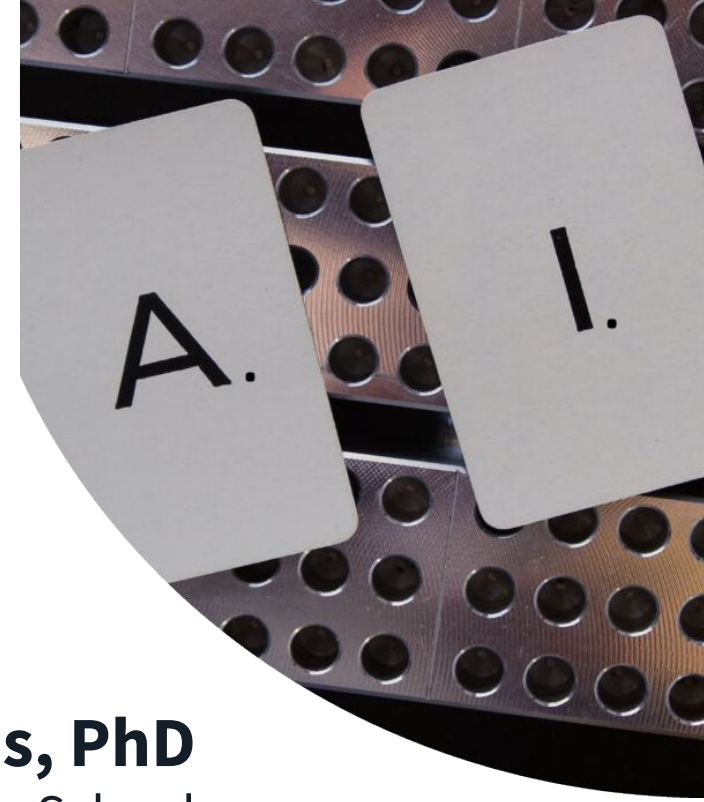
GRAIL

Developing responsible practices for AI and machine learning in research funding and evaluation with a community of learning



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Research on Research Institute

Research funders need to be data-driven and responsive

AI and machine learning can help leverage rich data

Need shared best practice on how to AI/ML responsibly!

Outline

Motivation: Why GRAIL?

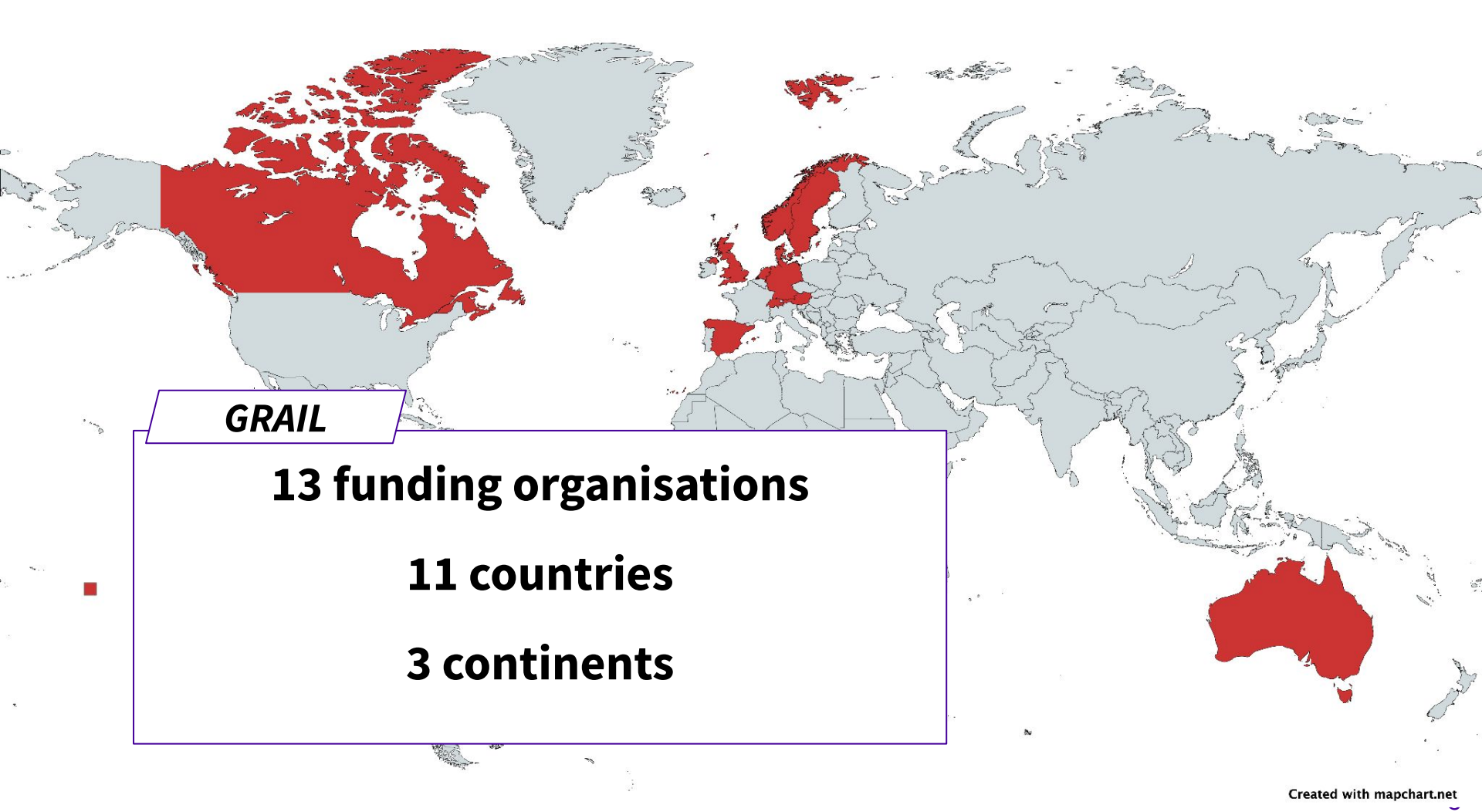
Goals & methods

Learnings to date

Research on Research Institute

RoRI brings together researchers, funders, publishers, data providers and others with a commitment to improving research systems and cultures.

https://researchonresearch.org/


GRAIL
13 funding organisations
11 countries
3 continents
Created with mapchart.net

Funder community looking to learn and build best practice

Virtual workshop series in 2021

Funders experimenting with AI/ML, but:

➔ Difficult to share experiences and insights

➔ Repeating risks and diverging practices

Buzzwords: truth and fiction

Artificial intelligence

- ➔ More than just large language models!
- ➔ Using data or structured knowledge to help automatically gain *insight* or take *action*

Machine learning

- ➔ Statistical modelling of observed patterns in data
- ➔ Allows for discovery/hidden patterns

Responsible AI takes practice

Not just **using AI**
or building
better models

- ➔ How is it **integrated** into existing processes?
- ➔ How do you **manage** AI teams?
- ➔ How do you ensure **alignment** with social and strategic goals?
- ➔ How do you **audit** for amplifying bias, creating social harm?
- ➔ …

Best practice for AI goes beyond the technology

Understanding and Use	Using AI (and putting it in context) as a *toolbox* to support existing practices and goals
People and Skills	Working across competencies to combine organisational, technical, and ethical skills
Ethics and Impact	Decisions throughout design, use, and management determine ethical and social outcomes

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GRAIL project goals

Community of learning: virtual workshop series

Understand current practice: AI/ML in funding orgs

Build good practice: Practical AI/ML guidance

Community of learning workshops

- ➔ 2-hour virtual workshops, **safe spaces for complex conversations**
- ➔ **Co-produced** with partners: topic selection and hosting
- ➔ Topical discussions focused on:
  - **Example use cases** of AI/ML
  - **Organisational challenges** of AI/ML
- ➔ Noted for analysis

Example use cases of AI/ML in funding & evaluation

Global survey questions on AI/ML in research assessment

- ➔ Global Research Council, public funders worldwide
- ➔ Questions on | **Where** AI/ML being used | **What** benefits & risks | **How** organisational concerns inform use

Case studies from partner funders

- ➔ Workshop presentations & internal survey

Research funder's AI/ML handbook

- ➔ Pragmatic guide for **key steps and considerations** for using AI/ML in research funding and evaluation
- ➔ **Co-produced** with partners, drawing on workshop discussions
- ➔ Addressing key **processes and paradigms** rather than specific technologies

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Workshops to date

Month	*Topic*
June 2023	Generative AI in the research funding ecosystem
November 2023	AI/ML in national research assessment
January 2024	Developing meaningful AI/ML guidance for funders
February 2024	Natural language processing applications in research funding and evaluation
April 2024	Policy and responsible use of AI/ML
June 2024	Applying AI to improve research assessment

No single “right” data

- ➔ Many ways to represent **research**, **researchers**, **proposals**
- ➔ Learn (and model) **different things from different data**
- ➔ Not all data available for all cases – *availability bias*

Performance evaluation vs organisational impact

- ➔ Good AI performance does not necessarily translate to **practical effectiveness**!
- ➔ How do we know when it is **“good enough”** to use?
- ➔ Need to measure **reliability** as well as **effectiveness**

Adding AI to the toolbox, not replacing

- ➔ **Responding to problems** not leading with solutions
- ➔ **Human-in-the-loop** is essential practice & oversight
- ➔ AI is only **one of many tools** for research funders

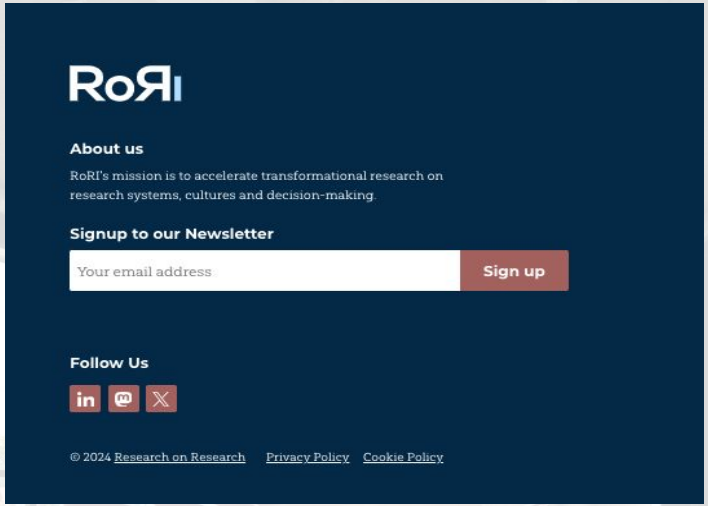
Managing AI is a cross-competency challenge

- ➔ Technical expertise needs to be **joined up** with strategic goals and operational knowledge
- ➔ Siloed AI **solves the wrong problems**
- ➔ Requires **building common language**

AI and scientific novelty/originality

- ➔ Machine learning **mimics the past**, what it has seen before
- ➔ Novelty and change may be **disfavoured as deviation**
- ➔ Making strategic change requires **rethinking indicative data**

Watch this space!



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