career, holding a doctoral degree obtained no less than 2 years ago and no more than 7 years ago), by mid-career researchers (Consolidator Grant - The Consolidator PI must be in the middle of their career, holding a doctoral degree obtained no less than 7 years ago and no more than 12 years ago), and by established researchers (Advanced Grant - The Senior PI must be scientifically independent, actively engaged in research for a period exceeding 12 years), within the ERC (European Research Council) sectors.

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- Based on specific project evaluated by an external (often international experts)
- Evaluation of proposer's CV (H-index, inpact factor, etc are taken into account, but the specific weight of these indexes depends on the individual commission)

- Problems: projects evaluation methodology, timing, and ERC sectors

**Full professor TT**

**Associate professor TT**

**RTT – Assistant professor  - AP after 6 years**

RTDB – Assistant professor not TT 3 years – local committee evaluation for AP (TT)

RTDA – Assistant professor not TT 3 years – must apply for RTDB or AP

ended

The National Scientific Habilitation (ASN) is a necessary requirement to apply for permanent positions of Full and Associate Professor in Italian Universities. ANVUR is entrusted with assessing full professors applying for membership in the National Committees which examine candidates for both positions. ANVUR also proposes to the Ministry the minimum values of the indicators of scientific qualification used in the ASN procedure. Finally, ANVUR rates scientific journals in order to calculate such indicators in humanities and social sciences.

**AUTHOMATIC**
**3 indicators:**
**Full professor: n° articles last 10 yrs, n° citations last 15 yrs, H-index last 15 yrs**

**Associate professor: n° articles last 5 yrs, n° citations last 10 yrs, H-index last 10 yrs**

**To proceed to the next step, it is mandatory to meet at least 2 out of 3 criteria.**

ASN COMMITEE (one for each different sector: e.g. molecular biology, internal medicine, general pathology, sport sciences, etc)

5 MEMBERS (FULL PROFESSOR)

Evaluate the whole CV, diffent points such as conferences, awards, periods abroad (etc. depends on the specific committee)

Evaluate whether the candidate fits the sector

Evaluate a group of specific publications (choosen by the candidate n° 16 for FP and 12 for AP) for author position, quality of the journal (Q1, Q2, etc), relevance for the scientific community, consistency with the sector...

**THE ASN abilitation is SPECIFIC for each sector**

LOCAL EVALUATION COMMITEE (3 members one from the local University and 2 extracted from a group of six)

Each committee during the first meeting decides the evaluation criteria with some constraints set by the regulations;

- Each publication (variable number) has to be evaluated numerically with similar criteria used by ASN
- All criteria **must** be defined numerically
- **You cannot choose a candidate for his/her specific skills** (inside the topic of the specific sectors)
- You **must** use H-index, numebr of citations and it is reccommended to use IF and others bibliometric indexes

| Numero progressivo delle pubblicazioni scientifiche | TITOLO PUBBLICAZIONE | RIVISTA | ANNO | Originalità, innovatività, rigore metodologico e rilevanza | Rilevanza scientifica della collocazione editoriale di ciascuna pubblicazione e sua diffusione all'interno della comunità scientifica Q1=4; Q2=3; Q3=2; Q4=1; se indicizzata solo Scopus=0,5, non indicizzata 0 | Determinazione analitica, anche sulla base di criteri riconosciuti nella comunità scientifica internazionale di riferimento, dell'apporto individuale del candidato nel caso di partecipazione del medesimo a lavori in collaborazione | 2: primo, ultimo o corresponding; 1,5 secondo autore; 1 altre posizioni | | 1 nel caso di lavori pienamente attinenti al SSD oggetto della procedura, 0,8 se discretamente attinente, per 0,5 nel caso di lavori parzialmente attinenti, 0,3 per lavori limitatamente attinenti e 0,1 nel caso di lavori non attinenti | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | PLoS One | 2017 | 4 | 4 | U | 2 | 16 | 1 | 16 | 3,333333333 | 3,33 |
| 2 | | Strength Cond Res | 2017 | 6 | 4 | P | 2 | 20 | 0,8 | 16 | 3,333333333 | 3,33 |
| 3 | | JMIR Mhealth Uhealth | 2016 | 4 | 4 | U | 2 | 16 | 1 | 16 | 3,333333333 | 3,33 |
| 4 | | PLOSone | 2016 | 5 | 4 | P | 2 | 18 | 1 | 18 | 3,75 | 3,75 |
| 5 | | Int J Environ Res Public Health | 2020 | 4 | 4 | P | 2 | 16 | 1 | 16 | 3,333333333 | 3,33 |
| 6 | | J Appl Physiol | 2020 | 6 | 4 | U | 2 | 20 | 1 | 20 | 4,166666667 | 4,17 |
| 7 | | Eur J Appl Physiol | 2020 | 6 | 4 | P | 2 | 20 | 1 | 20 | 4,166666667 | 4,17 |
| 8 | | J Strength Cond Res | 2013 | 5 | 4 | P | 2 | 18 | 0,5 | 9 | 1,875 | 1,88 |
| 9 | | BMC Sports Sci Med Rehabil | 2018 | 5 | 3 | P | 2 | 16 | 1 | 16 | 3,333333333 | 3,33 |
| 10 | | Sports Med | 2013 | 6 | 3 | P | 2 | 18 | 1 | 18 | 3,75 | 3,75 |
| 11 | | BMC Pregnancy Childbirth | 2018 | 6 | 3 | S | 1,5 | 13,5 | 1 | 13,5 | 2,8125 | 2,81 |
| 12 | | Arch Phys Med Rehabil | 2008 | 4 | 4 | S | 1,5 | 12 | 1 | 12 | 2,5 | 2,50 |
| TOTALE | | | | 61 | 45 | | 23 | 203,5 | | 190,5 | 39,6875 | 39,69 |

UNIVERSITÀ DEGLI STUDI DI PADOVA

| Didattica, didattica integrativa e servizio agli studenti | MAX 35 | descrizione | pts. |
|---|---|---|---|
| Per il volume e la continuità degli insegnamenti e dei moduli di cui si è assunta la responsabilità. Verranno assegnati fino a 2 punti per titolarità di insegnamento universitario di almeno 3 CFU pertinente con il SSD | 20 | Titolarità per "Teoria e Metodologia del Movimento Umano e Tecnica e Didattica dell'attività Motoria" M-EDF/01 nel corso di Laurea in Scienze Motorie (L-22) – 5 CFU – a.a. 2019/2020. Pts 2 "Fondamenti e didattica delle attività motorie" M-EDF/01 nel corso di Laurea magistrale a ciclo unico in Scienze della Formazione Primaria – 4 CFU dall'a.a. 2015/2016 al 2018/2019. pts 8 "Scienza e tecniche dell'attività motoria adattata (modulo II: disabilità fisiche)" M-EDF/01 nel corso di Laurea Magistrale in Scienze e Tecniche dell'Attività Motoria Preventiva e Adattata – 3 CFU – a.a. 2008/2009. pts 2 Titolarità per il corso "Teoria, tecnica e didattica degli sport individuali" M-EDF/02 nel corso di Laurea in Scienze Motorie, Sportive e della Salute (L-22) – 8 CFU – a.a. 2019/2020 - 2020/2021 - 2021/2022 - 2022/2023. (pts 1 - M-EDF/02). 4 pts Titolarità per il corso "Teoria, tecnica e didattica degli sport individuali – laboratorio pratico" M-EDF/02 nel corso di Laurea in Scienze Motorie, Sportive e della Salute (L-22) – 2 CFU – a.a. 2021/2022- 2022/2023 (pts 1 - M-EDF/02). 2 pts Titolarità per il corso "Sport e disabilità" M-EDF/02 nei CdS LM-67 e LM-68 – 8 CFU – a.a. 2020/2021 - 2021/2022 - 2022/2023.(pts 1 - M-EDF/02). 3 pts | 20 |
| Per il volume e la continuità dell'attività didattico integrativa e di servizio agli studenti pertinente al SSD. In particolare, per ciascuna attività di supervisione o co-supervisione tesi di laurea punti 0.3; per ciascuna attività di supervisione o co-supervisione di dottorato punti 0.5; per ciascuna attività seminariale punti 0,1; per ogni anno di attività come cultore della materia o attività similari punti 0,2 per incarico | 5 | 44 tesi UniURB 13,2 | 5 |
| Lezione didattica | 10 | | 10 |
| TOTALE DIDATTICA MAX | 35 | | 35 |

| Didattica, didattica integrativa e servizio agli studenti | MAX 35 | descrizione | pts. |
|---|---|---|---|
| **Curriculum comprensivo di attività di ricerca, produzione scientifica complessiva e attività istituzionali, organizzative e di servizio, in quanto pertinenti al ruolo** | 15 | | |
| Per organizzazione, direzione e coordinamento di centri o gruppi di ricerca nazionali e internazionali o partecipazione agli stessi e altre attività di ricerca quali la direzione o la partecipazione a comitati editoriali di riviste : per ogni partecipazione a gruppi di ricerca internazionali= fino a 3 punti; per ogni partecipazione a gruppi di ricerca nazionali= fino a 2 punti;a seconda del progetto e del ruolo; partecipazione ad editorial board di riviste internazionali = 1 punti su argomenti inerenti il SSD oggetto del presente bando | 6 | 2017-2019: Collaboratore con funzione di co-coordinatore responsabile dell'unità italiana nel progetto ERASMUS+sport "Identifying and Motivating youth who mostly need Physical ACTivity (IMPACT)" pts 3 2018-2019: Collaboratore nel progetto ERASMUS+ "LUDUS Just move have Fun - Development of Preschool Physical Activity Program for Strengthening of Grassroots Sports in EU" pts 3 2018: Collaboratore nel progetto ERASMUS+ "Karate – sport@school" pts 3 2015-2018: Collaboratore con funzione di co-coordinatore responsabile dell'unità italiana nel progetto ERASMUS+ "Identifying best practice across physical education teacher education programmes: A European perspective (PETEU)" pts 3 2016-2017: Collaboratore con funzione di co-coordinatore responsabile dell'unità italiana nel progetto "The SIMPAQ (Simple Physical Activity Questionnaire) project". Coordinatore Scientifico Dr. Simon Rosenbaum pts 3 2014-2016: Collaboratore con funzioni di co-coordinatore nel progetto "One resource kit for teachers. Values-based education through sport", promosso e finanziato da World Anti-Doping Agency (WADA), United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Olympic Committee (IOC), the International Paralympic Committee (IPC), the International Council for Sport Science and Physical Education (ICSSPE) and the International Fair Play Committee (IFPC).pts 3 2011-2013: Collaboratore nel progetto "Physical literacy - A way to promote physical activity in inactive groups", promosso e finanziato dalla Coca-Cola Foundation. Coordinatore scientifico Prof. Hans-Peter Brandl-Bredenbeck, University of Augsburg, Germany. Partner coinvolti: Italia, Grecia, Inghilterra, Svezia, Belgio, Germania. pts 3 | 6 |
| Per conseguimento di premi e riconoscimenti nazionali e internazionali per attività di ricerca (fino ad 1 punto per ogni premio o riconoscimento internazionale e fino a 0,5 punti per ogni premio o riconoscimento nazionale) su argomenti inerenti al SSD oggetto del presente bando | 1 | Best paper award per "Determinants of children's lifestyles: a survey in Italy" (Carraro, Scarpa, & Gobbi), presentato al World Congress AIESEP 2009, a Pensacola, Florida. pts 1 Best poster award per "Rough-and-tumble play to cope with physical aggression in particular settings: an exploratory study with young adolescents" (Cucchelli, Gobbi, Marino, Carraro), presentato al convegno internazionale IMACSSS 2014, a Rzeszów, Polonia pts 1 Best poster award per "The role of in-classroom active breaks on children's physical activity: A pilot study in primary school" (Diana, Gobbi, & Carraro), presentato al IX Convegno Nazionale SISMES (2017), a Brescia, Italia. pts 0,5 Menzione speciale come miglior poster per "A cluster-randomized trial to improve pupils' attitudes toward inclusion of peers with physical disabilities through paralympic sports in primary school PE" (Gobbi, Amatori, Perroni, Sisti, Rocchi), presentato al XIII Convegno Nazionale SISMES (2022), Milano, Italia. pts 0,5 | 1 |
| Per partecipazioni in qualità di relatore a congressi e convegni di interesse nazionale e internazionale (da 0,1 a 1 punto a seconda del tipo di congresso e/o di invito. | | Relazione su invito: "Preliminary results from the global environmental scan on values-based education" all' AIESEP International Conference, 8-11 Luglio 2015. Madrid - Spagna. pts 0,5 Relazione su invito: "Effects of an educational counselling on physical activity among psychiatric inpatients: results from a pilot study" all' AIESEP International Conference, 8-11 Luglio 2015. Madrid - Spagna pts 0,5 Relazione su invito: "Sport as a tool to achieve quality education through values-based education" alla 56th International Session for Young Participants of the International | |

| | 3 | | 3 |
|---|---|---|---|

Per la consistenza complessiva della produzione scientifica del candidato, mediante i seguenti indicatori bibliometrici 1) numero totale delle citazioni (punti 2); 2) indice di Hirsch (H index) (punti 2).
CITAZIONI
n<300 = 0 punti
da 300 a 400 incluso = 1 punto
da 401 a 500 incluso = 1,5 punti
maggiore di 500 = 2 punti

H index
n<8=0 punti
da 8 a 10 incluso = 1 punto
da 11 a 13 incluso = 1,5punti
maggiore di 14 = 2 punti

563 citazioni = 2. - 14 H INDEX = 14

| | 4 | | 4 |
|---|---|---|---|

Per attività istituzionali, organizzative e di servizio, pertinenti al ruolo, in relazione al grado di responsabilità delle funzioni svolte, della loro durata e continuità

Membro della Commissione ripartizione cofinanziamento assegni di ricerca 2022 del Dipartimento di Scienze Biomolecolari (DISB) dell'Università di Urbino (verbale Consiglio di Dipartimento DISB del 14 Marzo 2022), confermato anche per il 2023 (verbale Consiglio di Dipartimento DISB del 16 Marzo 2023);
• Membro della Commissione Paritetica Docenti Studenti – DISB, Università di Urbino, a decorrere dal 30/10/2020. Verbale della riunione del consiglio della Scuola di Scienze Motorie n. 64 del 29 ottobre 2020; Decreto di Nomina del Direttore DISB, verbale consiglio di Dipartimento n. 13 del 02 dicembre 2020; incarico rinnovato fino al 2024 con Decreto di Nomina del Direttore DISB, verbale n.13 del consiglio di Dipartimento del 10 Novembre 2022;
• Membro della Commissione Erasmus della Scuola di Scienze Motorie (delibera n.26/2023 del Consiglio di Dipartimento DISB, verbale del 16/02/2023);
• Responsabile dei tirocini interni e integrativi della Scuola di Scienze Motorie dell'Università di Urbino (verbale n.99 del Consiglio di Scuola del 21 Dicembre 2022);
• Referente per l'Orientamento della Scuola di Scienze Motorie dell'Università di Urbino a.a. 2021/2022/2023 (verbale Consiglio di Scuola di Scienze Motorie n. 83 del 20 Dicembre 2021);
Curriculum Vitae di Erica Gobbi - 5
• Membro della Commissione Didattica del corso di Laurea Magistrale LM-67 dell'Università di Urbino 2021/2022/2023 (verbale Consiglio di Scuola di Scienze Motorie n. 83 del 20 Dicembre 2021);
• Membro del Gruppo del Riesame LM-67 dell'Università di Urbino 2020/2021 (verbale n.72 del Consiglio di Scuola dell'8 settembre 2020)
• Docente co-coordinatore per la progettazione l'organizzazione del Progetto POT "Il futuro dello sport tra scuola e università", Verbale Consiglio di Dipartimento DISB dell'Università di Urbino n. 10 dell'8 Settembre 2021). Organizzazione delle attività seminariali con la Scuola Superiore di secondo grado; organizzazione di 12 seminari per gli studenti della Scuola di Scienze Motorie di Urbino con invitati esterni e docenti interni; gestione della pagina moodle-blended dell'offerta POT 2021;

| | 1 | | 1 |
|---|---|---|---|

TOTALE DIDATTICA

UNIVERSITÀ DEGLI STUDI DI PADOVA

Pubblicazioni:

| | criterio 1 | criterio 2 | criterio 3 | (crit1 + crit2)*crit3 | criterio 4 | Totale [(crit1 + crit2)*crit3]*crit4 |
|---|---|---|---|---|---|---|
| pubbl 1 | 6 | 4 | 2 | 20 | 1 | 4,17 |
| pubbl 2 | 6 | 4 | 2 | 20 | 1 | 4,17 |
| pubbl 3 | 6 | 4 | 1,5 | 15 | 1 | 3,13 |
| pubbl 4 | 6 | 4 | 2 | 20 | 1 | 4,17 |
| pubbl 5 | 6 | 4 | 2 | 20 | 1 | 4,17 |
| pubbl 6 | 6 | 4 | 2 | 20 | 1 | 4,17 |
| pubbl 7 | 4 | 4 | 2 | 16 | 1 | 3,33 |
| pubbl 8 | 6 | 4 | 1 | 10 | 1 | 2,08 |
| pubbl 9 | 5 | 3 | 2 | 16 | 1 | 3,33 |
| pubbl 10 | 6 | 3 | 2 | 18 | 1 | 3,75 |
| pubbl 11 | 5 | 3 | 2 | 16 | 1 | 3,33 |
| pubbl 12 | 5 | 4 | 1,5 | 13,5 | 1 | 2,81 |
| | | | | | | |
| totale pubblicazioni | | | | | | **42,60** |

Totale punti pubblicazioni: 42,60

Attività didattica, didattica integrativa e servizio agli studenti

| | |
|---|---|
| Per il volume e la continuità degli insegnamenti e dei moduli di cui si è assunta la responsabilità (come indicato in verbale 1) | Punti 20 |
| Per il volume e la continuità dell' attività didattico integrativa e di servizio agli studenti (come indicato in verbale 1) | Punti 5 |
| Per lo svolgimento della prova didattica) (come indicato in verbale 1) | Punti 10 |

Curriculum comprensivo di attività di ricerca, attività istituzionali, organizzative, gestionali, di servizio e di terza missione, in quanto pertinenti al ruolo

| | |
|---|---|
| Per organizzazione, direzione e coordinamento di centri o gruppi di ricerca nazionali e internazionali o partecipazione agli stessi e altre attività di ricerca quali la direzione o la partecipazione a comitati editoriali di riviste; (come indicato in verbale 1) | Punti 6 |
| Per conseguimento di premi e riconoscimenti nazionali e internazionali per attività di ricerca. (come indicato in verbale 1) | Punti 1 |
| Per partecipazioni in qualità di relatore a congressi e convegni di interesse nazionale e internazionale (come indicato in verbale 1) | Punti 3 |
| Per la consistenza complessiva della produzione scientifica del candidato, mediante i seguenti criteri: (come indicato in verbale 1) citazioni 2 H-index 2 | Punti 4 |
| Per attività istituzionali, organizzative e di servizio, pertinenti al ruolo, in relazione al grado di responsabilità delle funzioni svolte, della loro durata e continuità (come indicato in verbale 1) | Punti 1 |

Totale punti Curriculum 15:

**Punteggio totale 92,6**

- Each University and each department has specific rules

- Generally, the internal grants and funding process  at University level (Padua) are based on projects evaluation

- The internal grants and funding process  at Department level (Padua) are based only  partially on projects evaluation

- The individual annual grants (minimal –DOR) are assigned only on bibliometrical bases (n° citations, IF of journals, etc)
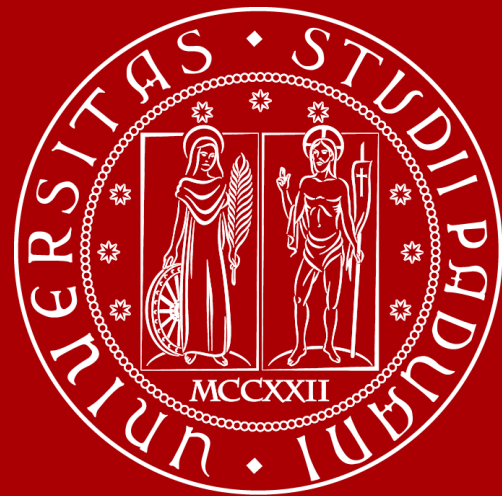
# Research Information Systems

CoARA Working Group on Supporting the alignment of research assessment systems with CoARA in biomedical disciplines through administrative reforms and governance

Session #3: Institutional assessment and monitoring

Dr. Sophie Biesenbender, Head Office of the Commission for Research Information in Germany

May 16th, 2024

# Outline

- Concepts and definitions

- Role of research information systems in research assessment

- Research information systems and CoARA

- Outlook and discussion

# Research information
## vs. research data

- **quantifiable information on research processes, activities, outputs and infrastructures (of individuals, departments, institutions etc.)**

  - research information ≠ research data

- **includes information and metadata on e.g., staff, projects, publications, patents or (open) research infrastructures of universities and research institutions**

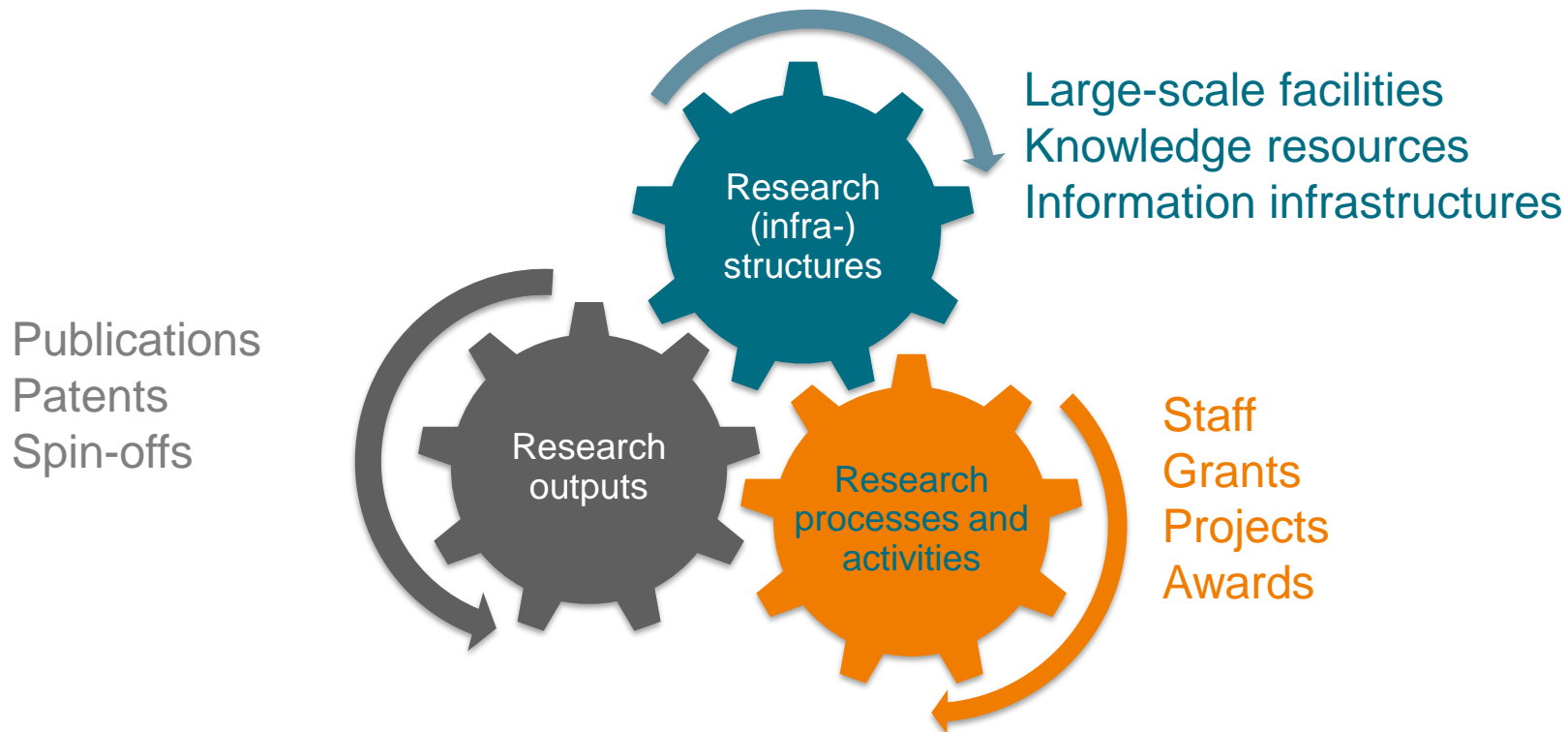  - including metadata of research data (dataset metadata)

# Research information
## Sources, systems and use cases

- is often process data from administrative and research processes,

- is stored in different specific systems, repositories, databases, project management tools, HR management systems etc., that sometimes integrate multiple systems and processes themselves,

- is used for institutional reporting (to the government, funding organisations, official statistics etc.), planning and evaluation processes (e.g. internal assessments), outreach and communication, showcasing, increasing findability of research and networking of researchers.

# Research information
## Complexity of research



Large-scale facilities
Knowledge resources
Information infrastructures

Publications
Patents
Spin-offs

Staff
Grants
Projects
Awards

Research (infra-) structures

Research outputs

Research processes and activities

# Current research information systems (CRIS)
## Definition

- are specific database and information systems for the collection, processing, presentation and evaluation of research information,

- consolidate research information from different sources and processes (administrative and research processes),

- enable a data-based description and external presentation of research processes, activities and outputs for different target groups (adapted from DINI-AG FIS 2022, http://dx.doi.org/10.18452/25440).
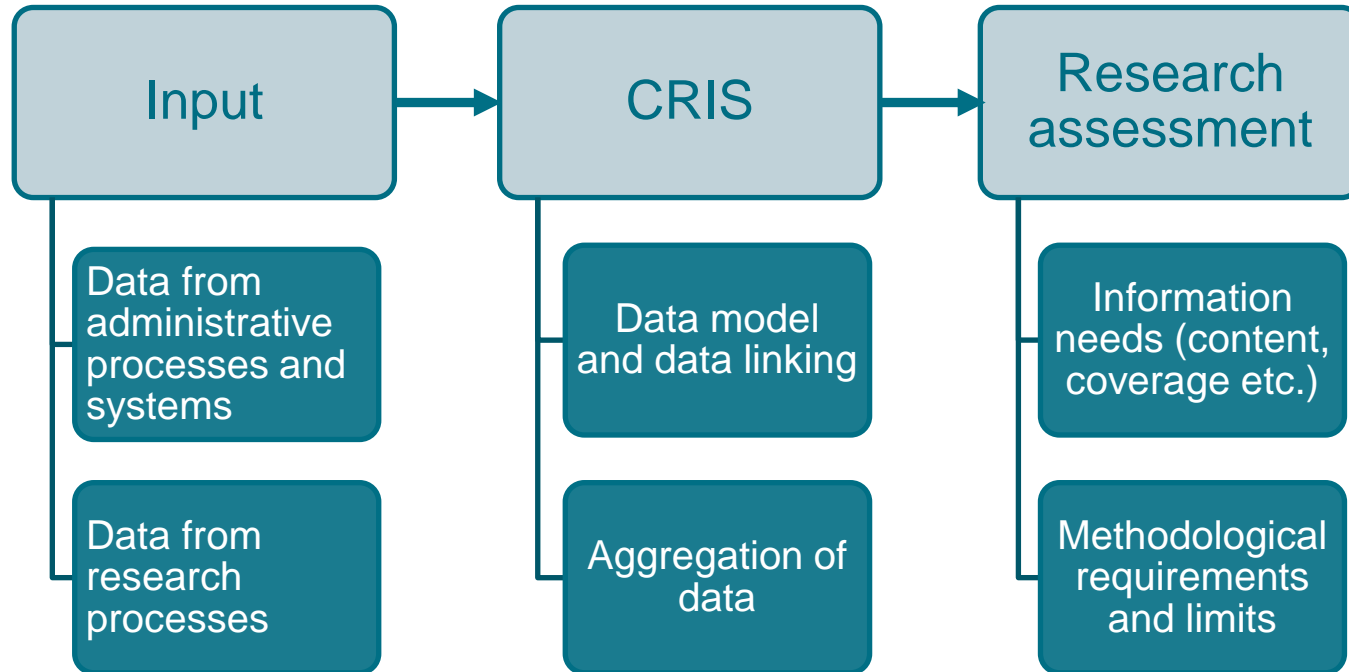
# Current research information systems (CRIS)
## Core aspects

- function as a hinge between the processes that generate research information on the one side and the assessment of research on the other side,

- build on a data model linking different objects or entities (representing the research process), e.g.
  - persons → projects,
  - projects → external projects and partners,
  - projects → research data → publications (e.g. with external co-authors), patents etc.,

- support research assessment: aggregate information (quantitative information) or serve as a source for narratives (qualitative information).

# Current research information systems (CRIS)
## Strategic role



```
Input  →  CRIS  →  Research assessment
```

**Input**
- Data from administrative processes and systems
- Data from research processes

**CRIS**
- Data model and data linking
- Aggregation of data

**Research assessment**
- Information needs (content, coverage etc.)
- Methodological requirements and limits

# Current research information systems (CRIS)
## and CoARA commitments

1. Recognize the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research.

2. Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators.

   …

5. Commit resources to reforming research assessment as is needed to achieve the organisational changes committed to.

6. Review and develop research assessment criteria, tools and processes.

   …

# Current research information systems (CRIS)
## and CoARA commitments

1. Recognize the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research.

2. Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators.

   ➤ Is the information covered by the CRIS (and the leading systems)? Is the interoperability of the systems sufficient?

   ➤ How well do the classifications and underlying definitions support research assessment purposes?

   ➤ Are data quality, coverage and comparability (over time or units, e.g., organizational units) sufficient?

# Current research information systems (CRIS)
## and CoARA commitments

5. Commit resources to reforming research assessment as is needed to achieve the organisational changes committed to.

6. Review and develop research assessment criteria, tools and processes.

   ➢ Research information management (RIM) affects workflows, processes and systems that process research information (leading systems and CRIS).

   ➢ Changes in RIM processes require organisational change that often affects the whole research-performing organisation (including administration and researchers).

   ➢ Professionalizing research assessment requires both information specialists and experts for evaluation, methods and indicators.

# Strengthening responsibility and openness
in research, research information & research assessment

**Common values**

- Transparency

- Reproducibility

- Accountability

**Common strategies**

- FAIR (Findability, Accessibility, Interoperability, and Reuse of digital assets)

- Fostering openness

**Commitment to openness and transparency**

- Coalition for Advancing Research Assessment (CoARA)

- Barcelona Declaration on Open Research Information

# Thank you very much for your attention!

*Questions and comments*

# Contact information:

Dr. Sophie Biesenbender

Geschäftsstelle der KFiD

Kommission für Forschungsinformationen in Deutschland

Schützenstraße 6a | 10117 Berlin
Tel.: 030 2064 177 – 37

biesenbender@kfid-online.de
www.kfid-online.de

# An open science dashboard for biomedical institutions

Dr. Kelly Cobey

kcobey@ottawaheart.ca

Metaresearch and Open Science Program

METARESEARCH and OPEN SCIENCE

UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA

# Background

## Open Science

- *A movement and practice to conduct science in a more transparent way*

- No consensus on what open science entails
  - Open access
  - Open data
  - Open materials
  - Preprints
  - Reporting guidelines
  - Study registration
  - Open peer review
  - Open education

# Open science is powerful

Jenna's story in her words:

<u>Patient gets life-changing diagnosis thanks to Open Science - The Ottawa Hospital</u>

<u>Pulse: The Ottawa Hospital Foundation Podcast | The Ottawa Hospital Foundation (ohfoundation.ca)</u>
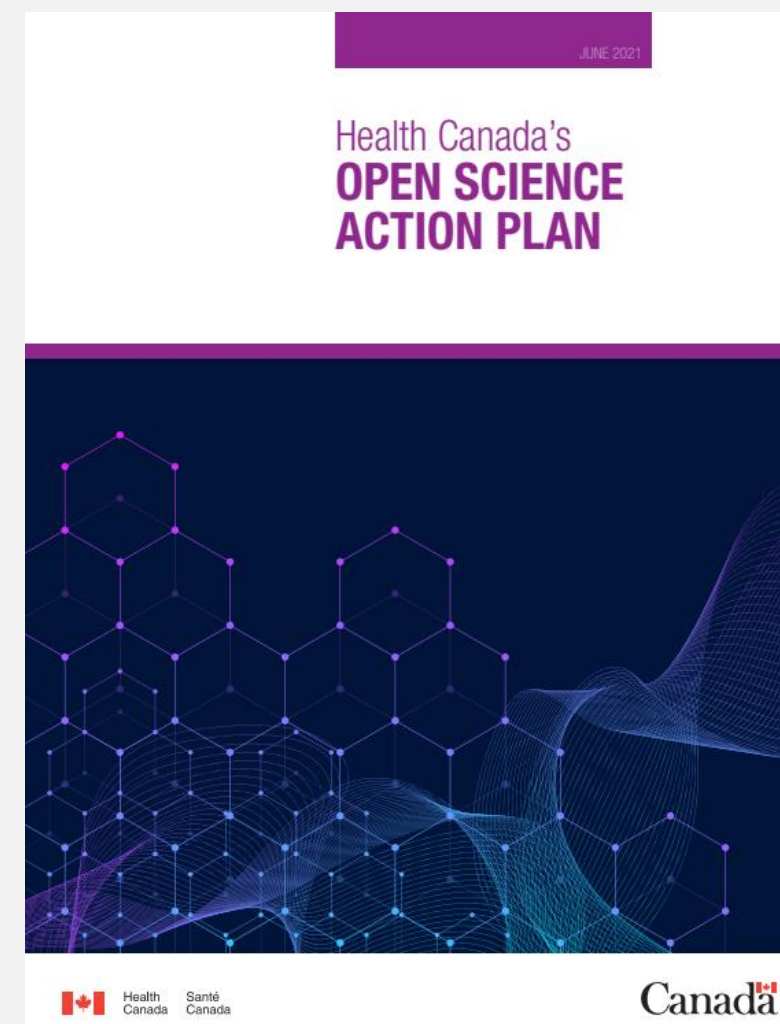


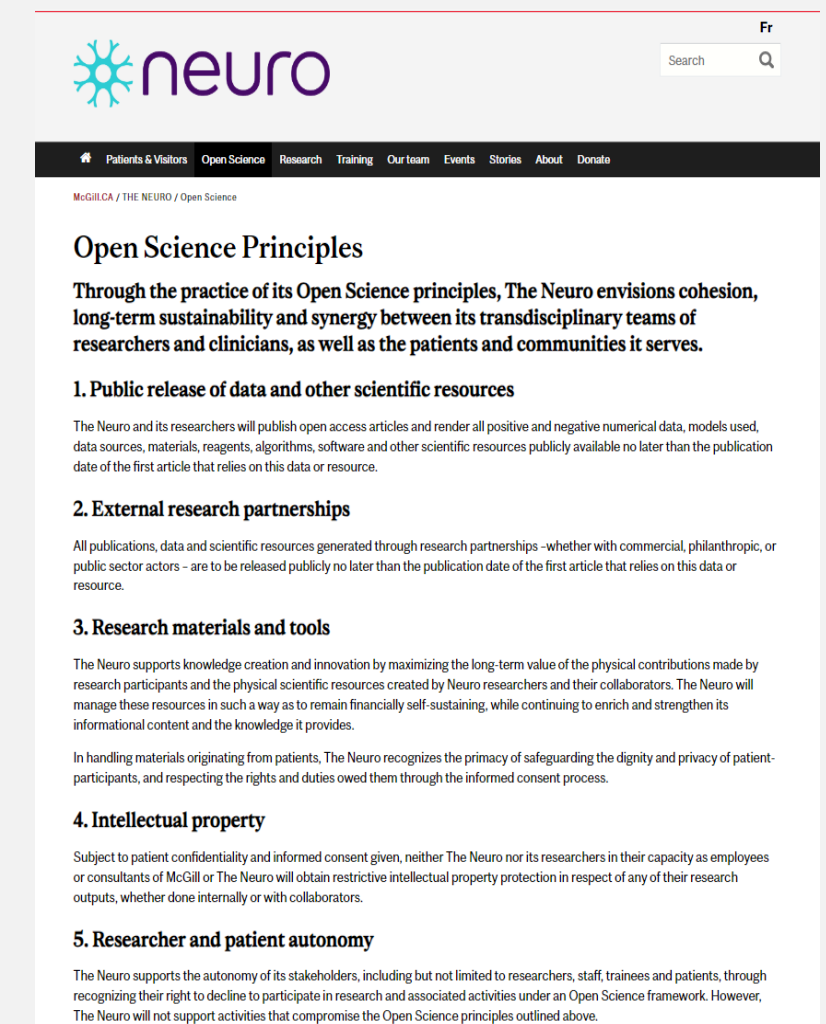Meet Jenna Keindel

# Open science is a policy priority globally



UNESCO Recommendation on Open Science - UNESCO Digital Library
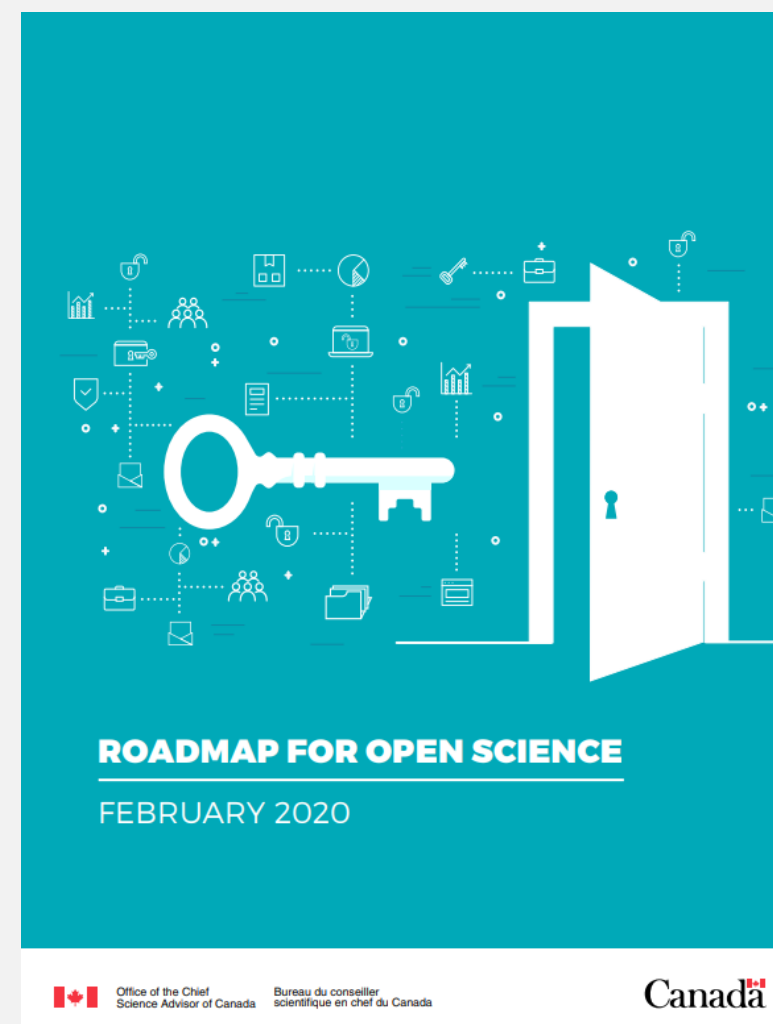


Roadmap for Open Science



Health Canada's Open Science Action Plan - Canada.ca



Open Science Principles | The Neuro - McGill University

# The problem with policy…

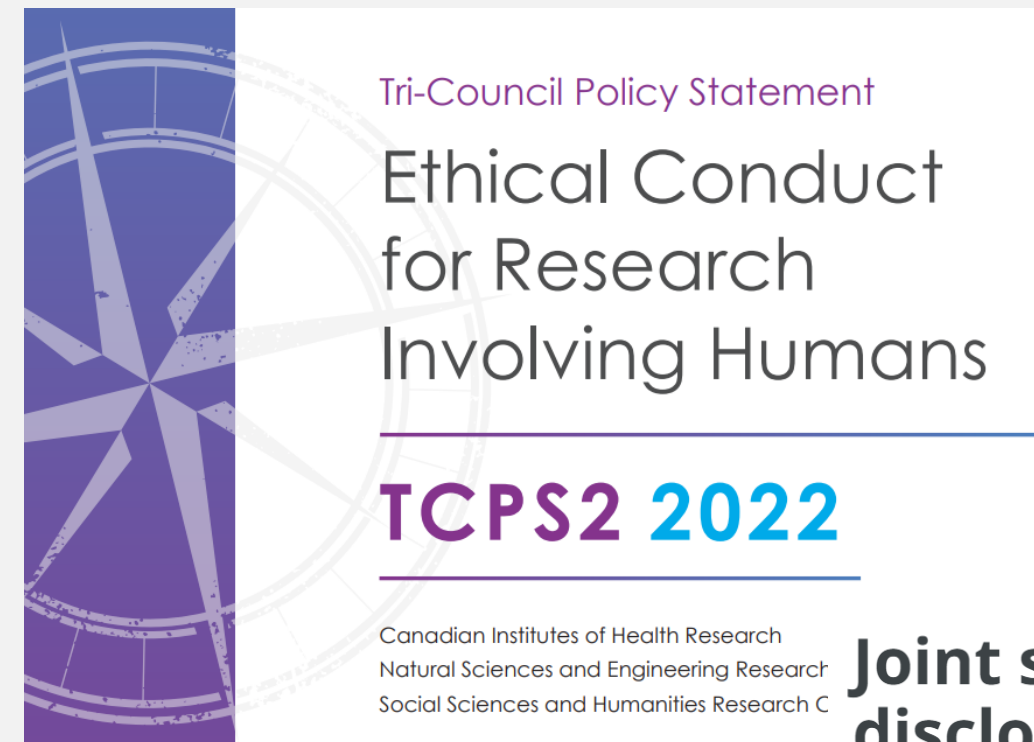**"What gets measured, gets done"**

- Consider clinical trial registration and results reporting in Canada

**Why does it matter?**

A registration established precedence for a study

Registries are publicly accessible and searchable

Allow us to determine if there is reporting bias

Tri-Council Policy Statement

## Ethical Conduct for Research Involving Humans

**TCPS2 2022**

Canadian Institutes of Health Research
Natural Sciences and Engineering Research
Social Sciences and Humanities Research C

## Joint statement on public disclosure of results from clinical trials

18 May 2017 | Departmental news | Reading time: 8 min (2142 words)

Some of the world's largest funders of medical research and international non-governmental organizations agreed on new standards that will require all clinical trials they fund or support to be registered and the results disclosed publicly. Currently, about 50% of clinical trials go unreported, often because the results are negative. These unreported trial results leave an incomplete and potentially misleading picture of the risks and benefits of vaccines, drugs and medical devices, and can lead to use of suboptimal or even harmful products

**Joint statement**

The current 2013 Declaration of Helsinki states that "Every research study involving human subjects must be registered in a publicly accessible database before recruitment of the first subject." and that
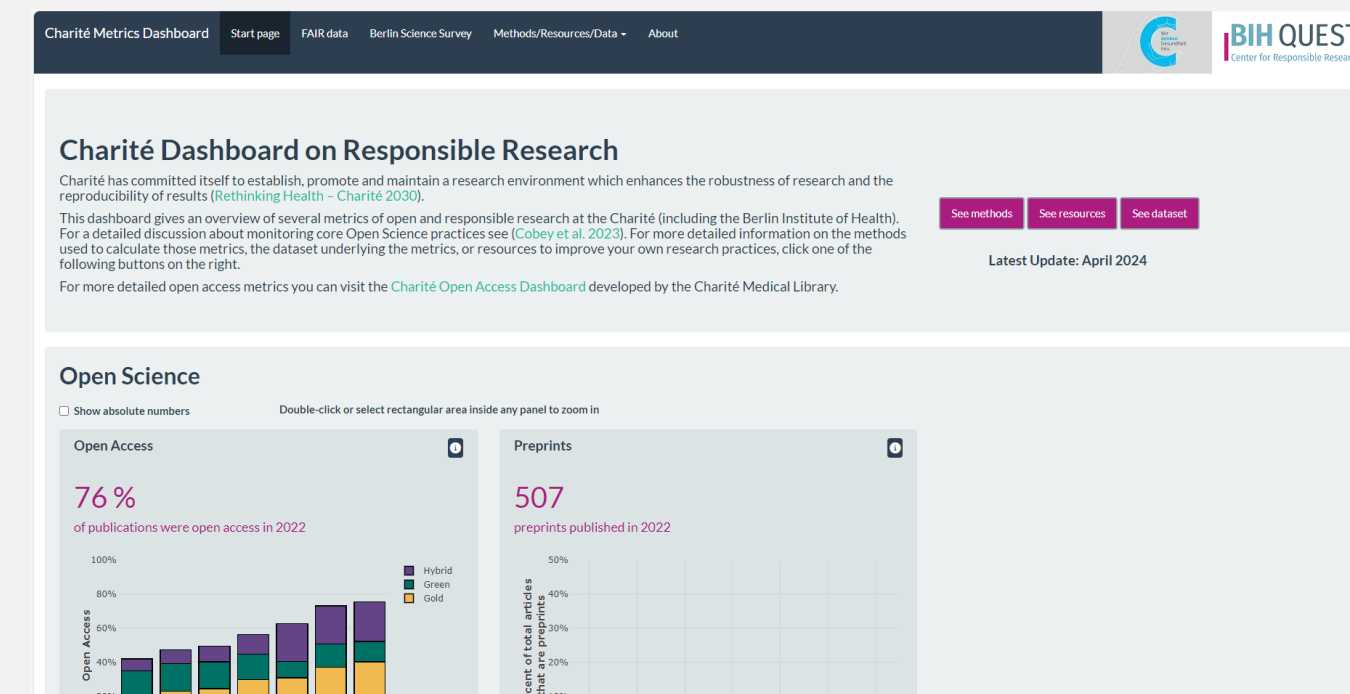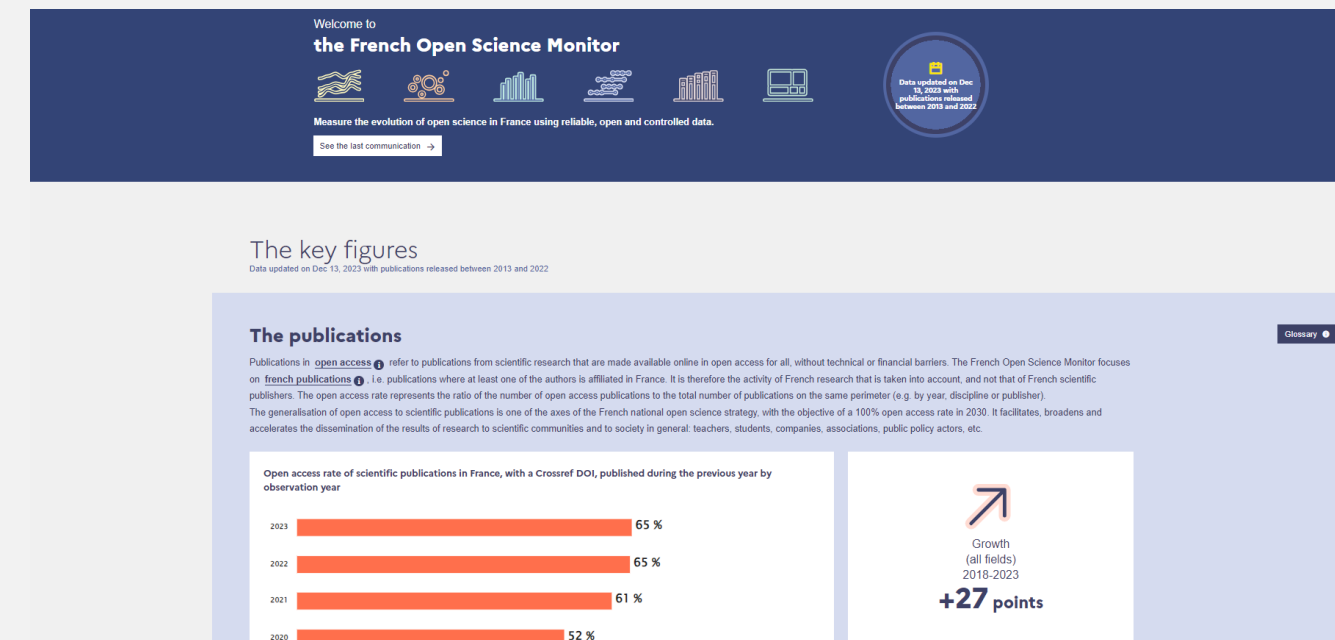
# The problem with policy...(cont.)

**An audit of Canadian clinical trials**

- Examined all registered clinical trials on [ClinicalTrials.gov](ClinicalTrials.gov) conducted in Canada between 2009 and 2019

- A cross-sectional analysis of those trials assessed prospective registration, subsequent result reporting in the registry, and subsequent publication of study findings.

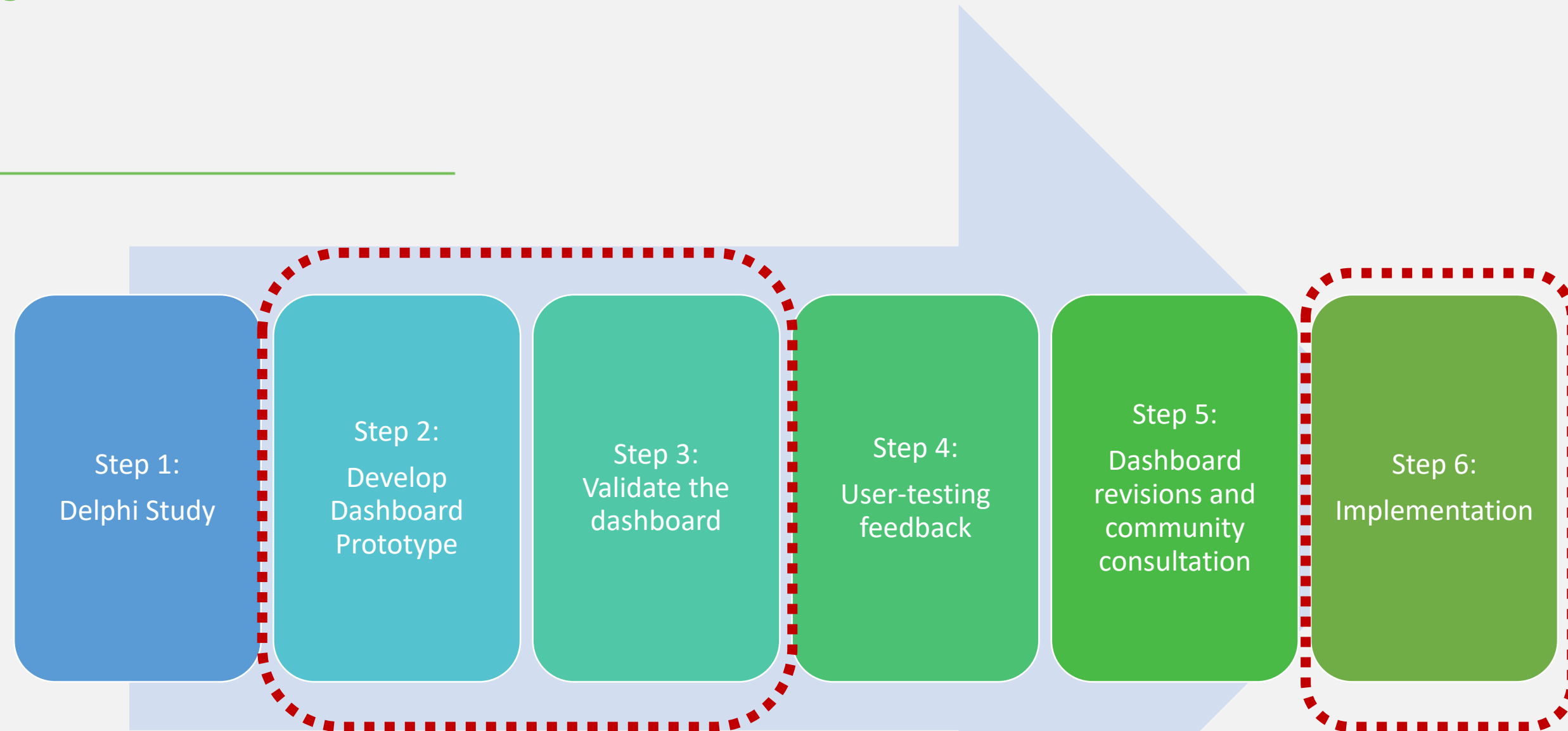- A total of 6,720 trials met the inclusion criteria

| | % |
|---|---|
| 1. What percent of clinical trials are registered before the study starts? | 56% |
| 2. What percent of clinical trials report the results in the registry when done? | 39% |
| 3. What percent of clinical trials go on to be published in a scholarly journal? | 55% |
| 4. What percent of clinical trials do all three practices? | 3% |

# Monitoring open science has started

There is existing precedence for open science dashboards

# Program



Step 1:
Delphi Study

Step 2:
Develop Dashboard Prototype

Step 3:
Validate the dashboard

Step 4:
User-testing feedback

Step 5:
Dashboard revisions and community consultation

Step 6:
Implementation

**"If you build it, they will come."**

# Step 1: Delphi

- 3 round Delphi
- 80 participants, 20 institutions

- What practices should we track in an institutional biomedical open science dashboard?

## Community consensus on core open science practices to monitor in biomedicine

Kelly D. Cobey [1,2,*], Stefanie Haustein[3,4], Jamie Brehaut[2,5], Ulrich Dirnagl[6,7], Delwen L. Franzen[7], Lars G. Hemkens[7,8,9], Justin Presseau[2,5,10], Nico Riedel[6], Daniel Strech[6,11], Juan Pablo Alperin[4,12], Rodrigo Costas[13], Emily S. Sena[14], Thed van Leeuwen[13], Clare L. Ardern[15,16], Isabel O. L. Bacellar[17], Nancy Camack[5], Marcos Britto Correa[18], Roberto Buccione[19], Maximiliano Sergio Cenci[18], Dean A. Fergusson[2,5], Cassandra Gould van Praag[20], Michael M. Hoffman[21,22,23,24], Renata Moraes Bielemann[25], Ugo Moschini[26], Mauro Paschetta[27], Valentina Pasquale[26], Valeria E. Rac[28,29,30], Dylan Roskams-Edris[31,32], Hermann M. Schatzl[33], Jo Anne Stratton[31], David Moher[2,5]

Table 3. Prioritization of traditional open science practices and broader transparency practices.

| No. | Practice | Score |
|---|---|---|
| | **Traditional open science practices** | |
| 1 | Reporting whether clinical trials were registered before they started recruitment | 9.71 |
| 2 | Reporting whether study data were shared openly at the time of publication (with limited exceptions) | 9.18 |
| 3 | Reporting what proportion of articles are published open access with a breakdown of time delay | 8.12 |
| 4 | Reporting whether study code was shared openly at the time of publication (with limited exceptions) | 7.94 |
| 5 | Reporting whether systematic reviews have been registered before data collection began | 6.76 |
| 6 | Reporting whether clinical trials results appeared in the registry from 1 year after study completion | 6.76 |
| 7 | Reporting whether there was a statement about study materials sharing with publications | 6 |
| 8 | Reporting whether a reporting guideline checklist was used | 5.88 |
| 9 | Reporting citations to data | 5.53 |
| 10 | Reporting trial results in a manuscript-style publication (peer reviewed or preprint) | 4.82 |
| 11 | Reporting the number of preprints | 4.35 |
| 12 | Reporting systematic review results in a manuscript-style publication (peer reviewed or preprint) | 2.94 |
| | **Broader transparency practices** | |
| 1 | Reporting whether author contributions were described | 5.12 |
| 2 | Reporting whether author conflicts of interest were described | 4.71 |
| 3 | Reporting the use of persistent identifiers when sharing data/code/materials | 4.65 |
| 4 | Reporting whether ORCID identifiers were used | 4.47 |
| 5 | Reporting whether data/code/materials are shared with a clear license | 3.47 |
| 6 | Reporting whether research articles include funding statements | 3 |
| 7 | Reporting whether the data/code/materials license is open or not | 2.59 |

https://doi.org/10.1371/journal.pbio.3001949.t003

# Step 2: Develop the dashboard prototype

- Relies on institutions to identify their publication output and trial identifiers

- Developed using predominantly open-source process pipelines and text-mining algorithms for fetching, processing, and analysing data about academic institutions

- 9 /19 desired open science practices automated

- Uses a subset of the larger Academic Observatory dataset from the Curtin Open Knowledge Initiative (COKI). The COKI Academic Observatory data collection pipeline fetches data about publications from multiple sources, synthesizes the datasets into a Google Cloud Platform database, and determines the Open Access status.
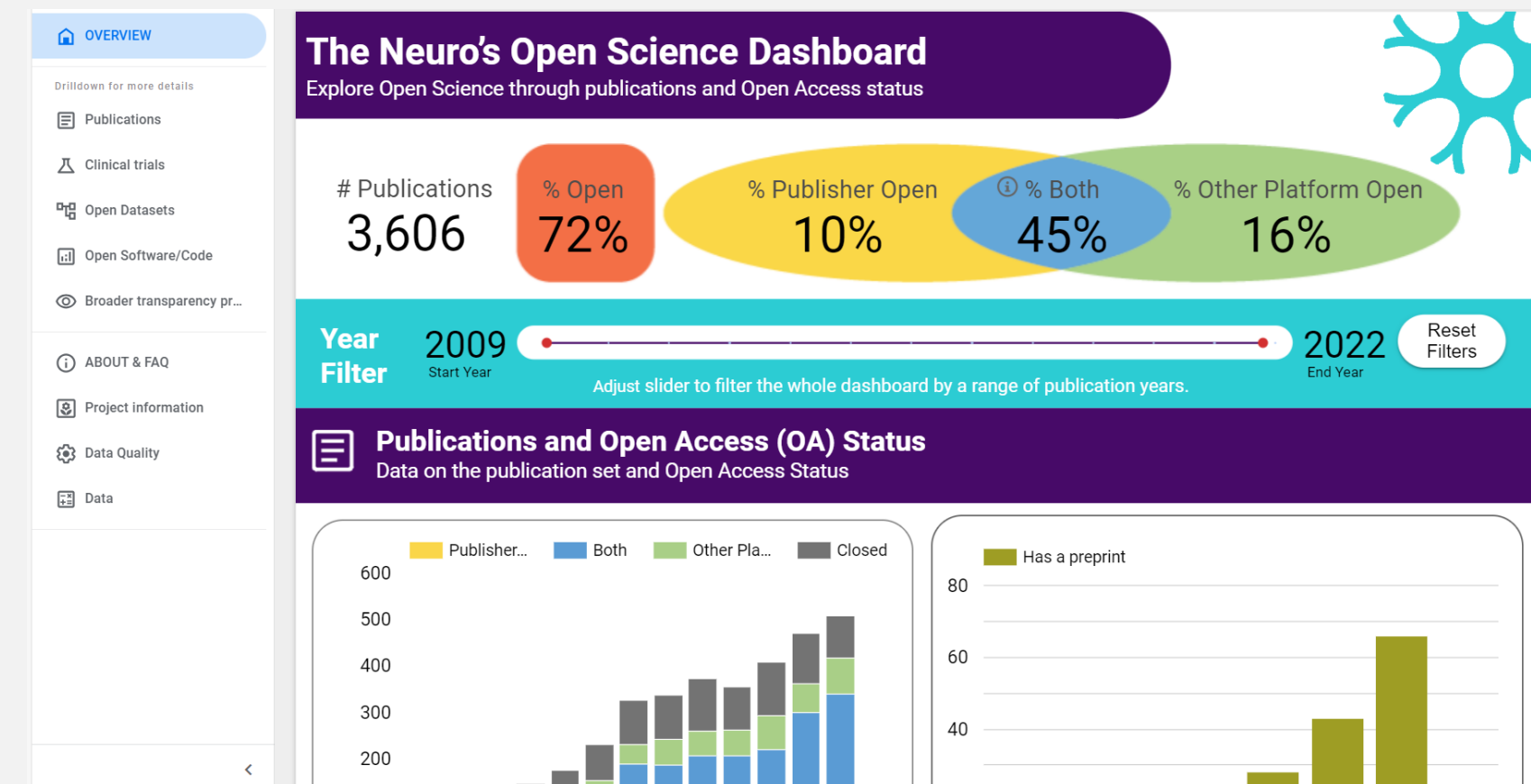


https://osd_usertesting.openknowledge.community/

# Step 2: Develop the dashboard prototype

- The dashboard also utilizes Open Data Detection in Publications (ODDPub), a text-mining algorithm tailored towards biomedical literature.

- A customized open-source code is also used to extract data from ClinicalTrials.gov via the Aggregate Analysis of ClinicalTrials.gov (AACT) Database

- Visualized in the Google Looker Studio dashboard
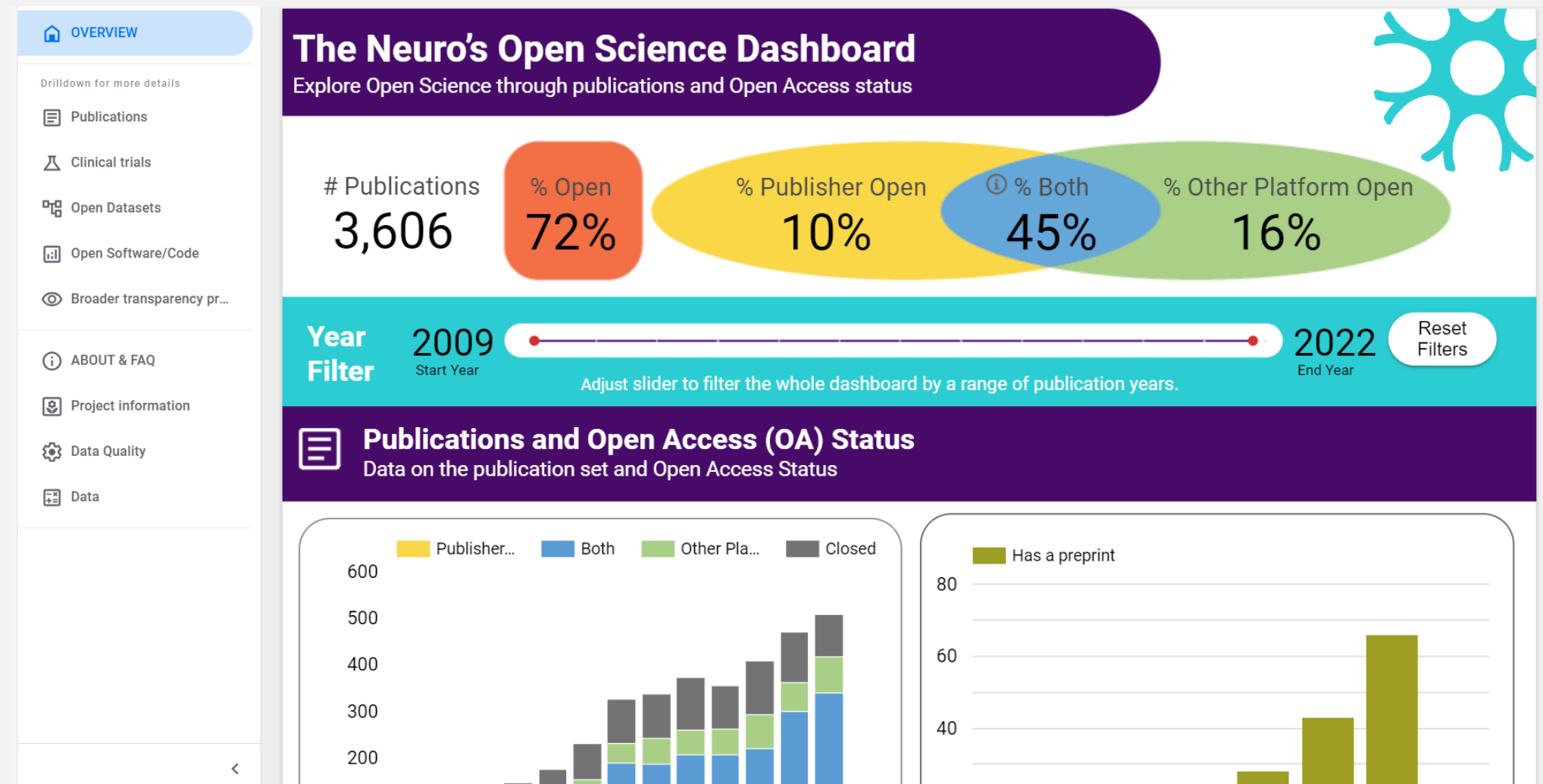


https://osd_usertesting.openknowledge.community/

# Step 3: Validate the dashboard

- 15% sample of Neuro publications (N=540)

- Manual validation in duplicate

- 85% cutoff for inclusion in the dashboard

| Practice | Description | Operationalization |
|---|---|---|
| Open access | Reporting the proportion of articles which are published open access with a breakdown of time delay | Determines the degree of openness of the publications, for Publisher Open, other Platform Open and Closed Access, by researchers affiliated with the institution, based on Unpaywall. The breakdown is available by year. |
| Open data | Reporting whether study data was shared openly at the time of publication | Measure how many publications share their research data with the publication, using the text-mining algorithm ODDPub[8,9]. |
| Open code | Reporting whether study code was shared openly at the time of publication | Measure how many publications share their analysis code with the publication, using the text-mining algorithm ODDPub. |
| Trial Registration | Reporting whether clinical trials were registered before they started recruitment | Measures if the clinical trials are registered before the start date of the study, according to the information given on ClinicalTrials.gov. |
| Trial results reporting in registry | Reporting whether clinical trials results appeared in the registry from 1 year after study completion | Measures how many of the clinical trials registered in ClinicalTrials.gov which are due to report their results have already done so. |
| Trial results reporting in publication | Reporting trial results in a manuscript-style publication (peer reviewed or preprint) | Measures how many clinical trials registered on ClinicalTrials.gov reported their results as a journal publication. |
| Preprints | Reporting the number of preprints | Measures how many formal publications also have a version of the manuscript available on a preprint server, using Unpaywall metadata. |
| Use of ORCID | Reporting whether ORCID identifiers were used | Checks for the publication DOI present in any ORCID record. |
| Funder statements | Reporting whether research articles include funding statements | Measures how many publications include a funding statement, based on metadata from Crossref. |

# Step 4: User-testing feedback

- 25 members from the Delphi re-engaged for a user testing session

- Completed an A/B test to select the most appropriate dashboard landing page

- Answer a series of questions about:
  - the ease of using the dashboard
  - the quality of data visualizations
  - overall feedback to improve the dashboard



What landing page is more intuitive?
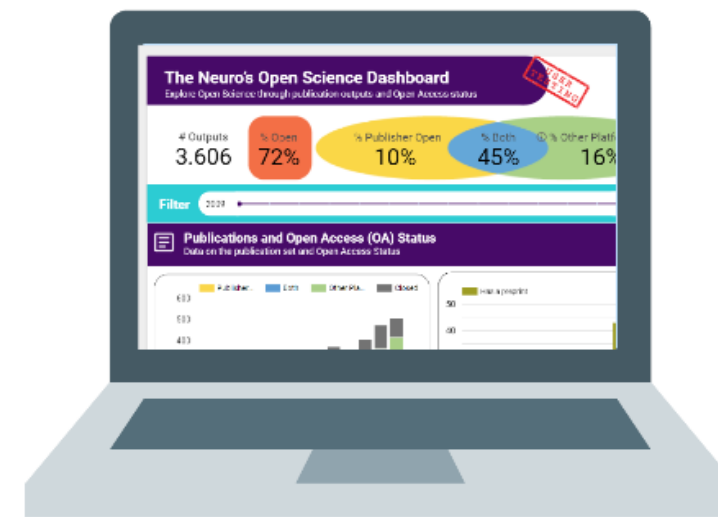
Landing page 1
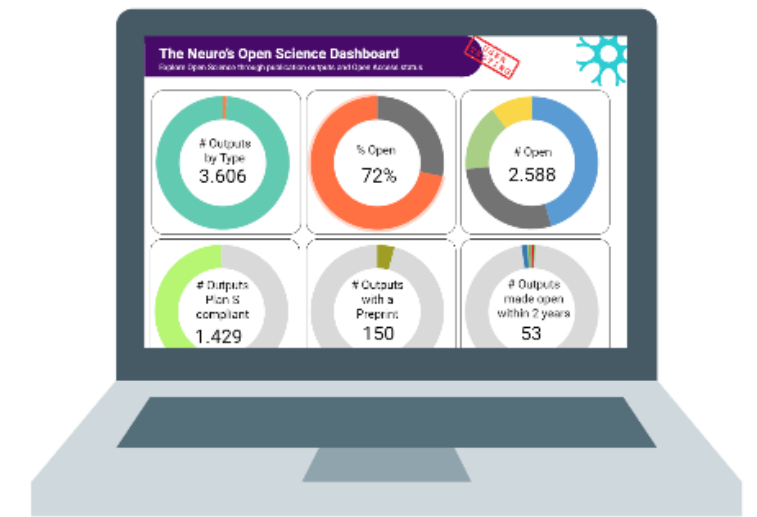
Landing page 2
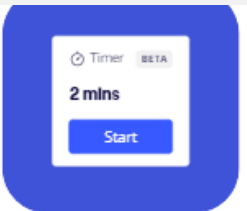
# Step 5: Dashboard revisions and community consultation

- Re-engaged 10 institutions represented in the Delphi for focus groups
  - 6 universities, 2 research hospitals, and 2 research centres from 6 countries

- 1-hour sessions; 1-5 staff members in each group

- Vision to create an implementation handbook

**How can we make this dashboard relevant in your context?**
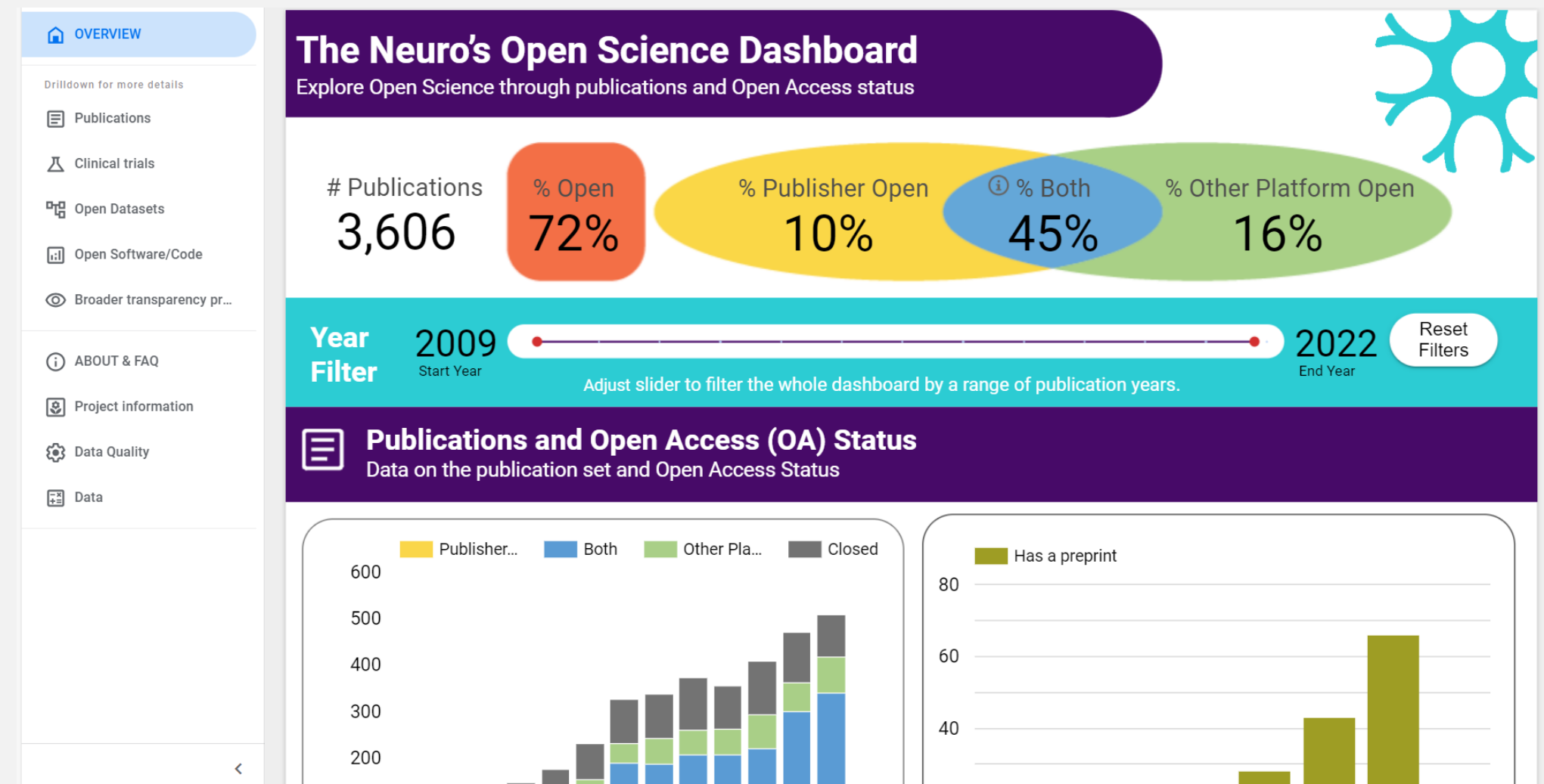
# Step 6: Implementation

- Five partners in Canada committing to implementing the dashboard through a consortium; 3-year commitment

- Evaluating the dashboard within and between institutions  - the benefit of a core outcome set of agreed variables

- Targeting (educational) interventions to drive improvements

# Acknowledgements

## Project team

Anna Catharina V. Armond

Chantal Ripp

Marc Albert

David Moher

Stefanie Haustein

Cameron Neylon

Rebecca Hancock

Gabriel Pelletier

Lars Hemkens

Delwen Franzen

Maia Salholz-Hillel

Ulrich Dirnagl

Daniel Strech

Vladi Nachev

Tracey Weissgerber

# An open science dashboard for biomedical institutions

**Dr. Kelly Cobey**
kcobey@ottawaheart.ca
Metaresearch and Open Science Program

METARESEARCH and OPEN SCIENCE

UNIVERSITY OF OTTAWA HEART INSTITUTE
INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

# WELCOME!

# VIRTUAL BRAINSTORMING EVENT: DAY 2

## WG "SUPPORTING THE ALIGNMENT OF RESEARCH ASSESSMENT SYSTEMS WITH COARA IN BIOMEDICAL DISCIPLINES THROUGH ADMINISTRATIVE REFORMS AND GOVERNANCE (SAGA)"
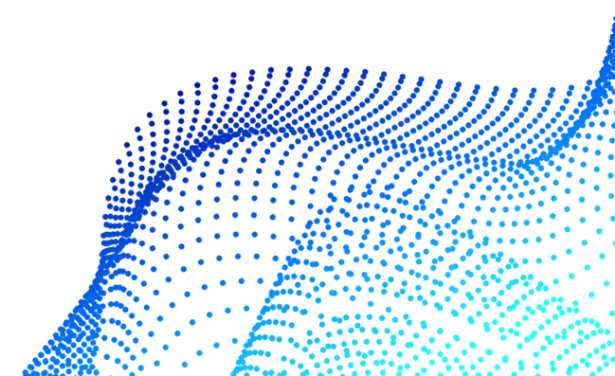
**May 17ᵗʰ 2024**

Virtual Meeting – Welcome and Introduction to the event

Miriam Kip, Charité and BIH

# WELCOME!

- Organizing team
- Dr. Iris Uribesalgo, SAGA co-chair, EU-LIFE, Europe,
- Dr. Jess Rohmann, Institute for Public Health, Charité, Germany,
- Dr. Marie Witt, Max Delbrück Center, Germany,
- Prof. Antonio Paoli, M.D., University of Padova, Italy,
- Dr. Paula Samsó, Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Spain,
- Dr. Tracey Weissgerber, Berlin Institute of Health at Charité, Germany
- Dr. Miriam Kip, SAGA chair, Berlin Institute of Health at Charité, Germany,
- Fabian Hempel, Berlin Institute of Health at Charité, Germany

- We meet once per month (each first Monday)
- The WG is open to everybody
- Come as you are
- Contact: miriam.kip@bih-charite.de

23 Members
- from Italy, the Netherlands, Germany, Spain, Portugal, and Belgique
- afiliated with, among others, Coimbra University (Portugal), Universidade Lusófona (Portugal), Yerun (Belgique), IRCCS Ospedale Galeazzi - Sant'Ambrogio, Università Vita-Salute San Raffaele (Italy), Erasmus MC Rotterdam (Netherlands), and Consejo Superior de Investigaciones Científicas (Spain)

# PURPOSE OF THE EVENT

- Co-creation of an action plan template (white paper)

**Role of Administration and Governance** on the **advancement** of **research assessments** in alignment with **CoARA** in biomedical institutions 2024 - 2027

- Flexibility of the format → active participation

- Your input is the most important aspect

- Richness and diversity of institutional experiences count the most

- There are no wrong answers or questions

CoARA

3

# CODE OF CONDUCT VBS

- Inclusive, respectful interaction

- Open to diversity of opinions and perspectives

- Discussion contributions (verbal and in the chat) are project-related - no forwarding or communication to third parties

- No derogatory statements

- No distribution of screenshots of chat histories or people via social media without consent

- The event is recorded for internal purposes only (pseud. transcript as data basis for the template)

- All contributions will be credited (member checking)

- Become part working group and join our writing team!

CoARA

# STRUCTURE OF THE EVENT

- 2-days event

- Free and open discussion time, time for collaboration (in person, in the chat)

- Writing time (documents – links in chat)

- Short input talks

- Structured discussion times

- End-of day wrap-up and happy hour


- Agenda: see link in chat or

**https://drive.google.com/file/d/1MmrYmtMdsW15e8OaxFJT6nqUmlLt9KgN/view?usp=sharing**

**CoARA**

5

# ON DAY 1 WE DISCUSSED THE IMPORTANCE OF

Focus was systemic factors influencing RA and RA on the level of the institution

- Different degrees of restrictions/freedom through e.g. legal requirements that influence degrees of actions -> knowledge, communications channels, activities  **Why does this matter?** For reform/change we need to be identify those could and would make the change

- Admin as a communicator of the evidence-base to policies of research assessment reform

- Admin has specific insights to generate evidence on the implementation of such reforms

- Evidence/Examples of the impact of the goals outlined in CoARA on society (e.g. open access to research results on patients lives)

- "research assessment cannot work without research information"  and the ability to monitor diverse sets of information over time (e.g. OS dashboard)

- Transparency: the all stakeholders esp the assessed person has access to such information, and the full results of the assessments

- Terminology/definition:
  - Institutional assessment meaning the assessment of institutions, organizations, departments within or across institutions (e.g. ministry – university  or the university - departments)
  - Assessment of individuals  with the individual as the unit of analysis  within institutions/organizations or across institutions
  - Glossary?

- Awareness about the purpose of context of assessments

**CoARA**

# GOAL SETTING FOR TODAY

Focus is RA on the individual and project level

- Status of (bibliometric) indicators for the assessment individual researchers

- Strategies and pathways to sunset the misuse of indicators

- How to achieve decision- making weight of quality –oriented and impact – oriented indicators among decision-makers (reviewer, funding governance, editors…)

- How to strengthen peer-review regarding risk of bias?

- What qualifies someone to be a good assessor/reviewer/decision-maker?

- Comprehensive implementation of DEI as a guiding principle

- Different approaches and challenges in assessing different groups of researchers (clinicians , basic researchers)

- The potential of technical infrastructure to support robust, transparent and evidence-based decision-making

**CoARA**

# ONE COARA – MANY PATHWAYS

- **Compliance with ethical principles** and integrity, reduction of the risk of bias
  - Safeguarding the **freedom of research**
  - **Maintaining the independence of institutions** while avoiding contradictions in evaluation procedures within an institution
  - **Transparency** with regard to the evaluation criteria and tools for the evaluation, open access for those evaluated to the evaluation criteria and collected data on which an evaluation is based

- The focus is
  - On the quality and impact of the research on the research itself, on society.
  - Different quality criteria are used for the assessment (multidimensional evaluation)
  - Elements of open science and the early sharing of methods, data and other research output is an important prerequisite for research quality
  - Recognition of diversity, inclusion and collaborations

**CoARA**

**8**

# ONE COARA – MANY PATHWAYS

**4 Core Commitments**

Recognize the diversity of contributions

**1**
- Output (productivity)
- Careers
- Topics (setting)

**2** Base research assessment primarily on qualitative assessment and content

Strengthen peer-review

**3** Supportive use of science-based quantitative indicators

Abandon inappropriate use of indicators such as JIF or h-Index

**4** Avoid the use of rankings of research organisations in research assessment



CoARA

Commit resources to reforming research assessment as is needed

5

Review and develop research assessment criteria, tools and processes

6

Raise awareness of research assessment reform and provide transparency

7

Exchange practices and experiences to enable mutual learning

8

Communicate progress made on adhering to and implementing CoARA

9

Evaluate practices, criteria and tools based on solid evidence and sound research

10

**6 Supporting Commitments**

# STRUCTURED DISCUSSION

# How to recognize//understand ~~good~~ bibliometric indicators (for the assessment of individual researchers)

Dr. Stephan Gauch

17 May 2024

"CoARA WG on Supporting the alignment of research assessment systems"

Humboldt-Universität zu Berlin
Institut für Bibliotheks- und Informationswissenschaft
Robert K. Merton-Zentrum für Wissenschaftsforschung

# Heuristic 0: The Territories of Bibliometrics (Gauch 2023)

- **Evaluative** Bibliometrics (working WITH databases, evaluate, verticalisation)
  - Output (Productivity) => Number of Publications (Outputs)
  - Reception (Impact, Quality) => Number of Citations (Usage, Mentions…).
- **Explorative** Bibliometrics (working WITH databases, dis- & uncover, horizontalisation)
  - Mapping (e.g. Networks)
  - Structure Detection (e.g. Trends).
- **Curative** Bibliometrics (working ON databases)
  - Datasource & their specifics
  - classifications
  - data quality.
- **Reflexive** Bibliometrics (working on bibliometrics as a profession, symbolic)
  - Developing methods (e.g. informed by Science Studies)
  - Self-perception (e.g. responsibility)
  - Performativity & Recursivity.
- Bibliometrics as a **craft**
  - Programming, Searching…

# Evaluation as comparison - "Numerical Difference"
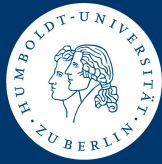
- Numerical comparison consists of two moments (Heintz 2010)
- Moment 1: Assumption of equivalence
  - Basis: Characteristics, that allow for a "meaningful" or "fair" comparison
  - Assumption of equivalence always is an assumption
  - This is NOT a passive process.

- Moment 2: Observation of difference
  - Basis: assuming (some) equivalence, identify and metrify differences (counting, summing)
  - Difference should be about characteristics that are NOT part of the assumption of equivalence.

- Caveat: Some assumptions of equivalence are NOT made explicit.
- Explicit & implicit Assumptions of equivalence can (and should) be discussed and contested
- One means of assumption of equivalence: Classifications!.

- **Heuristic 1: Not just "How much?" but also "How much compared to what?"**
- **Heuristic 2: For "normalized" metrics the explicit(!) assumptions of equivalence are in the denominator**
- **Heuristic 3: Check for implicit equivalences! What is silently normalized?**

# "Fairness" & "bias" in vertical evaluation

- Productivity
  - Sector (University, Max Planck, Fraunhofer, Industry)
  - basic research, applied research, experimental development
  - Collaboration
  - Different "rhythms" of fields
  - Granularity of projects
  - Funding
  - Laboratory Equipment.
- Reception of works
  - Discipline and its citation culture (mathematics vs. economics)
  - Document Type: Review Articles gain much more citations
  - Age of the work
  - Reputation of the authors (Matthew Effect)
  - Academic Age
  - Size of the field
  - Interdisciplinarity of research activities
  - Period of observation.
- **Heuristic 4: Check assumptions of equivalence for (at least) TWO notions!**
  - **(un-)Fairness (view of the evaluated)**
  - **(un-)Bias (view of the evaluators, developers of metrics)**
- **Heuristic 5: ASK: How much violation of assumptions of equivalence can a metric take?**

4

# Indicators I will talk about

- Citation per Paper
- Fractional & Whole Counting
- Field Citation Score (FCS, MCS)
- Field-Normalized Citation Rate (FWCI, FNCR, MNCR)
- Journal Citation Score (JCS, JIF)
- Relative Citation Ratio
- Percentile-based Indicators (Excellence Rate)
- Hirsch Index.

# Intermission: Citation Windows

- Short language convention:
    - Reference: Pointing AWAY from a work (work's reference list)
    - Citation: Pointing TOWARDS a work (other reference lists)

- One source of bias//unfairness when counting citations is the age of an article
- Solution: Only counting for a specific period AFTER publication
- Usual citation window length: 2 - 5 years
- Problem:
    - You have to wait for 2-5 years to produce the metric
    - "Sleeping Beaus", "Nacroleptic Beaus" (delayed recognition)
    - On individual level: 2 years in early career cycles = 0.5 career

- **Heuristic 6: Do specific notions of fairness//unbias clash with "needs"?**
- **Heuristic 7: Be aware of fairness//unbias breeding unfairness//bias**

6

# Fractional Counting vs. whole Counting

- Context: Increasing number of authors on publications
- Division of labor!
- HyPeRaUtHoRsHiP!!!!


- Solution: Account for division of labor!
  - Fractional counting: Distribute merit over producing entities
  - Countries, Affiliations, Addresses, Authors…
- Example: Fractional Counting "Author Levels"
  - Publication with 3 authors (A1, A2, A3)
  - "Credit" under Full Counting: A1 = 1, A2 = 1, A3 = 1
  - "Credit" under Author Fractional Counting: A1 = 0.3, A2 = 0.3, A3 = 0.3

# Another real-life example (fractional vs. whole count)
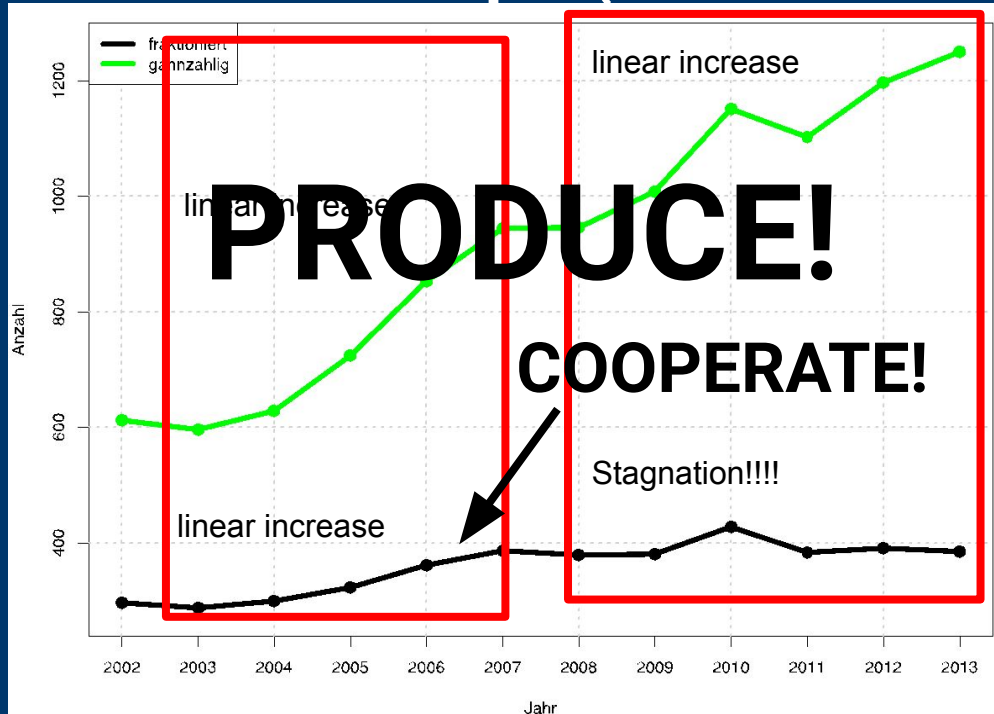


- **Heuristic 7: Use more than one metric! Search for useful complements!**
- **Heuristic 8: What are the imperatives inscribed in the metric? Are there frictions?**
- **Heuristic 9: Often "categorial exotisms" shift the problem elsewhere.**
  - **Contribution sections: What is each "contribution" worth?**

# Example: Field-normalized Citation Rate
## Field Citation Score & Field-Normalized Citation Rate

- accounts for a notion of a field
- unsuited for individual level
- little variance (on country level)
- Problematic for multidisciplinary journals (Nature, Science)
- Strong influence of classification scheme
- Bias against interdisciplinarity

Field Normalization

not really a measure, "preliminary Product"
Think: grade point average

$$FCS_x = \frac{\sum_{i=1}^{P_x} Cit(p_{xi})}{P_x}$$

Each publication P in Field x has the same chance for a citation

**FCSx**: FCS for field x

$P_x$: No. of Citations in Field x

$p_{xi}$: Publication i in Field x

$Cit(p_{xi})$: No. of Citations for publication $p_{xi}$

$$FNCR_{o,f}^{field} = \frac{1}{P_{o,f}} \sum_{i=1}^{P_{o,f}} \frac{c_i}{FCS_i^{field}}$$

A publication in field x usually is cited FCS times.

Each publication of [unit of observation] o in Field x has the same chance for a citation

$P_{o,f}$: No. of publications of o in field f

$c_i$: No. of c of publication i

$FCS_{i,Field}$: Expected No. of Citations in the Field of publication i

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# Same same, but different?!

$$FCS_x = \frac{\sum_{i=1}^{P_x} Cit(p_{xi})}{P_x}$$

**FCS_x:** FCS für das Feld $x$
**P_x:** Anzahl Publikationen im Feld $x$
**p_{xi}:** Publikation $i$ im Feld $x$
**Cit(p_{xi}):** Anzahl Zitierungen für Publika

$$JCS_j = \frac{\sum_{i=1}^{P_j} Cit(p_{ji})}{P_j}$$

**JCS_j:** JCS für Journal $j$
**P_j:** Anzahl Publikationen in Zeitschrift $j$
**p_{ji}:** Publikation $i$ in Zeitschrift $j$
**Cit(p_{ji}):** Anzahl Zitierungen für Publikation $p_{ji}$

$$2020\ JIF = \frac{\text{Citations in 2020 to items published in 2018 + 2019}}{\text{Number of citable items published in 2018 + 2019}}$$

- Citations to items divided by number of items… … …
- Journal Impact Factor!
    - JCS: calculated for the same citation windows as the publication years (usually 4 years)
    - JIF: Citation window: 2 years
- The JOURNAL Impact Factor is a **JOURNAL METRIC**
- JIFSum = (Sum of JIFS of Publications)
- Denominator of JIF only features "citable items": Article, Review, Letter
- **Heuristic 10: ASK: What is counted on what level?**
- **Heuristic 11: Don't judge the tree by the forest**
- **Heuristic 12: JIFSum is a bad metric on individual level!**

# Relative Citation Ratio

- Based on PubMed
- Citation Rate in relation to articles from the same field (NIH funded, indexed in PUBMED)
- **"Field" in RCR is the Corpus of co-citing articles**
- What's in the "universe" of the database: MEDLINE => low relation to other disciplines => less coverage for interdisciplinary work => bias!
- Dynamic field classification rather than "fixed classifications"
- "The audience" decides where an article belongs to, not the author


- **Heuristic 13: Structure detection algorithms detect structures! That's what they do!**
- **Heuristic 14: Know your databases! Know their biases!**

# Excellence Rate (ppTop10, ppTop5…)



- In bibliometrics everything is distributed "log-normal"
  - many papers are not cited or cited
  - very few papers are cited excessively
  - Result: Citation rates are right-skewed
- Using the median for normalization is worse than using the mean
- Problem: multidisciplinary journals (Nature, Science)
- ppTop10: How high is the share of the portfolio of O in the top 10 percent of papers cited?
- Shift in focus from "comparison to the average" to "measure excellence"
- **Heuristic 15: Assumptions of equivalence can present themselves as shifts**
- **Heuristic 16: Often details are key! Highest cited papers for what? The same field? The same year? Know your indicator!**

12
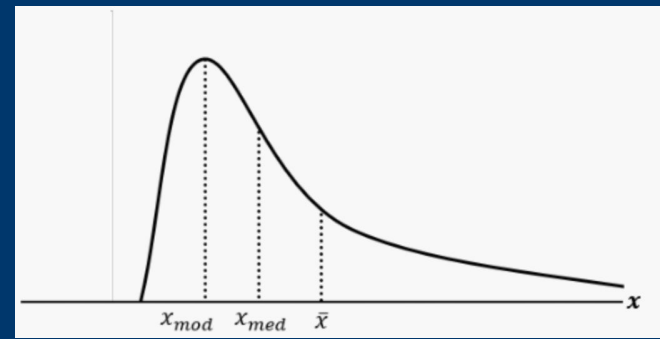
# Same Hirsch-Index?

| Rank | Times Cited Author A | Times Cited Author B |
|------|---------|---------|
| 1 | 63 | 13 |
| 2 | 53 | 12 |
| 3 | 43 | 11 |
| 4 | 34 | 10 |
| 5 | 25 | 9 |
| 6 | 16 | 8 |
| 7 | **7** | **7** |
| 8 | 1 | 6 |
| 9 | | 5 |
| 10 | | 4 |
| 11 | | 3 |
| 12 | | 2 |
| | **242** | **90** |
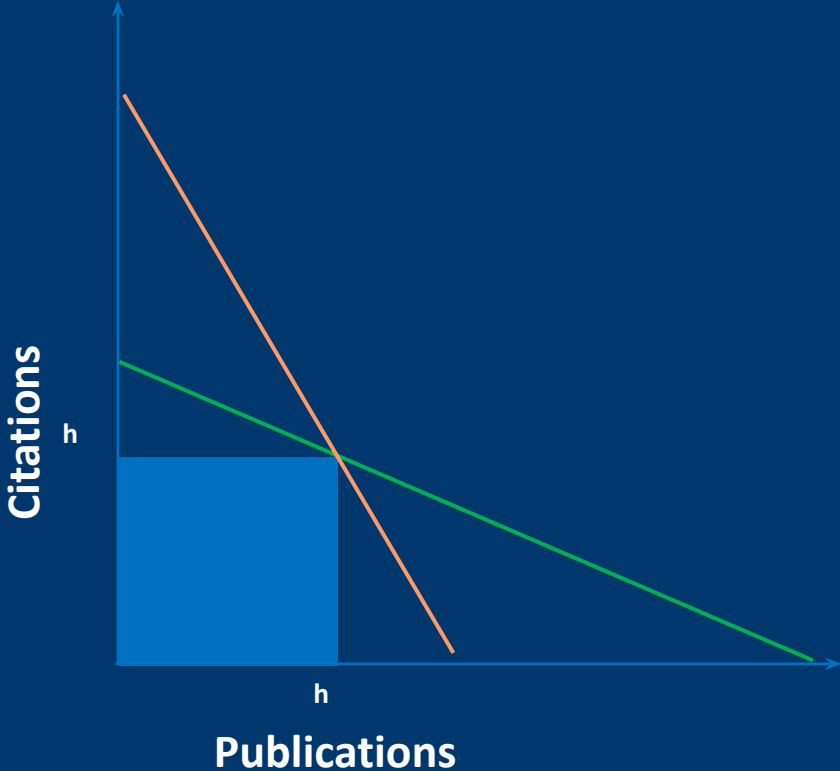
# Heuristic 17: Issues do stack!

## Hirsch Index of highly-ranked researchers
## (Bar-Ilan, 2008)

| Researcher | Category | WoS | Scopus | Google Scholar |
|---|---|---|---|---|
| Alexander, Gideon | Physics | 32 | 30 | 20 |
| Alon, Noga | Mathematics, Computer Science | 14 | 17 | 27 |
| Aumann, Robert J. | Mathematics | 8 | 6 | 11 |
| Aurbach, Doron | Materials Science | 29 | 29 | 19 |
| Beeri, Catriel | Computer Science | 3 | 3 | 8 |
| Chet, Ilan | Plant & Animal Science | 21 | 21 | 20 |
| Ciechanover, Aaron | Biology & Biochemistry | 33 | 34 | 30 |
| Cohen, Irun R. | Immunology | 29 | 32 | 26 |
| Dagan, Gedeon | Engineering, Ecology/Environment | 13 | 14 | 12 |
| Dekel, Avishai | Space Sciences | 25 | 25 | 24 |
| Dolev, Daniel | Computer Science | 5 | 7 | 18 |
| Duchovni, Ehud | Physics | 32 | 29 | 15 |
| Geiger, Benjamin | Molecular Biology & Genetics | 34 | 33 | 31 |
| Gohberg, Israel | Mathematics | 8 | 8 | 11 |
| Goldreich, Oded | Computer Science | 12 | 14 | 32 |

# Altmetrics - Ambiguity & Ambivalence



- The Knowledge Abundance: New Filters
- Hunters & Gatherers in an infinite universe: Diverging from the "registry logic" to an "enrichment logic"
- Bring down the Ivory Tower: PUSH and Societal Impact
- Story lines: Don't look at the score.
- The Big Unfairness: Metrics of new forms of outputs and activities
- The Crystal Ball: Early impact detection (e.g. forecasting)
- The Linked Open Data (LOD) narrative: The main problem is access. Everything else is just a technical and metadata problem.

# Flavours of evaluation: Horizontalism and Verticalism

| | Societies of Control (Deleuze) | Disciplinary Societies (Foucault) |
|---|---|---|
| **Focus** | Control | Discipline |
| **Goal** | Maximize "Output" | Maximize "adequate behaviour" |
| **Cipher** | Classify, Measure, Sorting | Codex, Slogan, Arrangement, Manifest |
| **Gains (good times)** | Control Categories, repetitive modalities (count!), govern: "objectivity" | Allegiance, Circles, Affinity exemplary pluralities, "Tackling issues" (look!), govern: "utility", "values", "ideal", "hero" |
| **Lines of flight (tough times)** | Multidimensionality, Profiling, Diversify, Paths, Professionalization | Shame, Nudging, Incentive, Affinity Bias |
| **Mechanisms** | Measurement & Selection | Discipline & Punishment |

- **Heuristic 18: Projects of empowerment CAN devolve into technologies of control! Be aware**
- **Heuristic 19: Projects of doing good CAN devolve into regimes of punishment! Be aware**
- **Heuristic 20: Ask what lines of flight might be**

# Some further musings

- Performativity & Counterperformativity (MacKenzie, 2007)
- Performativity: Metrics as incentives to control positive action:
  - but: Measures can become targets
- Counterperformativity:
  - The metric displaces what is "actually" to be measured.
  - The metric drives

- Statistics express (squeeze) repetitive modalities from things (Didier, 2007)
  - Reduction of complexity is necessary for repetition
  - This "pressing out" does not come "from thin air"

- Why does arguing with numbers (sometimes) work so well?
  - Metrics of social facts, become social facts to hover "above arguments" (Desrosières)
  - might also fill "argumentative voids" where no acceptable argument is available

- To govern by numbers, is to govern at a distance (Porter)
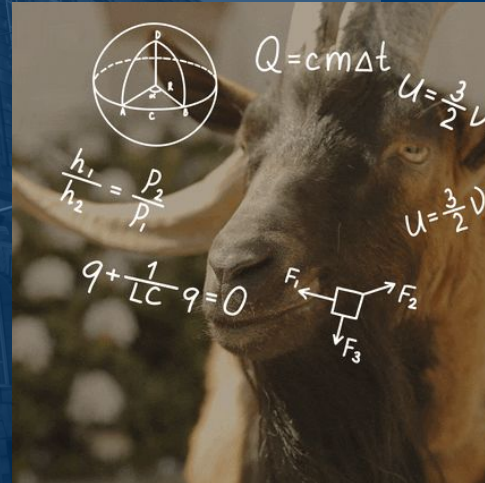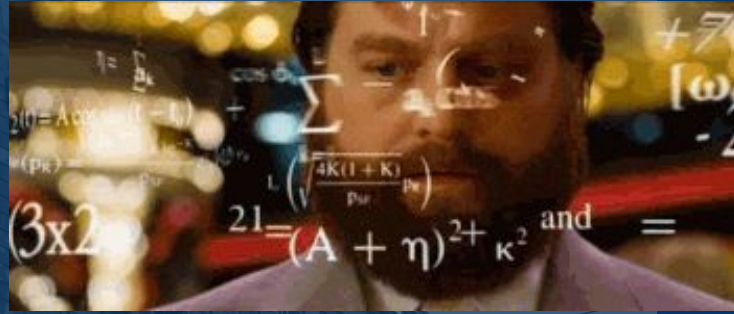
# To conclude…

**Heuristic 21: Balance The Evaluative (vertical) & The Explorative (horizontal)**

**Heuristic 22: Numbers are extensions of touch not sight (McLuhan). The groping hand in the dark.**

**Heuristic 23: Understand the the sonar operator & the deep sea diver**

**Heuristic 24: It's an ACTIVE process!**

**Dr. Stephan Gauch**
**Robert K. Merton Zentrum für Wissenschaftsforschung**
**Humboldt-Universität zu Berlin**
**Schönhauser Allee 10/11, 10119 Berlin**
**Postanschrift: Unter den Linden 6, 10099 Berlin**

**Telefon +49 (0)30 2093-65887**
**stephan.gauch@hu-berlin.de**
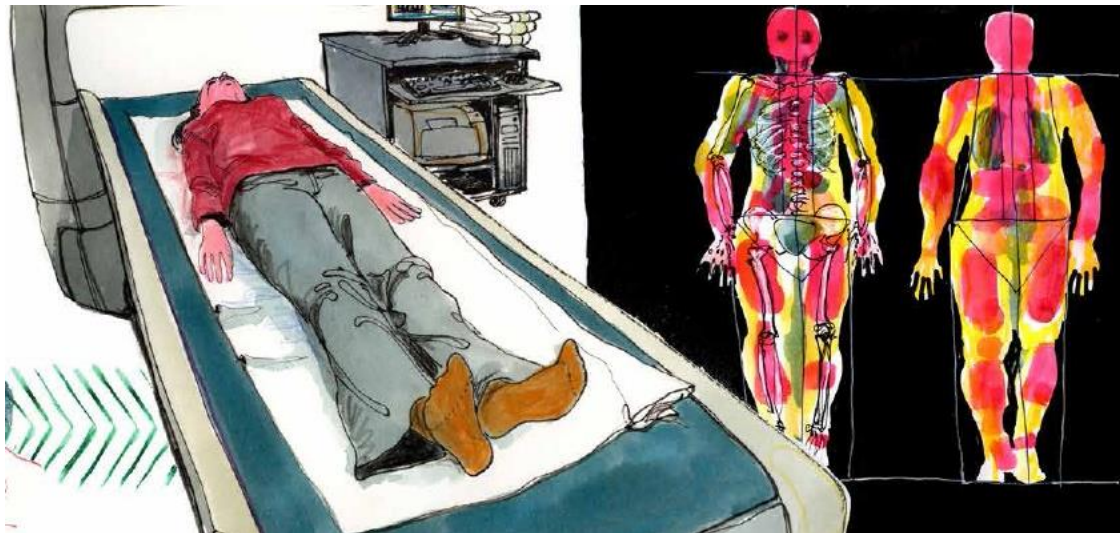
# The Clínic Barcelona Campus
An historical committment to multidisciplinary research…



Faculty of Medicine
University of Barcelona (UB)

IDIBAPS

Hospital Clinic

IDIBAPS

**IDIBAPS**

*"From knowledge to cure"*

To ensure that the questions that arise at the patient's bedside find answers in the laboratory and that advances made in the laboratory are translated rapidly to the patient.

**98 Research groups**

1. Biological aggression and response mechanisms
2. Respiratory, cardiovascular and renal pathobiology and bioengineering
3. Liver, digestive system and metabolism
4. Clinical and experimental neuroscience
5. Oncology and haematology

**3 Research programs**

- Translational cancer research program
- Synaptic autoimmunity in neurology, psychiatry and cognitive neuroscience program
- Lymphoid neoplasms program

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**98 Group Leaders (10 Junior)**

- **54** Hospital Clinic Barcelona (HCB)
- **6** HCB-IDIBAPS
- **19** IDIBAPS
- **6** ICREA
- **7** University of Barcelona (UB)
- **5** CSIC
- **1** Primary Care



Basic – Translational – Clinical researchers (also primary care, nursery,…)
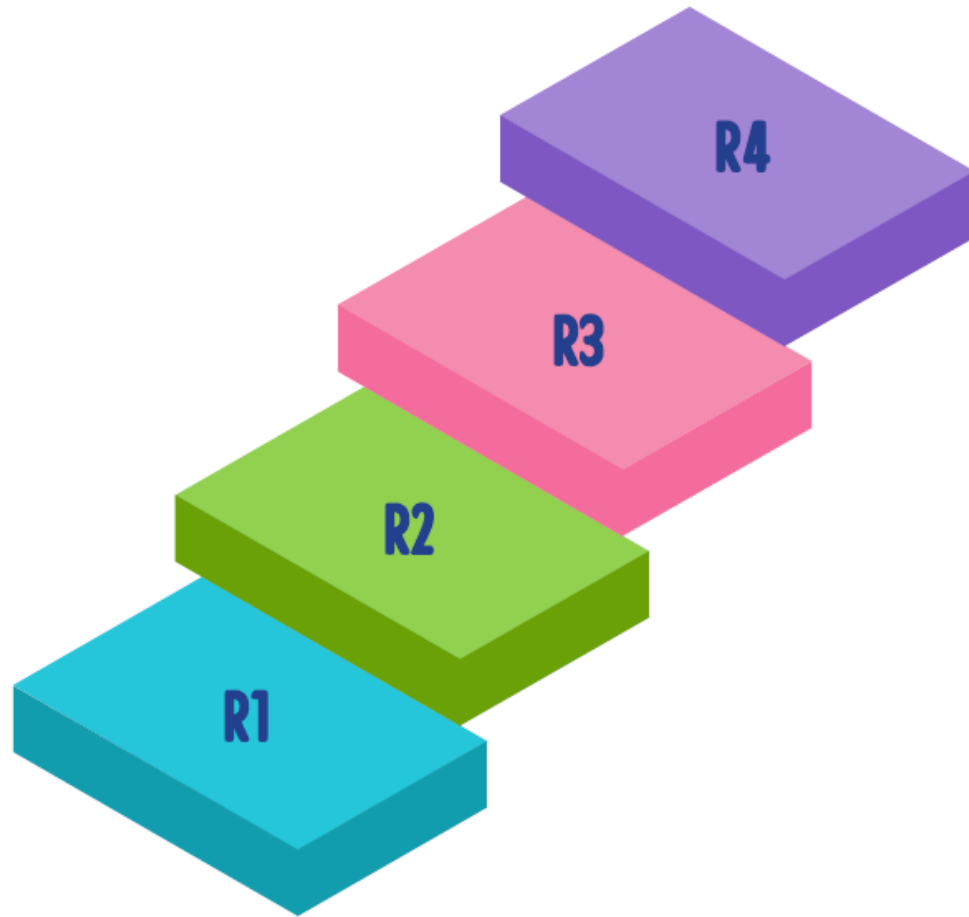
- New recruitment

- Career progression

- Assignment of additional institutional resources

# Challenges of evaluating diverse research profiles

| | IDIBAPS Clinical researcher | IDIBAPS Basic researcher |
|---|---|---|
| **TIME DEDICATED TO RESEARCH** | <100%, combined with clinical care | 100% |
| **PUBLICATIONS** | Larger number<br>Specialized publication types (clinical guidelines, case reports, consortium) | Lower number |
| **FUNDING** | Higher private funding opportunities | Highly dependent on competitive (mostly public) funding |
| **SOCIETAL IMPACT** | Closer to knowledge transfer activities (to the clinic) | More risky and fundamental research projects |
| **INTERNATIONAL MEETINGS** | Increased attendance to scientific events | Lower attendance to scientific events |
| **GROUP COMPOSITION** | More permanent staff members (MDs, personnel hired at the hospital), but with other activities (e.g., clinical care) | More temporary staff members, but with 100% dedication to research |

## SCIENTIFIC COORDINATION

- Dedicated team of professionals to carry out research assessment rigorously and at the highest quality of standards

- Knowledge management

- Leading IDIBAPS participation in CoARA

## TWO COMPLEMENTARY STRATEGIES

Dedicated, profile-specific evaluation schemes

Unique and inclusive evaluation schemes

**Dedicated, profile-specific evaluation schemes**



## Dedicated career-track for clinician scientists…

**Residency** → **PhD** → **Postdoc** → **R3A / Junior leaders** → **Senior leader**

**Research contracts. Sabbaticals.**
Funded by **1% donations** of **Hospital Clínic** MD salaries.

**PhD4MD** 3y, institutional collaborative framework, Barcelona.

**Emerald** 3y ½, COFUND programme, **Europe**.

**BITRECS** programme, incoming and outgoing mobility, supported by **la Caixa** foundation and initially the **European Commission**.

**Joan Rodés-Josep Baselga Advanced Research Contracts** 3y, on IDIBAPS research areas, supported by **BBVA** foundation.

**Estella Matutes Extraordinary Scholarship** 2y, physician specialist in Hematology, Hemotherapy or Hematopathology.

**50/50** 5y, renewable, periodic peer-review evaluation, for MDs who want to lead independent research (**IDIBAPS**).

**Intensification** contracts, 2y, to carry out research (**Hospital Clínic**)

**80/20** 3+2y, renewable, periodic peer-review evaluation, for MDs (**IDIBAPS**)

Elena Ariño, BITRECS fellow.

… as joint venture with the Hospital Clínic and other stakeholders

**Unique and inclusive evaluation schemes**

- Internal Group Leader evaluation

**Unique and inclusive evaluation schemes**

- Internal Group Leader evaluation

## IDIBAPS CoARA Working Group

- Representation of diverse research profiles: from R1 to R4, basic/translational/clinical researchers, 50/50 clinician scientists
- Dedicated brainstorming sessions
- Results will be presented to IDIBAPS Managing Committee and Director for final endorsement

**Unique and inclusive evaluation schemes**

- Internal Group Leader evaluation

## BRAINSTORMING SESSION SUMMARY THIS WEEK!

- Broad scope of the evaluation – time and resource intensive process
- Criteria / methodology need to consider diversity of profiles
- 3 components of peer-review process: self-report, institutional data, interview
- Bibliometric and objective indicators embedded in the qualitative evaluation
- Broad weights, not "atomized"
- Nothing better than "in person" interaction

**Unique and inclusive evaluation schemes**

## PROPOSED CRITERIA

**SCIENTIFIC EXCELLENCE: 80%**

- Quality, originality achievements
- Outputs + funding (productivity)
- Vision, leadership, future plans
- Knowledge transfer and impact
  - Transfer of knowledge and impact beyond academia
  - National/international recognition (networks, consortia, etc)
  - Teaching/clinical activities
  - Outreach and engagement (incl. patient engagement)
  - Community efforts (peer-review, assessment, etc.)

**TRAINING AND INSTITUTIONAL CULTURE: 20%**

- Training and mentoring
- Institutional participation

*Inspired by MDC assessment process...the value of CoARA*

ID BAPS

- **Consult** those you will assess
- Clear and accurate the **purpose**
- Clear and accurate the **methodology**
- **"Holistic"** assessment approaches
- Key role of **evaluators**
- Continuous "**assessment of assessment**"

## Acknowledgements

# Advancing research assessment through infrastructure –

# MERIT Portal for Appointments

**Dr. Miriam Kip**
CoARA SAGA Virtual Brainstorming
17.05.2024

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Center for Responsible Research

BIH — Berlin Institute of Health @ Charité
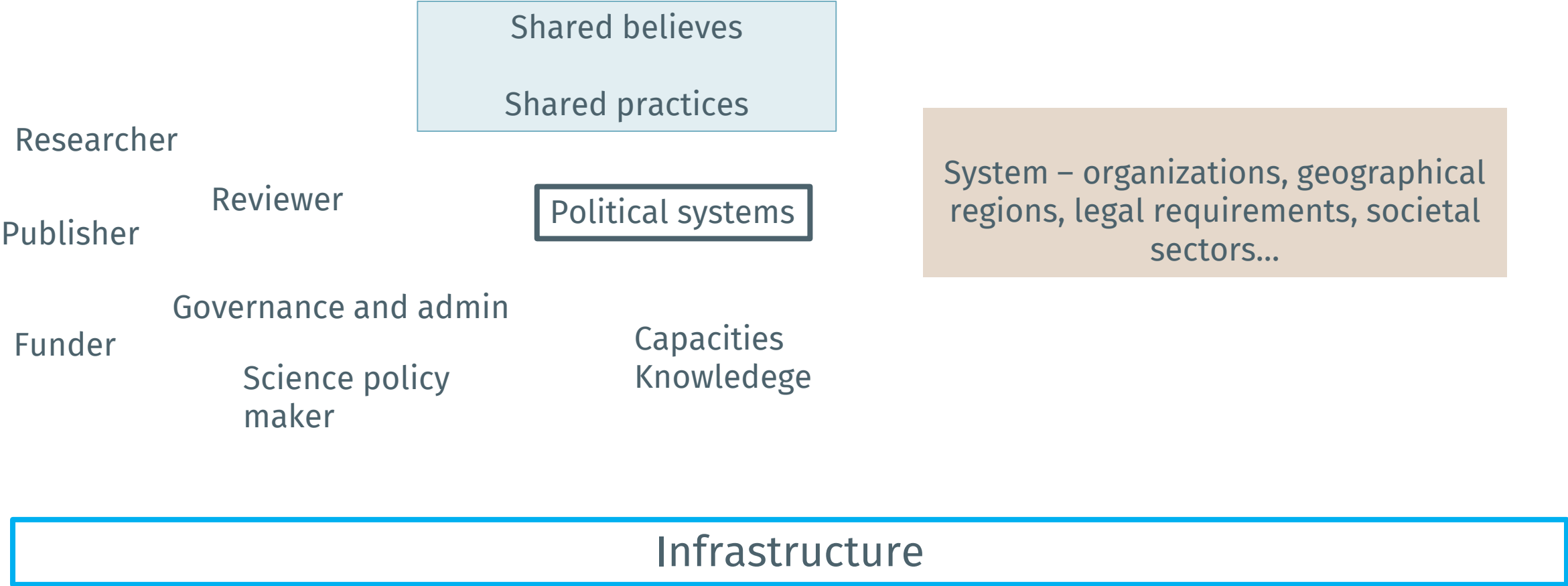Aus Forschung wird Gesundheit

# Where did the idea come from?

- Based on results of WT funded project MERIT (Charité WT Translational Partnership) 12/2019 – 6/2023

- **Guiding questions:**
  - ➤ Proper Assessments (selection of the "best", mission-oriented etc..)
  - ➤ Informative Assessments (how do we assess? risk of bias?)
  - ➤ Practicability

- Introduction of new quality-oriented criteria e.g. OS, Team Science, Scientific contribution

- Review of applications with the new items
  - How much text is actually needed?

- Review of internal documents and literature on appointments procedures

- Independent seat in hiring commission

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# Short overview of results

- Narrative elements of a CV (e.g. open science, teams science) are widely accepted by the applicants

- Explicit qualitative oriented-indicators are given weight depending often other interests (often implicit criteria)

- The form of assessment basis (pdf -documents, often over 50 pages long, unstructured) are hard to access in depth for reviewers

➢ Reliance on easy accessibly information → number

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# From knowledge to practice - Cultural change

Shared believes

Shared practices

Researcher

Reviewer

Publisher

Political systems

System – organizations, geographical regions, legal requirements, societal sectors...

Governance and admin

Funder

Capacities
Knowledege

Science policy maker

## Infrastructure

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# From knowledge to practice

- **Advancing research assessment through a software**

  - Increasing accessibility of information to the reviewer

  - Increasing usability of that information

  - Provide opportunity to showcase richness of achievements/contributions

    ➤ Diversification of criteria in alignment with translation-oriented research and publication practices and quality-oriented assessments

    ➤ In alignment with changing paradigm of excellence (EU, CoARA, UNESCO, DFG etc..)

To strengthen the review and selection process
➤ Structured CVs and structured assessments, increase comparability and fairness
➤ Variety of criteria for assessment both quant/qual
➤ Strategies to reduce risk of bias
➤ Educational elements/information on pros/cons of indicators
➤ The tool is not assessing itself

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# MERIT Portal for appointments

- a comprehensive infrastructure along the trajectory from
  - Application tool → structured (narrative) CV
  - Application management
  - Assessment and decision-making tool

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# MERIT Portal outlook

- Support mission-oriented assessment and selection of professors and senior scientific staff

- Continuous further adaptation according to user feedback

- Adapting and developing Tools for different purposes e.g. MERIT Portal evaluations , MERIT Portal PhD others

- Adapting the MERIT portal for other institutions



Transparenz

Verbindlichkeit

Offenheit

Fairness

Angemessenheit

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# Implementation aspects – beyond the tool

- **Development of the tool is only part of the whole story**

- **Ressources required to**

  - Understanding the context (data protection, internet security, legal etc...)

  - Understanding the actual process (status quo)

  - Understanding the relevance of feedback (prioritizing)

  - Identify and engage the relevante actors

  - Finding solutions on the level of the tool

  - Acquire budget

  - Finding budget solutions for maintanance

  - Find support (we always had the support from the leadership)

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**DR. MED. MIRIAM KIP, MPH**

*Group leader Incentives & Responsible Research Assessments*

*Charité and BIH representative CoARA*

*miriam.kip@bih-charite.de*

**Berlin Institute of Health (BIH) at Charité**

**BIH QUEST Center for Responsible Research**

**Anna-Louisa-Karsch-Straße 2**

**D-10178 Berlin**

**Tel +49 30 450 543055**

**http://quest.bihealth.org/**

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