R3PEATS Program: Rigor, Replicability, and Reproducibility to Promote Excellence, Accuracy, and Translation in Science

September 2026

R3PEATS Co-Chairs

Common Fund Concept Proposal

National Institutes of Health
Office of Strategic Coordination–The Common Fund

R3PEATS Program (REVISED)

- **Concept Clearance:** New (REVISED) Common Fund Program
- **Title:** Rigor, Replicability, and Reproducibility to Promote Excellence, Accuracy, and Translation in Science (R3PEATS) Program
- **Objective:** Address the critical need for increased rigor, replicability, and reproducibility (R3) in biomedical research by fostering partnerships, innovative research, professional development, and community-building to change culture
- **Funds Available & Anticipated Number of Awards:** $174.15M phased over 5 yrs (contingent on availability of funds and number of meritorious applications)
- **Award Project Period:** 5 years
- **Council Action:** Vote for approval of the R3PEATS concept

NIH-wide Proposal Preparation Group

Co-Chairs:

Amy Adams, *NINDS*

Michael Chiang, *NEI*

Richard Hodes, *NIA*

Coordinators:

Tiffany Cook, *NEI*

Devon Crawford, *NINDS*

Rebecca Krupenevich, *NIA*

Other Contributors:

Respondents, *NIH-wide survey on potential replication projects*

Subject Matter Experts, *Replication to Enhance Research Impact Initiative*

OSC Staff:

LeShawndra Price, *Re-Engineering the Research Enterprise Assistant Director*

Michelle Hamlet, *Program Leader*

Sahana N. Kukke, *Program Leader*

Alicia Cavanaugh, *Scientific Program Analyst*

Rachel Diamond, *Policy, Reporting and Legislative Coordinator*

Kaitlyn Browning, *Strategic Planning, Evaluation, and Communications Analyst*

Katelynn Milora, *Strategic Planning, Evaluation, and Communications Analyst*

Jason Shockey, *Operations Analyst*

After concept clearance, we invite broader ICO participation

Responses to Council

- **Decentralization of review, decision-making, and evaluation**
  - All Initiatives have been reorganized, and the Steering Committee and Coordination and Review Core have been removed, while opportunities for coordination and cross-pollination remain.
- **Danger of right/wrong judgement applied to prior research**
  - Initiatives have been refocused onto forward-looking, innovative research without losing the original intent of understanding the variability of underlying biology and methods.
- **Importance of broad participation across laboratories and institutions**
  - Initiatives have been reorganized to provide additional, more distributed awards while maintaining mechanisms for broad collaboration and dissemination.
- **Importance of changing culture and incentives**
  - All initiatives have been reorganized to support metascience with the intent of providing empirical evidence for the effectiveness of culture change interventions.
- **New approaches**
  - Novel components targeted toward community- and capacity-building have been added.

Rigor & Reproducibility Lessons Learned

R3PEATS Landscape Analysis*:

- Insufficient **R3** and **infrastructure** impede **knowledge acquisition** and **translation from bench-to-bedside**, ultimately affecting human health
- Impacts of **biological and methodological variability** on replicability remain unclear
- Current **academic culture** and **high costs** of sufficiently powered and well-designed studies **disincentivize** replications
- Systematic and coordinated **cross-sector collaboration**, **metrics**, **training, incentives,** and **communication** are needed for long-term **culture change**
- **Prior NIH efforts** have been informative but not yet culturally transformative

*Sources: Prior NIH programs, NIH ICO survey, literature review, published replication efforts, established educational initiatives, research bibliometrics and other indices, NASEM- and NIH-endorsed reports

Recent Relevant Activities

Predicting Replicability Challenge

NIH Data Sharing Index (S-index) Challenge

HOOD COLLEGE

REPRODUCIBILITY IN SCIENCE 2026

Elevating Standards to Strengthen Research

NIH Common Fund Replication Prize

nature

Collection | 01 April 2026

Reliable research in the social and behavioural and sciences

NEURAL INFORMATION PROCESSING SYSTEMS

MLRC 2026: Reproducibility as an Official Track at NeurIPS

Request for Information on Measuring and Rewarding Scientific Impact

Notice Number:

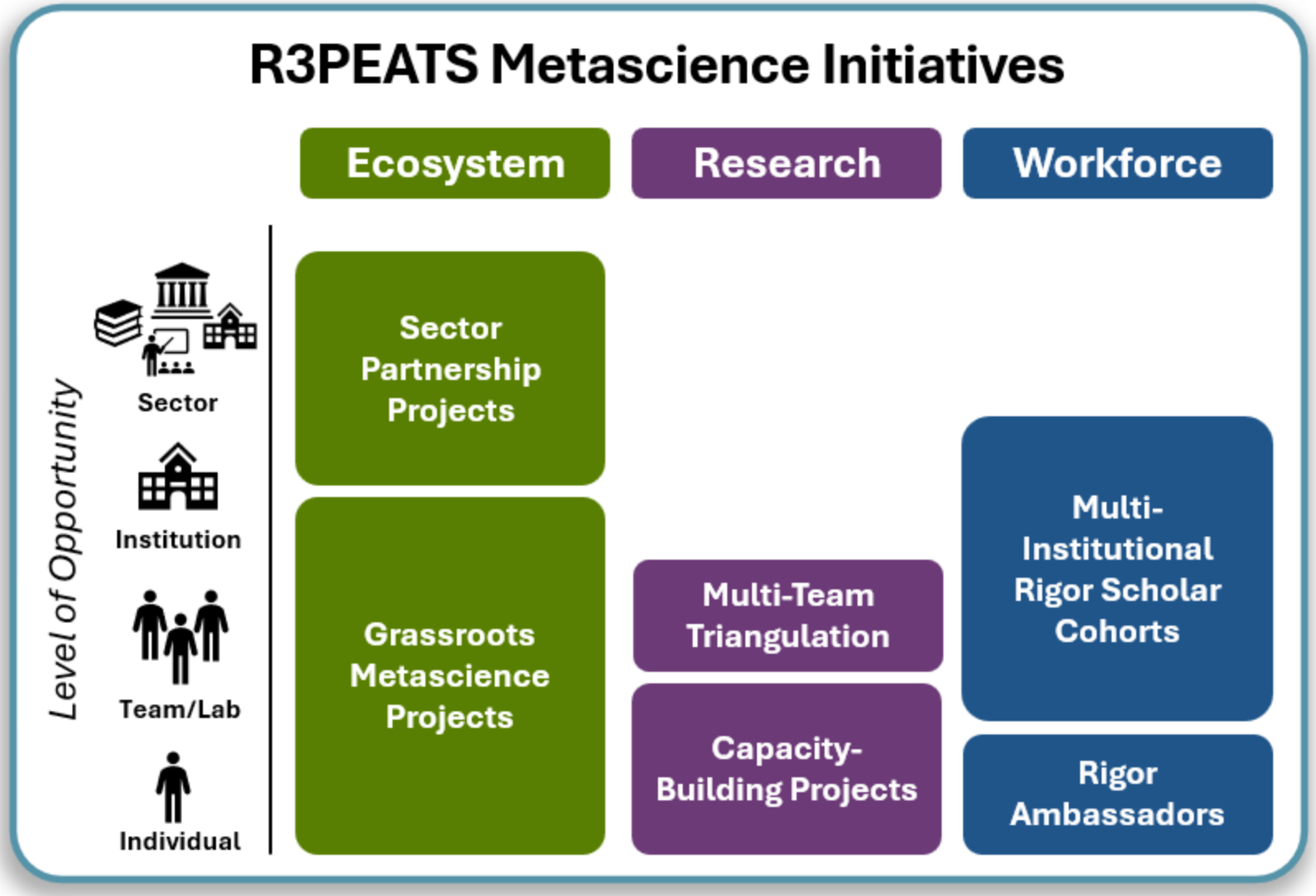
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R3PEATS Vision:

Foster lasting culture change by integrating **community-driven** rigor, replicability, and reproducibility (R3) into the **scientific ecosystem**, **research practices**, and **biomedical workforce** that drive the biomedical enterprise

R3PEATS Goals:

1. Develop and test cross-sector interventions to incentivize R3
2. Support research that integrates R3 to advance biomedical discovery and identify novel contributors to biological and methodological variability
3. Cultivate a network of scholars who implement and disseminate R3 practices locally and nationally


R3PEATS Metascience Initiatives
Ecosystem
Research
Workforce
Level of Opportunity
Sector
Institution
Team/Lab
Individual
Sector Partnership Projects
Grassroots Metascience Projects
Multi-Team Triangulation
Capacity-Building Projects
Multi-Institutional Rigor Scholar Cohorts
Rigor Ambassadors

Initiative 1: Ecosystem

- **Goal:** to assess and improve the ***support systems and culture*** around scientists and laboratories to better incentivize R3 practices

- **Sector Partnership Projects (5-7 projects)**
  - 3–5-year awards
  - To foster **partnerships** across R3PEATS and the scientific enterprise (e.g., publishers, science societies, industry, research institutions, private funders, researcher coalitions)
  - To develop, implement, and evaluate community-wide systems, infrastructure, processes, and incentives for broad integration of R3

- **Grassroots Metascience Projects (24 projects)**
  - 3-year awards
  - To support investigators and small teams pursuing novel, **focused metascience projects** that promote R3 broadly
  - To produce new tools, evidence, and models for local culture-change interventions that reach beyond a single laboratory

Ecosystem Use Cases



Develop/test field-wide dissemination methods, conference formats, assessment criteria, or journal/funder reporting requirements



Develop software, rigor metrics, landscape analyses, best practices, local infrastructure, or forums that benefit the community

Initiative 2: Research

- **Goal:** to provide direct support for ***research studies*** to answer investigator-initiated, NIH-relevant questions while promoting R3 and testing factors related to biological and methodological variability

- **Multi-Team Triangulation Projects (15 projects)**
  - 3-year team science awards
  - To facilitate collaboration, rigorous experimental design, and built-in replication for projects that **explore scientific questions from multiple angles**
  - To rigorously design and implement experiments (including replications) and openly share data, results, lessons learned, and insights into biological or methodological variability gleaned during the study
- **Laboratory Capacity-Building Projects (40 projects)**
  - 1-year awards
  - To assist individual laboratories, investigators, or small teams in **integrating validated infrastructure, methods, and workflows** at the laboratory-level that enable sustainably rigorous science
  - To enable collaboration, establish new processes, evaluate implementation, and identify and track factors and parameters that affect research outcomes

Laboratory Use Cases



Determine the role of a molecule on physiological systems through genetic, molecular, behavioral, imaging, epidemiological, and computational means



Introduce software, imaging modality, computational approach, data auditing, or quality management system into a single lab's workflow

Initiative 3: Workforce

- **Goal:** to directly support and develop ***people*** by helping researchers build the skills, systems, and leadership needed to promote R3 in the laboratory and the scientific community

- **Multi-Institutional Rigor Scholar Cohort Awards (15 consortia)**
  - 3-year institutional awards
  - To provide training, infrastructure, and other resources for at least 4 appointed **scholars** per award to integrate R3 practices into their science
  - To support consortia of 2-5 institutions per award to collaboratively build and sustain programs beyond the scope of any single institution
- **Rigor Ambassador Awards (60 Ambassadors)**
  - 2-year fellowships
  - To empower active **researchers at any career stage** to become R3 Ambassadors by individually partnering with stakeholders across the scientific enterprise
  - To embed within a partner organization for one year and then return to their home institution to engage their direct scientific networks

Workforce Use Cases



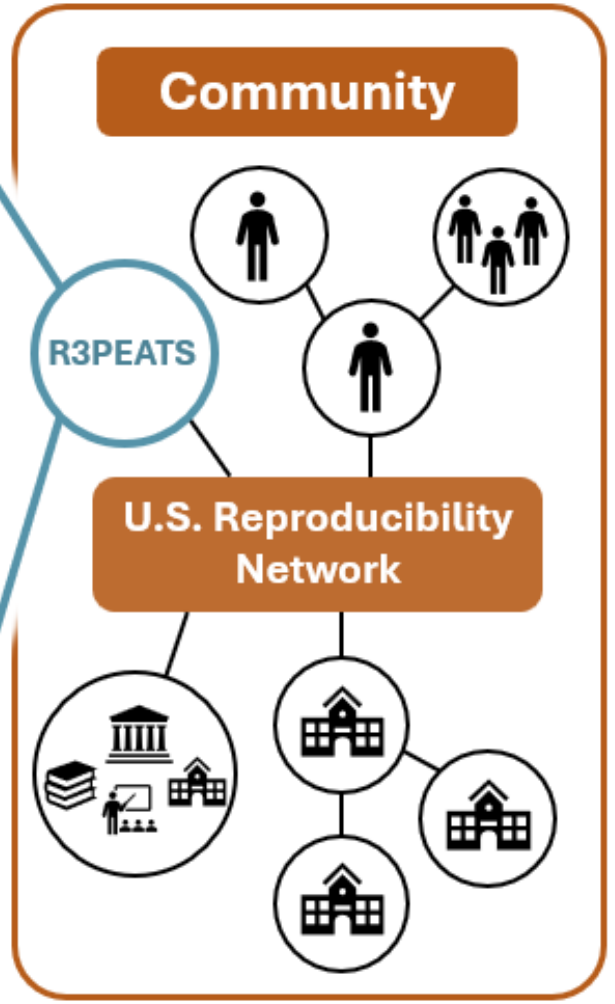
Scholars navigate institutional policies, develop SOPs, network with experts, and share lessons learned with research colleagues



Researcher implements and evaluates results-blind peer review at a publisher & then promotes null studies publication at home institution

R3PEATS Metascience Initiatives

Level of Opportunity	Ecosystem	Research	Workforce
Sector	Sector Partnership Projects		
Institution	Grassroots Metascience Projects	Multi-Team Triangulation	Multi-Institutional Rigor Scholar Cohorts
Team/Lab		Capacity-Building Projects	Rigor Ambassadors
Individual			

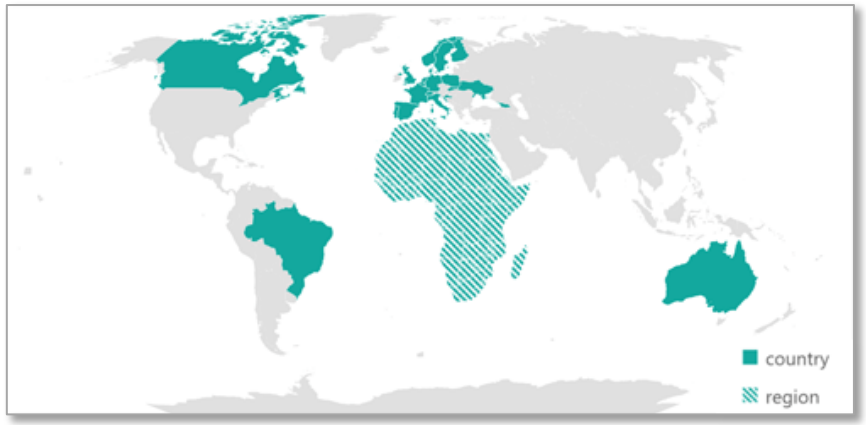


Initiative 4: Community

- **Goal:** to create a sustainable, self-organized ***peer network*** of academic institutions, researchers, and other stakeholders working to improve R3 throughout the scientific enterprise

- **U.S. Reproducibility Network**
  - 5-year award
  - To form a **self-governed, self-sustaining coalition** modeled after the U.K. Reproducibility Network (UKRN)
  - To establish an open, community-driven forum to share lessons learned, minimize individual risk, and cooperatively implement new practices
  - To function outside of R3PEATS once fully operational

UKRN Global Networks



https://www.ukrn.org/global-networks/

USRN Use Cases

Bring institutions, publishers, and grassroots researchers together to evaluate publishing practices and then pilot prizes for publishing null studies within a subset of institutions

Publish a collective statement on research values and then pilot new train-the-trainer programs aligned with those values within a subset of departments, science societies, or funders

Deliverables

- **Community-driven approaches to spread and reward good science**

  Dissemination approaches, assessment criteria, reporting requirements, and incentive structures that support evidence-based practice

- **Validated toolkit for rigorous experiment design**

  Methods that researchers can use to get the most knowledge out of biological and technical studies

- **Collaboration framework for cross-disciplinary research**

  Tools that help teams integrate their expertise and produce reliable, reproducible results

- **Lasting community forum**

  A sustained space for ongoing knowledge sharing and collaboration

Anticipated Impact

Ecosystem — Sectors collaborate around shared incentives

- Better alignment of values, goals, and incentives
- Refined tracking and appreciation of process improvement

Research — Results can be trusted and translated faster

- Enhanced workflows and clearer accounting for sources of variability
- Less time on ambiguous experiments, faster translation to knowledge

Workforce — More leaders become equipped to drive change

- New strategies, incentives, and resources for better practice
- Greater cross-sector fluency, stronger communities of practice

Community — Rigorous research practices and findings reach more people

- Stronger communication channels and collaborative networks
- Improved public engagement about the research process

Alignment with Common Fund Criteria

- **Transformative:** Build **community**, empower **researchers**, and reset **foundational expectations** for research workflows, practices, and collaborations
- **Catalytic:** Accelerate **bench-to-bedside discoveries** by stimulating more rigorous and reliable research from initial design, engaging the community, and galvanizing the research workforce
- **Goal-Driven:** Produce **clear deliverables** that include vetted and successful interventional interventions, updated research best practices, and structured collaboration networks to drive rigorous and reproducible research
- **Synergistic:** Harness **partnerships across the scientific enterprise** to align goals, incentives, and resources to stimulate and sustain culture change
- **Novel:** Revolutionize incentive structures, research systems, and scientific discovery through a **boldly collaborative cross-sector metascience program**

Council Action: Vote for approval of the concept for R3PEATS Program

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