

# Exploring Open Science

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What is Open Science?

Open Data

Open Access

Open Notebook

Open Source

Make scientific research  
accessible to all levels of an  
inquiring society.

PHILOSOPHICAL  
TRANSACTIONS:  
GIVING SOME  
ACCOMPT  
OF THE PRESENT  
Undertakings, Studies, and Labours  
OF THE  
INGENIOUS  
IN MANY  
CONSIDERABLE PARTS  
OF THE  
WORLD.

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*Vol I.*

For *Anno* 1665, and 1666.

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In the SAVOY,  
Printed by T. N. for John Martyn at the Bell, a little with-  
out Temple-Bar, and James Allestry in Duck-Lane,  
Printers to the Royal Society.



# Nullius in Verba

"Take nobody's word for it."

# How Science Goes Wrong

"Too much trusting, not enough verifying."

Economist, [www.economist.com/news/leaders/21588069-scientific-research-has-changed-world-now-it-needs-change-itself-how-science-goes-wrong](http://www.economist.com/news/leaders/21588069-scientific-research-has-changed-world-now-it-needs-change-itself-how-science-goes-wrong)

Only **6 out of 53** “landmark”  
cancer studies could be  
reproduced.

Nature, [www.nature.com/nature/journal/v483/n7391/full/483531a.html](http://www.nature.com/nature/journal/v483/n7391/full/483531a.html)

# Reproducibility Crisis

# Reproducibility Initiative

The image is a screenshot of the 'Validation' website banner. The banner has a dark header with the 'Validation' logo and navigation links. The main content area features a background of colorful DNA sequence blocks (A, C, G, T) and a large text overlay. At the bottom, there is a section titled 'As seen in' followed by logos of various media outlets.

**Validation**  
THE SCIENCE EXCHANGE NETWORK

About Projects Press Contact

[Return to ScienceExchange.com](#)

## Validating key experimental results via independent replication

[Learn more »](#)

As seen in

Science BBC nature The Economist nature biotechnology REUTERS

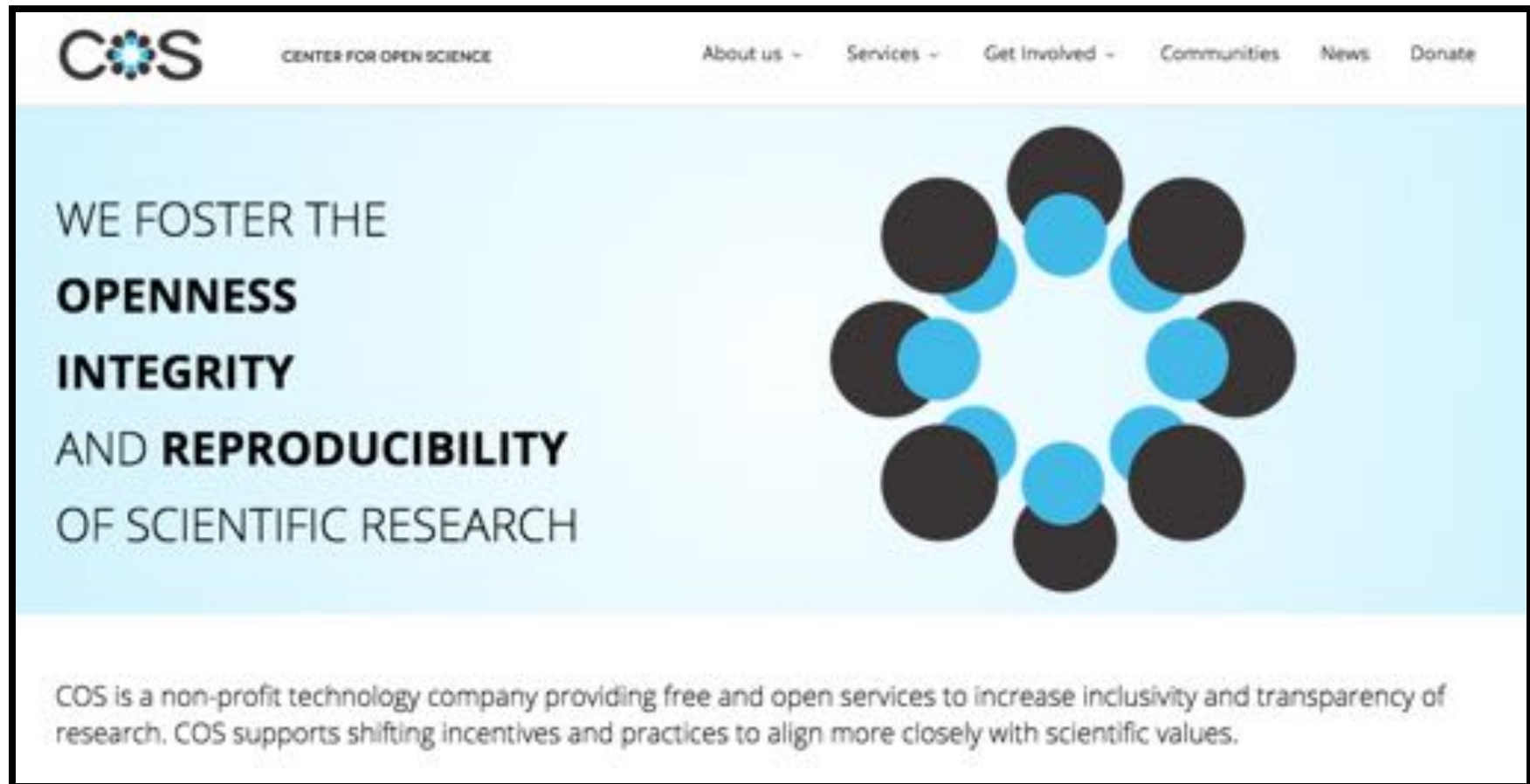
[validation.scienceexchange.com/](http://validation.scienceexchange.com/)

# Reproducibility Initiative receives \$1.3M grant to validate 50 cancer studies.

Science Exchange, [blog.scienceexchange.com/2013/10/reproducibility-initiative-receives-1-3m-grant-to-validate-50-landmark-cancer-studies/](http://blog.scienceexchange.com/2013/10/reproducibility-initiative-receives-1-3m-grant-to-validate-50-landmark-cancer-studies/)

Can Open Science Help?

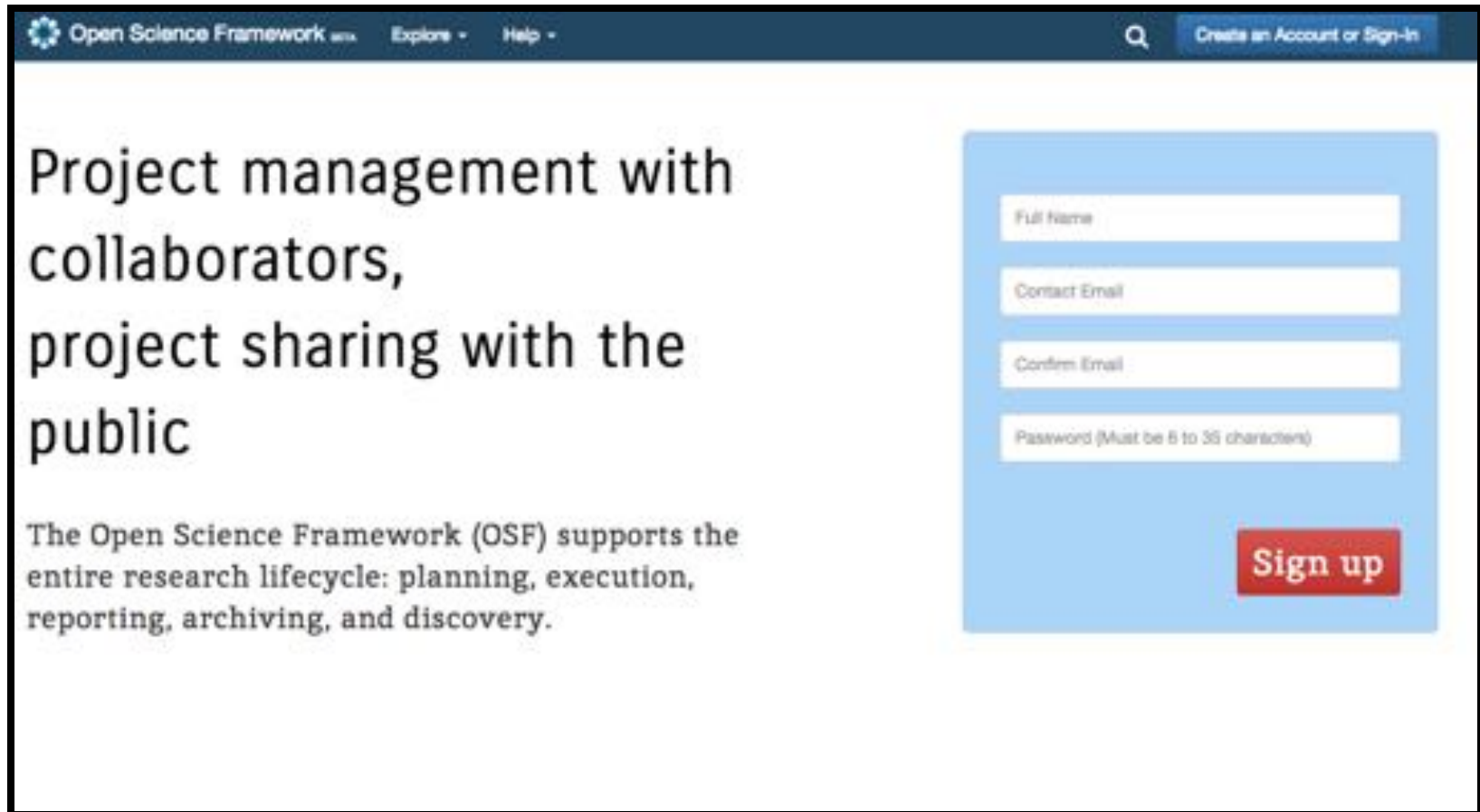
# Center for Open Science



[centerforopenscience.org](https://centerforopenscience.org)



# Open Science Framework



The screenshot shows the Open Science Framework (OSF) website. The header includes the OSF logo, navigation links for 'Explore' and 'Help', a search icon, and a link to 'Create an Account or Sign-In'. The main content area features a large heading 'Project management with collaborators, project sharing with the public' and a descriptive paragraph about the OSF's support for the research lifecycle. To the right, a light blue sign-up form contains four input fields: 'Full Name', 'Contact Email', 'Confirm Email', and 'Password (Must be 6 to 55 characters)'. A red 'Sign up' button is positioned at the bottom right of the form.

Open Science Framework [Explore](#) [Help](#) [Create an Account or Sign-In](#)

## Project management with collaborators, project sharing with the public

The Open Science Framework (OSF) supports the entire research lifecycle: planning, execution, reporting, archiving, and discovery.

Full Name

Contact Email

Confirm Email

Password (Must be 6 to 55 characters)

**Sign up**

# R OpenSci

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*At rOpenSci we are creating packages that allow access to data repositories through the R statistical programming environment that is already a familiar part of the workflow of many scientists. Our tools not only facilitate drawing data into an environment where it can readily be manipulated, but also one in which those **analyses and methods can be easily shared, replicated, and extended** by other researchers.*

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# Questions for Libraries

Should academic libraries have a role in supporting Open Science?

How does Open Science interact with  
current professional incentives?

What technology should libraries provide?

How does Open Science support  
interdisciplinarity?

Can Open Science be partially adopted?



# More to Come!

# Thanks!

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Special thanks to Marcus Hanwell (@mhanwell) for several citations.