



A NASEM Roundtable: Aligning Incentives for Open Science

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Humans are innately scientists

- Curious, driven to understand ourselves and the universe around us
- Those who seek to become professional scientists are motivated by the excitement of bold, impactful discovery, of finding/understanding something unexpected and important

What are the sources of scientific discovery?

- Bold, impactful discoveries commonly emerge from synthesis and synergy – bringing together ideas and people to understand the relationship of seemingly disparate concepts or observations, and realizing the significance and potential of that relationship
- Synthesis and synergy are driven by *open science* – transdisciplinary teams, risk-taking, data sharing, rapid/broad dissemination of discoveries, shared credit

Outcomes of open science

- Impactful discovery
- Rapid and rigorous testing of new ideas
- Diverse participation in research
- Effective use of resources
- Efficient application of fundamental discoveries

However...

Incentives and rewards are misaligned with open science

- Our incentive and reward system for educating, hiring, promoting, recognizing scientists, and for funding and communicating science, is conservative, incremental, risk-punitive, and focused on individual achievement that fosters isolation and hyper-competition.
- To survive, trainees and scientists sacrifice their goals of bold, impactful discovery – the goals that beckoned them into science, and that motivate the best science.

How align incentives and rewards with open science?

- A multi-sector, multi-stakeholder challenge
- A NASEM Roundtable – academia, libraries, disciplinary societies and alliances, foundation funders, government funders

NASEM Roundtable on Aligning Incentives for Open Science

- **Academia**

Danny Anderson, President, Trinity University

Roslyn Clark Artis, President, Benedict College

Michael Crow, President, Arizona State University

Mark Cullen, Sr Associate Dean for Research, School of Medicine; Stanford University

Ronald Daniels, President, Johns Hopkins University

Tashni-Ann Dubroy, Chief Operating Officer, Howard University

Randolph Hall, Vice President for Research and Professor, University of Southern California

Renu Khator, President, University of Houston

Richard McCullough, Vice Provost for Research, Harvard University

Robert Robbins, President, University of Arizona

Shirley Tilghman, President Emerita, Princeton University

Roger Wakimoto, Vice Chancellor for Research, UCLA

Keith Yamamoto, Vice Chancellor for Science Policy & Strategy, UCSF

- **Libraries**

Chris Bourg, Director of Libraries, Massachusetts Institute of Technology

Loretta Parham, CEO & Director, Atlanta University Center Woodruff Library

Jerry Sheehan, Deputy Director, National Library of Medicine, National Institutes of Health

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- Foundations, Funders

Courtney Brown, Vice President for Strategic Impact, Lumina Foundation

Stuart Buck, Vice President of Research, Arnold Ventures

Anne-Marie Coriat, Head of UK and Europe Research Landscape, Wellcome Trust

Susan Fitzpatrick, President, James S. McDonnell Foundation

[Maryrose Franko](#), Executive Director, Health Research Alliance

Nicholas Gibson, Senior Program Officer, Human Sciences, John Templeton Foundation

Daniel Goroff, Vice President and Program Director, Alfred P. Sloan Foundation

Patricia Hswe, Scholarly Communications Officer, Andrew W. Mellon Foundation

Adam Jones, Program Officer, Science Program, Gordon and Betty Moore Foundation

[Tom Kalil](#), Chief Innovation Officer, Schmidt Futures

Boyana Konforti, Director, Scientific Strategy & Development, HHMI

Ross Mounce, Director of Open Access Programs, Arcadia

Dawid Potgieter, Senior Program Officer, Templeton World Charity Foundation

Brian Quinn, Asst VP, Research-Evaluation-Learning, Robert Wood Johnson Foundation

Thomas Wang, Chair, Open Science Committee, American Heart Association

Jennifer Weisman, Director, Global Health Division, Bill & Melinda Gates Foundation

Garabet Yeretssian, Director, Crohn's Disease Program, Helmsley Charitable Trust

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- **Government, Funders**

Elizabeth Albro, Commissioner, Center for Education Research, U.S. Dept of Education

Jean-Claude Burgelman, Director, Research & Innovation, European Commission

Robert Hanisch, Director, Office of Data and Informatics, NIST

Lisa Nichols, Asst Director for Academic Engagement, OSTP

Alan Tomkins, Deputy Director, Social, Behavioral & Economic Sciences, NSF

Duncan Wingham, Exec Chair, Natural Environment Research, UK Research & Innovation

- **Professional Societies and Alliances**

Mary Sue Coleman, President, AAU

Peter McPherson, President, APLU

Heather Pierce, Senior Director, Science Policy and Regulatory Counsel, AAMC

Richard Wilder, Dir, Business Development, Coalition for Epidemic Preparedness Innovations

- **Project Coordinators and NASEM Staff**

[Greg Tananbaum](#), Open Research Funders Group

Heather Joseph, SPARC

Tom Arrison, Program Director, Policy and Global Affairs, NASEM

George Strawn, Director, Board on Research Data and Information, NASEM

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The Charge:

- Convene key stakeholders – academic leaders, researchers, librarians, funding agencies, foundations, learned societies, publishers and infrastructure developers.
- Gain insight on the current state of the research ecosystem, specifically, the barriers and challenges of current incentives to achieving open science
- Derive and implement a strategy to mitigate disincentives and align incentives to support the missions and values of open science at scale

Public Symposium ⇨ Working Groups ⇨ Toolkit ⇨ Coalitions of the Willing