

# DRIVEN TOWARD OPEN

Your 2023-24 guide to funding innovation and reform in scientific research

### WHAT DRIVES YOU TOWARD OPEN?

Maybe you're a professional researcher who wants to collaborate more efficiently and productively with your peers.

Perhaps you're a research consumer who seeks easier access to, and more faith in, the results of scientific studies.

Or, maybe you just want to make sure that scientific scholarship is maximally inclusive, credible, transparent, and, ultimately, benefits all of us as much as possible.

The **Center for Open Science (COS)** is **driven toward open** by the idea that there are many roles to play in ensuring science in practice aligns with scientific ideals. Over the past decade, we've engaged stakeholders at all levels and across multiple domains of scholarship to bring much-needed change to the way scientific research is conducted, evaluated, and incentivized. Our goal is more transparent, rigorous, and trustworthy research processes made possible by a more collaborative culture of scientific research.



### HELP DRIVE AN OPEN RESEARCH CULTURE

Transforming science requires substantial effort and resources, which is why we rely on financial support from those who want science to work better for everyone. By donating to COS, you will be funding innovative technology, indispensable programmatic and policy resources, and key research insights that propel transformation in scientific scholarship.

Together, we can align the promise and the progress of science.

### HOW WE DO IT

Our unique approach is our emphasis on the open science movement as a systems challenge.

We tackle the puzzle of stakeholder coordination by developing solutions and collaborating with partners in ways which cut across methodological, disciplinary, and hierarchical boundaries within the global science community.



COS is committed to the idea that scientific research is a public good. To us, "success" means a scholarly community that prioritizes the process of research over the results, and where all components of both the process and the products of research are reproducible and openly accessible. Only then, we believe, will science have the maximum intended benefit for all. We pursue this comprehensive openness and reproducibility by:



*Equipping researchers* with cutting-edge technology tools and methods training



**Reshaping the professional incentives** that stifle rigor and reproducibility



**Engaging diverse research communities** to cultivate bonds and foster shared norms



*Fueling policy change* to ensure the durability of the reforms we champion

Additionally, through our Metascience activities, we continually evaluate the efficacy and impact of our efforts to determine which interventions work best, for whom, and under what conditions.

# EQUIPPING RESEARCHERS FOR SUCCESS

Open science isn't possible unless researchers have the tools and training they need to put open techniques into practice. We develop and maintain powerful research infrastructure that enables researchers to collaborate openly.



### HOW WE'RE DOING IT: Open Science Framework

OSF has made it possible for researchers in my lab to follow open research protocols, including preregistration and data sharing. COS is the single institution that has done the most to advance integrity in scientific research.



Angela Duckworth Psychologist and Professor, University of Pennsylvania Since 2013, the <u>Open Science</u> <u>Framework (OSF)</u> has become a core piece of open research infrastructure for nearly 600,000 registered users and hundreds of research institutions around the world. With its end-to-end capabilities, highly customizable user settings, and dozens of integrations with other popular research and data management tools, OSF facilitates preregistration, hosts preprints, and fosters archiving and sharing of research data, materials, protocols, and code.

#### WHY WE NEED YOUR HELP

We make OSF available at full functionality for **free to everyone**, but doing so requires diligent maintenance and nimble development of the platform. With your support, we can continue providing this indispensable tool to the global scholarly community and to be responsive to an ever-changing research landscape.

# ENGAGING RESEARCH COMMUNITIES

Open science is most successfully adopted by communities where members have developed resilient bonds with one another based on shared commitments to transparency and accountability. We work with grassroots networks and other groups of research stakeholders to catalyze the adoption of open science practices both within and between disciplinary domains.

## HOW WE'RE DOING IT: Open Science Fellowships



Our Open Science Fellowship program engages postdocs, early-career, and mid-career researchers in open science fundamentals. COS staff train Fellows on open science and knowledge-sharing activities. Upon completing the program, Fellows incorporate the open science techniques they learn into their own research and share them with colleagues. The goal is to cultivate grassroots networks of scholars who advocate for open science practices, and who can train others themselves, in their respective communities.

#### WHY WE NEED YOUR HELP

In 2022 we successfully piloted this program in the influenza research community. Your support will help enable us to expand these promising efforts into other disciplines.

Hear from Fellows themselves about the impact of the Fellowship.



# **RESHAPING INCENTIVES**

Changing the way research is incentivized aligns what we believe is good for science with what is beneficial for scientists. We work with publishers and funders of scientific research to shift their requirements toward valuing the process, rather than the output, of research activity.

## HOW WE'RE DOING IT: Registered Reports

Registered Reports is a publishing format that emphasizes the importance of the research question and the quality of methodology by conducting peer review before observing outcomes. High-quality protocols are then provisionally accepted for publication if the authors follow through with their registered methodology. Moving peer review to earlier in the research project lifecycle disincentivizes questionable research practices like low statistical power or reporting of only the most eye-catching results.



#### WHY WE NEED YOUR HELP

We partner with editors, publishers, and funders to support their adoption of Registered Reports. We also assist researchers with preparing their work for this format by providing help guides, consultations and webinars, and resources on OSF. Your donation will help us strengthen the resources we develop and the partnerships we cultivate.

Read more about why Registered Reports are such a powerful open science intervention.



# FUELING POLICY CHANGE

### HOW WE'RE DOING IT: TOP Factor

Introduced in 2015 and developed collaboratively with academic journals, professional societies, and science funders, the TOP guidelines serve as a modular framework for these important research stakeholders to implement practical and effective open science policies. The guidelines cover the complete research lifecycle: from study planning and preregistration to the sharing of data, code, and protocols. The TOP Guidelines are a widely recognized standard in academic publishing: more than 5,000 journals and organizations have become signatories.

#### 🎲 TOP FACTOR

#### **Transparency** an

Created by journals, funders, and

Search journals by title

Advanced Search b

#### **About TOP Factor**

Journal policies can be evaluated based Guidelines. This TOP Factor is a metric t implement open science practices, prac

COS has been invaluable to the movement to make science more open by design, and the TOP Guidelines have become a seminal conceptual framework for the open science movement. I am excited to be working with this group to consider revisions to TOP, extensions of TOP for organizations beyond journals, and tools to facilitate TOP implementation.

> **Sean Grant** *Chair, TOP Guidelines Advisory Board*

Journal policies matter in particular because they influence how research is conducted. TOP Factor is our program to evaluate journal policies for their alignment with the standards outlined in TOP. Through TOP Factor, we partner directly with journals to ensure their policies incentivize transparency and reproducibility of research methods. Additionally, we publish our evaluation results so open science proponents can leverage the data themselves and join us in advocating for policy reform.

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The Center for Open Science (COS) is a 501(c)(3) nonprofit organization based in Charlottesville, Virginia. Contributions to COS are generally tax deductible as provided by US tax law.

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- Direct donations via credit card, Venmo, PayPal, and ACH
- Contributions by mail (USPS)
- Donor-advised funds
- Philanthropy programs through your employer
- In-kind gifts
- Planned giving

For more information or for assistance with your contribution, contact giving@cos.io.

*Our EIN is 46-1496217.* 

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