Metascience Research Grants Successful Projects

AI Peer: Large language models and academic peer review outcomes

Michael Thelwall, University of Sheffield

This project will systematically assess the extent to which large language models can reliably review academic work and score it for quality, focusing on expert review for the UK Research Excellence Framework (REF) national research evaluation and academic journal peer review.

Analysing the Reliability of Quantitative Impact Evaluations (ARGIE)

Jack Blumenau, University College London

Each year, UK government departments conduct and commission hundreds of quantitative impact evaluations – studies which measure the effects of policy. But recent research finds the results of many quantitative analyses are very sensitive to decisions made by researchers. In partnership with the Cabinet Office, this project explores the effectiveness and reliability of quantitative impact evaluations.

Assessing compliance with the FAIR Guiding Principles: a systematic evidence map of data availability in metabolomics research

Matt Spick, University of Surrey

Lack of reusable data creates a challenge for research integrity, particularly in metabolomics. This in turn hinders the translation of research into healthcare outcomes. This project will identify trends in findability, accessibility, interoperability and reusability of data in metabolomics to provide insight to policymakers in how best to address deficiencies.

Big Science Beyond Science: The Innovation Impact of Research Infrastructure Procurement

Riccardo Crescenzi, LSE

Using a unique dataset from CERN, this project will investigate the mechanisms through which large scale research infrastructure procurement can drive innovation in suppliers.

Commercialising Deep Tech: Understanding Frictions to University Invention Disclosure

Ramana Nanda, Imperial College London

Invention disclosure is an important milestone because it is a pre-condition to university Tech-Transfer Offices considering whether to initiate patent filing. Looking at invention disclosure as an outcome in its own right has an added benefit of studying this first step of the translation process independent of other frictions in the patenting, licensing or spinout process that may also hamper commercial progress.

Cultural Traction: Embedding research culture strategy

S Martin Holbraad, University College London

This project explores the relationship between institutional research culture initiatives and the actual everyday cultures of research experienced in different parts and levels of four institutions, identifying and mapping points of traction, friction and tension.

Evaluating the Development and Impact of AI-Assisted Integrity Assessment of Randomised Trials in Evidence Syntheses

Alison Avenell, University of Aberdeen

The unknowing inclusion of problematic randomised control trials (RCTs) in systematic reviews can potentially harm patients, misguide future research, and waste public funds. In collaboration with five organisations specializing in evidence synthesis, this project will co-design and roll out a user-friendly, AI-assisted prototype tool to aid large-scale integrity assessment of RCTs, evaluating their experiences in that process.

Everything we (think we) know about Narrative CVs

Liz Simmonds, University of Cambridge

The use of narrative CVs to assess researchers has become a widespread practice in academia in the UK and worldwide in recent years, though rigorous evaluation of the policy is lacking. A number of studies have already been conducted or are in progress: these cover multiple organisations, narrative CV formats, uses and evaluation methodologies. The small scale of many of the studies limits the questions that can be answered within the individual data sets, but the rich variety across them means that brought together, the data could be extremely powerful. This research aims to bring these datasets together to address the evidence gaps.

Financial structures for enabling innovator participation and success: experimental evidence from challenge prizes

Vidal Kumar, Nesta

Using randomised control trials within challenge prizes hosted by Challenge Works (a social enterprise founded by Nesta), this project will compare the effects of different prize structures to determine the impact on participation, and research, development and innovation quality.

Fostering a Dynamic Academic Ecosystem: Innovative Platforms and Methodologies for Econometrics

Martin Weidner, University of Oxford

This project aims to modernise the academic tradition in Econometrics by exploring optimal formats for academic output, effective evaluation methods, and impactful research topics. By challenging standard practices, the team propose innovative alternatives and leverage modern internet platforms to enhance idea exchange and evaluation mechanisms.

Making Replications Count: Identifying Barriers and Enhancing Impact with Innovative Dissemination Tools

Lukas Wallrich, Birkbeck, University of London

Replication studies are essential to assess which scientific findings can be built on, and which require revision. While still rare, they are increasingly conducted and published, but they typically fail to affect the perception of the original research. This project seeks to enhance the adoption and influence of replication results.

Mapping impact pathways: improving our understanding of what mechanisms work in research translation

Alexandra Pollitt, King's College London

In 2014 the UK government introduced an ‘impact’ element to university assessment in the Research Excellence Framework (REF) to incentivise academics and their institutions to increase their contribution to society. Building on previous work, this project aims to investigate pathways to impact using quantitative text mining on REF2014 and REF2021 data.

Metascience, research funding and policy priorities

Annette Boaz, King's College London

Published by government departments, Areas of Research Interest (ARIs) are regularly updated statements of research need. This project, in collaboration with GO-Science and Overton, will build on previous work analysing how UKRI investments map to government-defined research needs. This analysis will accurately and transparently identify evidence gaps, and overlaps where clusters of awards address topics of importance to government. Identification of relevant research profiles and outputs to refine these gaps and measure research impact on policy, by identifying cases where ARIs have been cited in outputs. This will maximize the value of existing investments and providing a rigorous and transparent approach to identifying research gaps.

People or Projects (PoP)? Investigating different research funding styles

Ohid Yaqub, University of Sussex

This project aims to investigate different research funding styles and their impacts on researchers and research output. It will focus on the familiar refrain “Fund People not Projects!”, the idea that funders should prioritise supporting selected researchers rather than supporting specific plans of work.

PRIME: Peer Review Improvement for Minimizing Bias in Evaluation

Katherine Button, University of Bath

In partnership with Sage Publishing, Royal Society, and others, the team aim to use RCTs to robustly test the hypothesis that a new two-stage publication peer review process will increase methodological quality and null studies in the published literature.

Providing empirical evidence to support greater equality, diversity, and inclusion (EDI) in research funding

Philip Clarke, University of Oxford

This project aims to understand the decision-making process of NIHR grants committees, the trade-offs they make in allocating funding, and their preferences for particular applicant characteristics, to explore the possibility of incorporating these preferences into a more transparent and systematic allocation mechanism.

Public value mapping for AI

Jack Stilgoe, University College London

In collaboration with Google DeepMind, UNDP and others, this project will look at new analytical methods for understanding the value of AI-driven research and innovation, using 'AI for agriculture' research as a case study.

Research Software Engineer Metascience

Heather Packer, University of Southampton

This project aims to better understand the role of research software engineers and new AI-driven code-authoring tools in computational and data-intensive methodologies across STEM, humanities, and social sciences.

Sharing Code for Medical Research: An Audit Tool and Pilot at The BMJ

Nicholas DeVito, University of Oxford

Stakeholders throughout science, including the UK House of Commons SciTech Select Committee, are increasingly recognising the importance of code sharing. The recent launch of a comprehensive code sharing policy at The British Medical Journal provides an opportunity to explore code sharing behaviour in the biomedical sciences.

Supporting Research and Researchers through the deployment of Digital Notebooks: A framework for implementation and impact

Andrew Stewart, University of Manchester

Impactful R&D requires robust data management. While centralised repositories and large-scale international collaborations are tackling high-level data management problems, approaches for capturing the underlying, everyday research processes are often left to individual researchers or groups. This project tests deployment of one solution, Digital Notebooks, through the Research Lifecycle Programme and the Cancer Research UK Manchester Institute.

Transparent and Reproducible Science in the 21st Century: Unlocking the Benefits of Open Source Code

Albert Bravo-Biosca, Nesta

Computational methods are increasingly pivotal in modern research, but variability in the availability and quality of shared code creates research integrity issues. This project will use large-scale analysis of open data, combined with select qualitative methods, to develop indicators for code quality based on open-source best practices.

Understanding Scientific Prizes - Structure, Evolution and Impact

Ching Jin, University of Warwick

Despite their significant and long-lasting influence on the scientific landscape, our understanding of the function of scientific prizes remains relatively limited. Building on five large-scale datasets, this project will link records of more than 10,000 prizewinners with their demographic characteristics, publication trajectory, scientific impact, funding support, and broad impact beyond science.

Working together or writing together?

Steven Wooding, University of Cambridge

MRC’s multi-Nobel-Prize-winning Laboratory of Molecular Biology argues its organisational structure is the key to its success. This project explores the relationship between research group structure (e.g. Team Size, Hierarchy, Demography) and research output, by combining administrative, bibliometric, and qualitative data in teams across Cambridge and Montréal.