Consume, Reproduce, and Extend: Reviving the Research Lifecycle by Capturing and Connecting Our Work

Rick Johnson

University of Notre Dame

VPO, Association of Research Libraries

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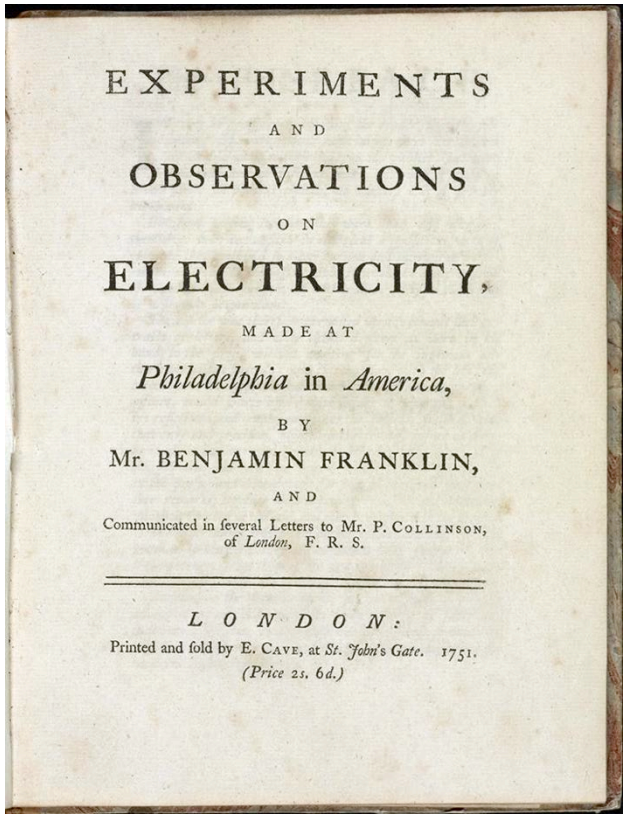
Classic Scholarly Process

Scholarly Publication and Reproducibility



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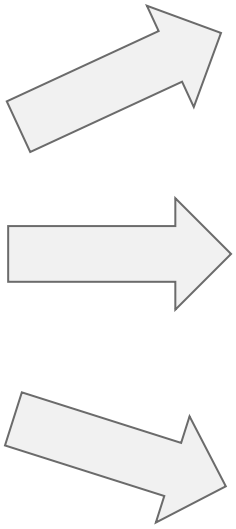
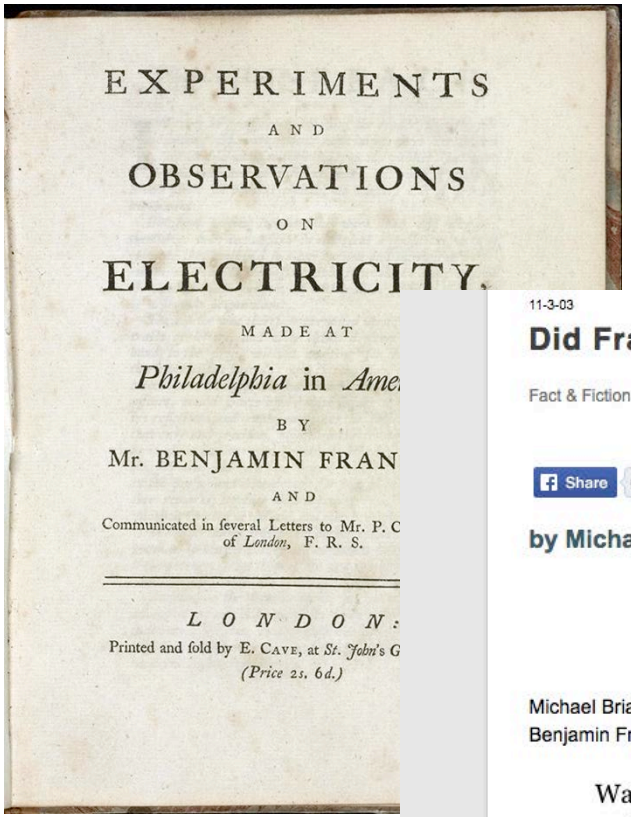


Not Without Scrutiny



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Did Franklin Really Fake the Kite Experiment?

Fact & Fiction

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by Michael Brian Schiffer

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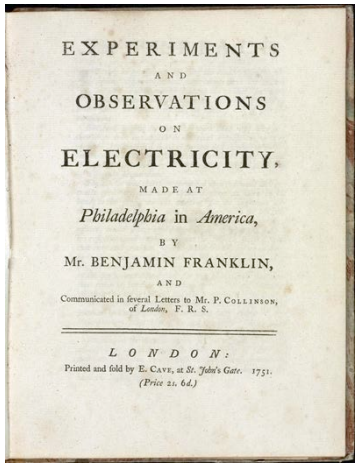
Michael Brian Schiffer, a member of the Anthropology Department, University of Arizona, is the author of "Draw the Lightning Down: Benjamin Franklin and Electrical Technology in the Age of Enlightenment" (Berkeley, CA: University of California Press, 2003).

Was Benjamin Franklin's account of a kite flight a scientific fraud? Yes, says Tom Tucker, author of *Bolt of Fate: Benjamin Franklin and his Electric Kite Hoax* (Parsecs, 2003). Tucker's cynical thesis, however, is not shared by other Franklin scholars, including his scientific biographer, the late I. Bernard Cohen. In disputing the received view, Tucker fashioned a creative case against Franklin that is far from convincing.

Innovation and Spreading Ideas



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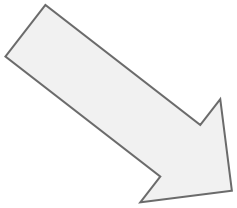
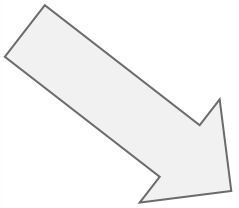


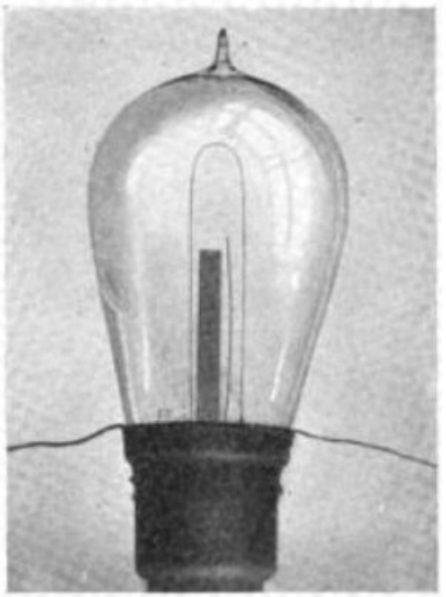
Scientific American.

THE ADVOCATE OF INDUSTRY AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

VOL. 2. NEW YORK, JANUARY 23, 1847. NO. 18.

LETTER PRINTING TELEGRAPH.—Figure 1.





How Do We Replicate This Process Today?

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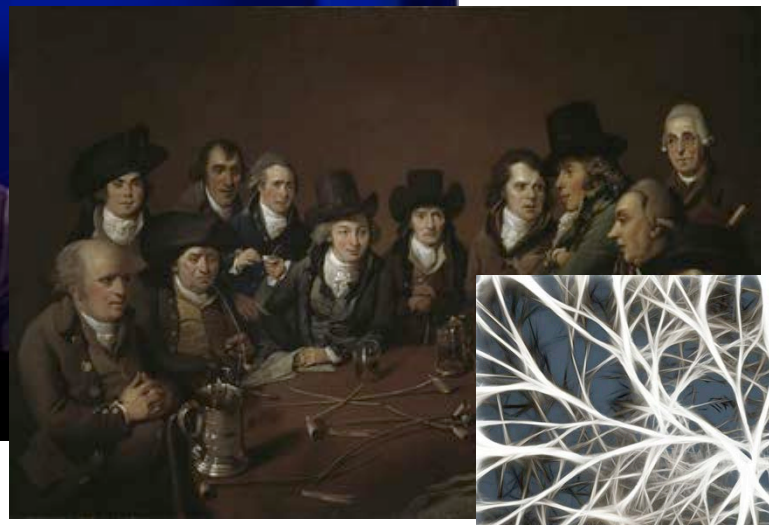
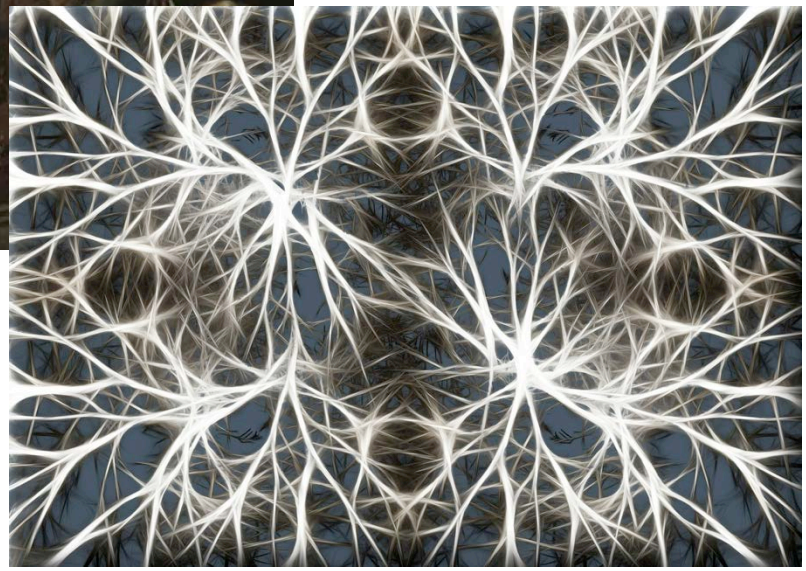
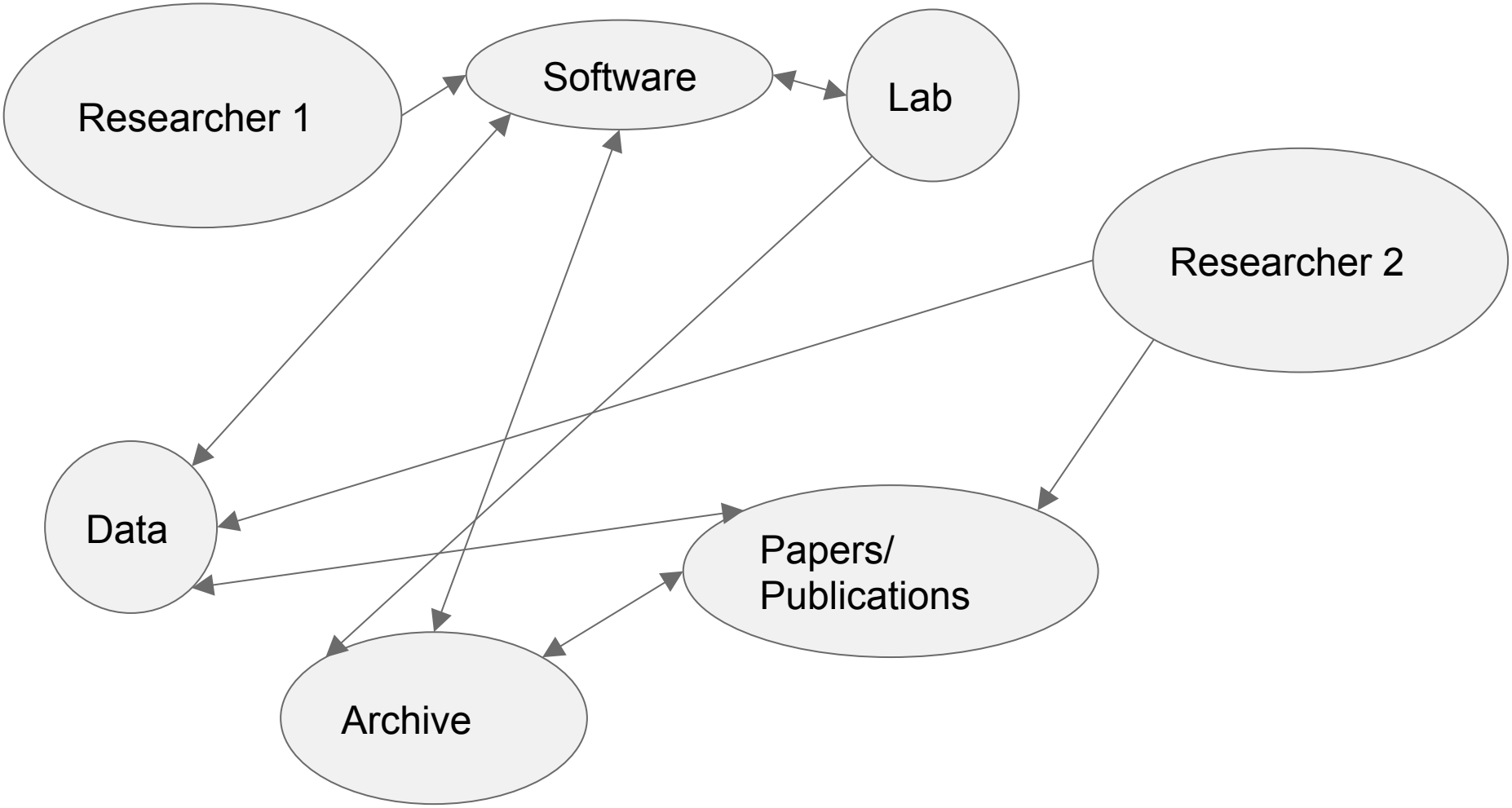




Scholarly Workflow

Scholarly Network



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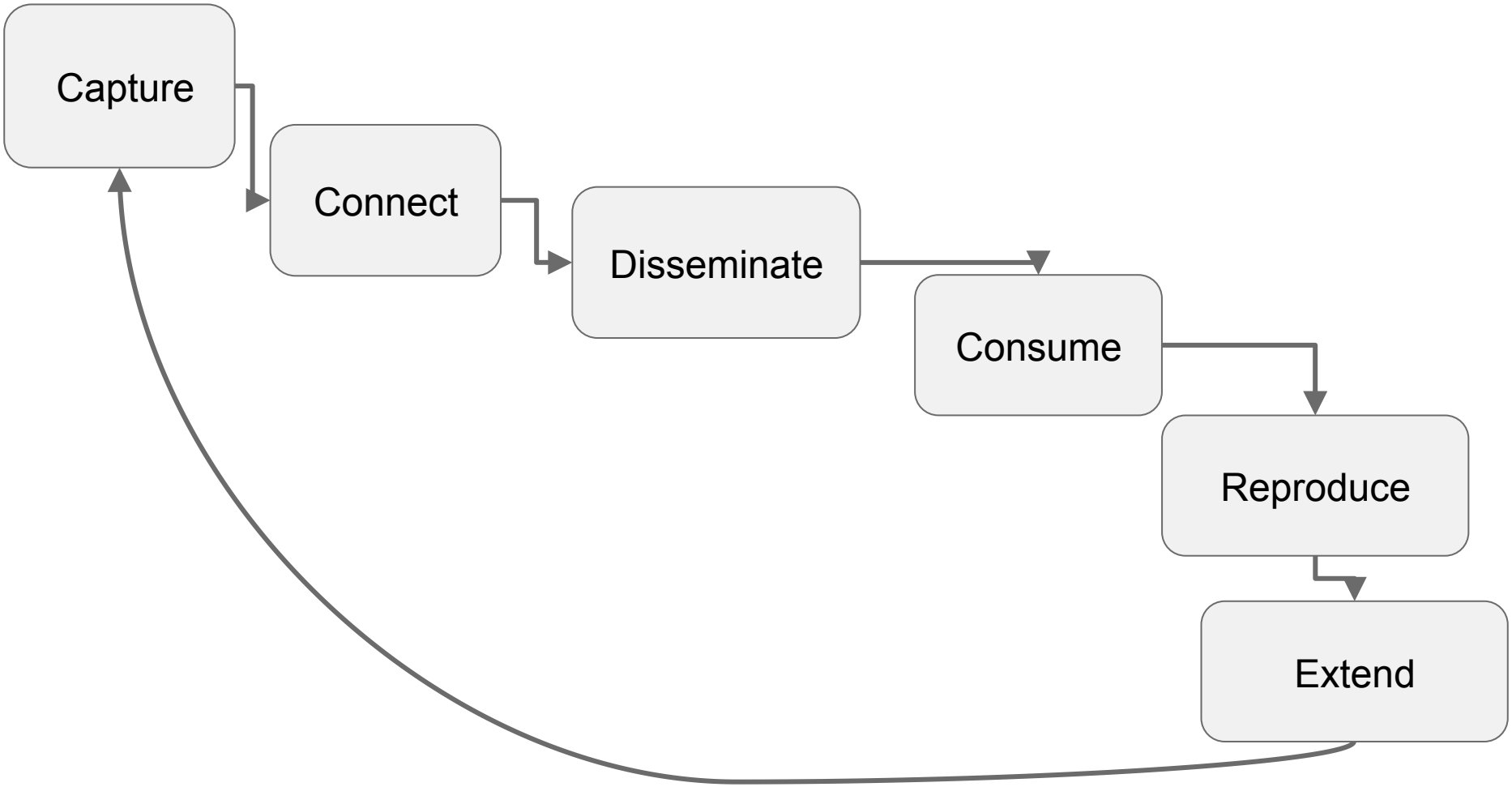

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But Why Do We Care?

Digital Curation and Preservation

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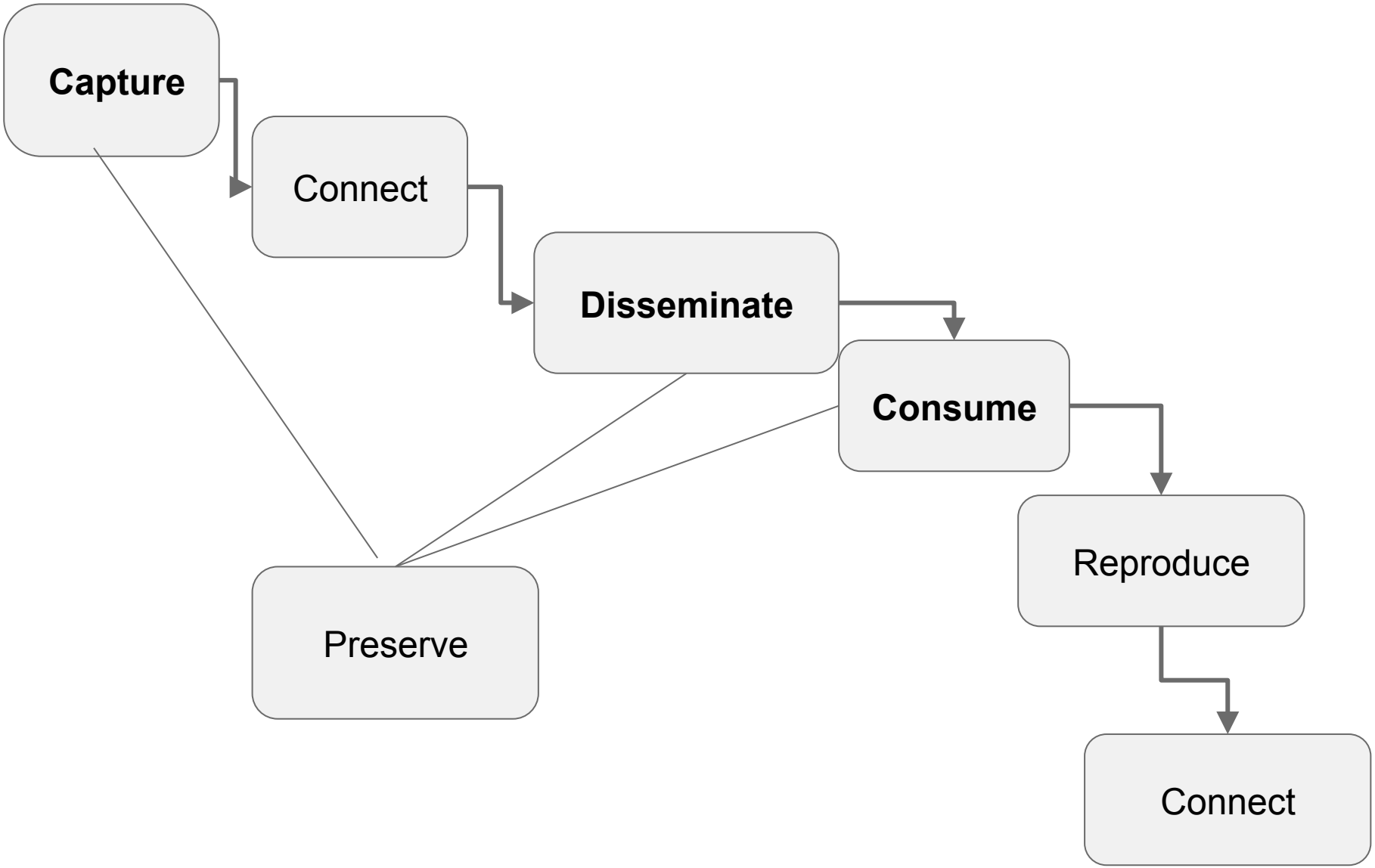
But Why Do We Care?

It is a means to an end…

It facilitates the whole scholarly interchange

How Do We Replicate This Process Today?

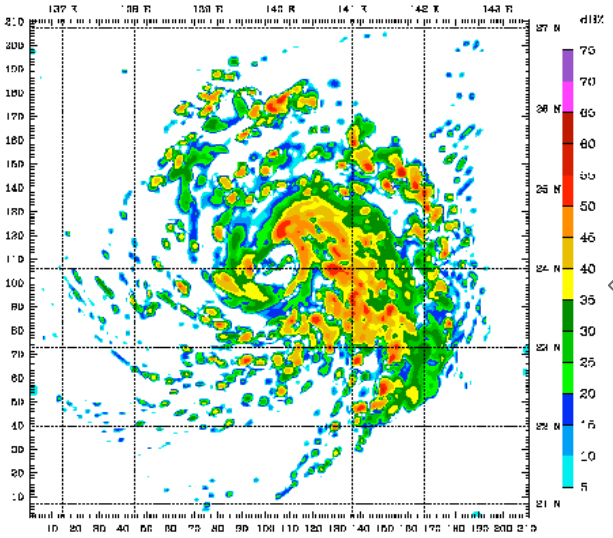


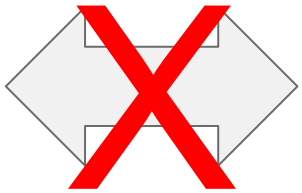
The Challenge of Capturing and Sharing Computational Analysis

Computation requires extremely fast resources

Preservation requires stability and redundancy

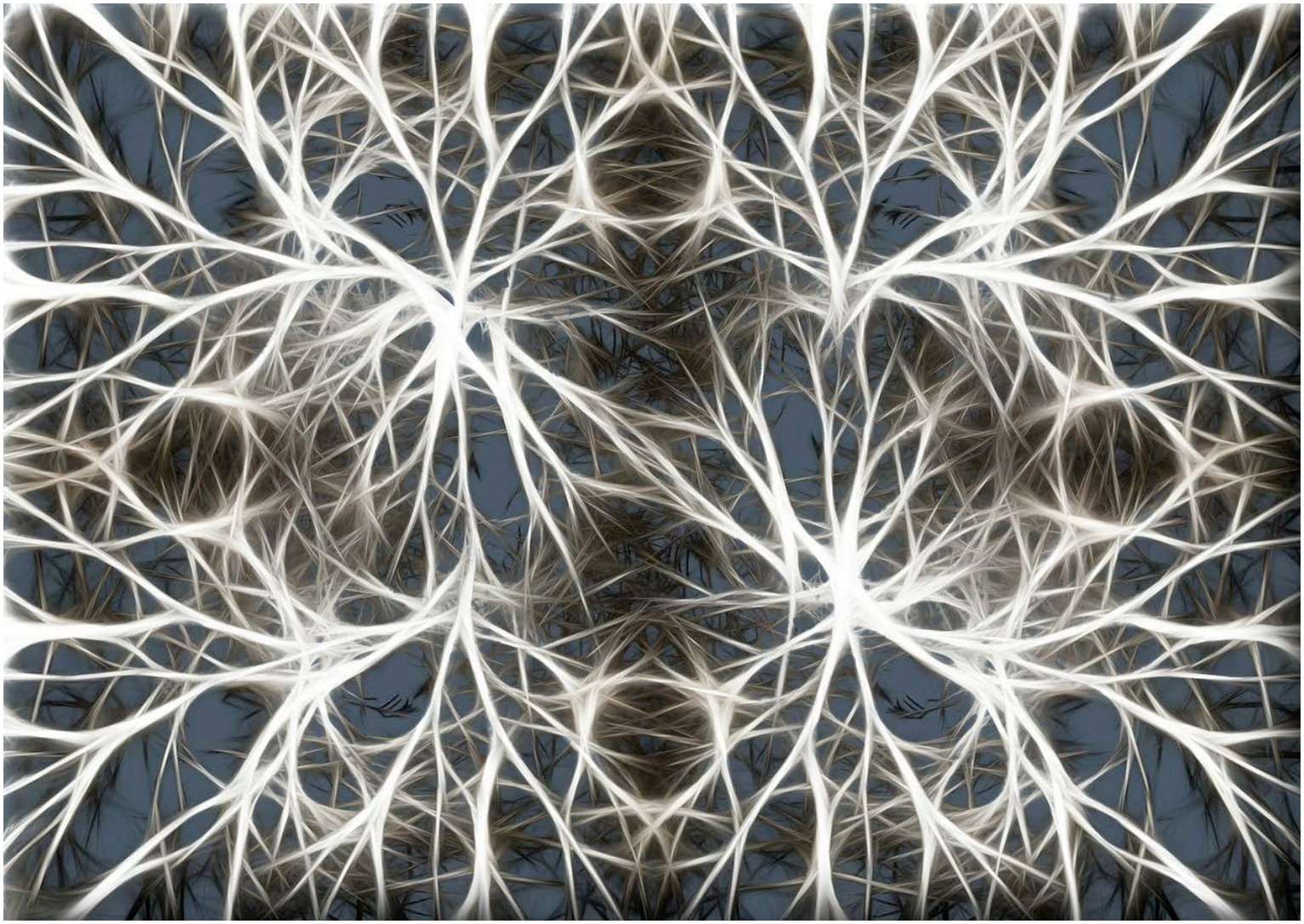
Sharing for replication and re-use requires more than just a paper: software, data, platforms, and visualization tools.





How to get past work in the hands of researchers?

Connections Drive Innovation and Justify Sharing



Consume, Reproduce, Extend, and ***Connect***

How to make connections?

Need to be able to find it

Need the information to properly understand, consider, and apply

Need information how to use data, recreate experiments -> e.g. software

Need to link together

Mission

SHARE is a higher education initiative whose mission is to **maximize research impact** by making research widely accessible, discoverable, and reusable. To fulfill this mission SHARE is building a **free, open data set** about research and scholarly activities across their life cycle.

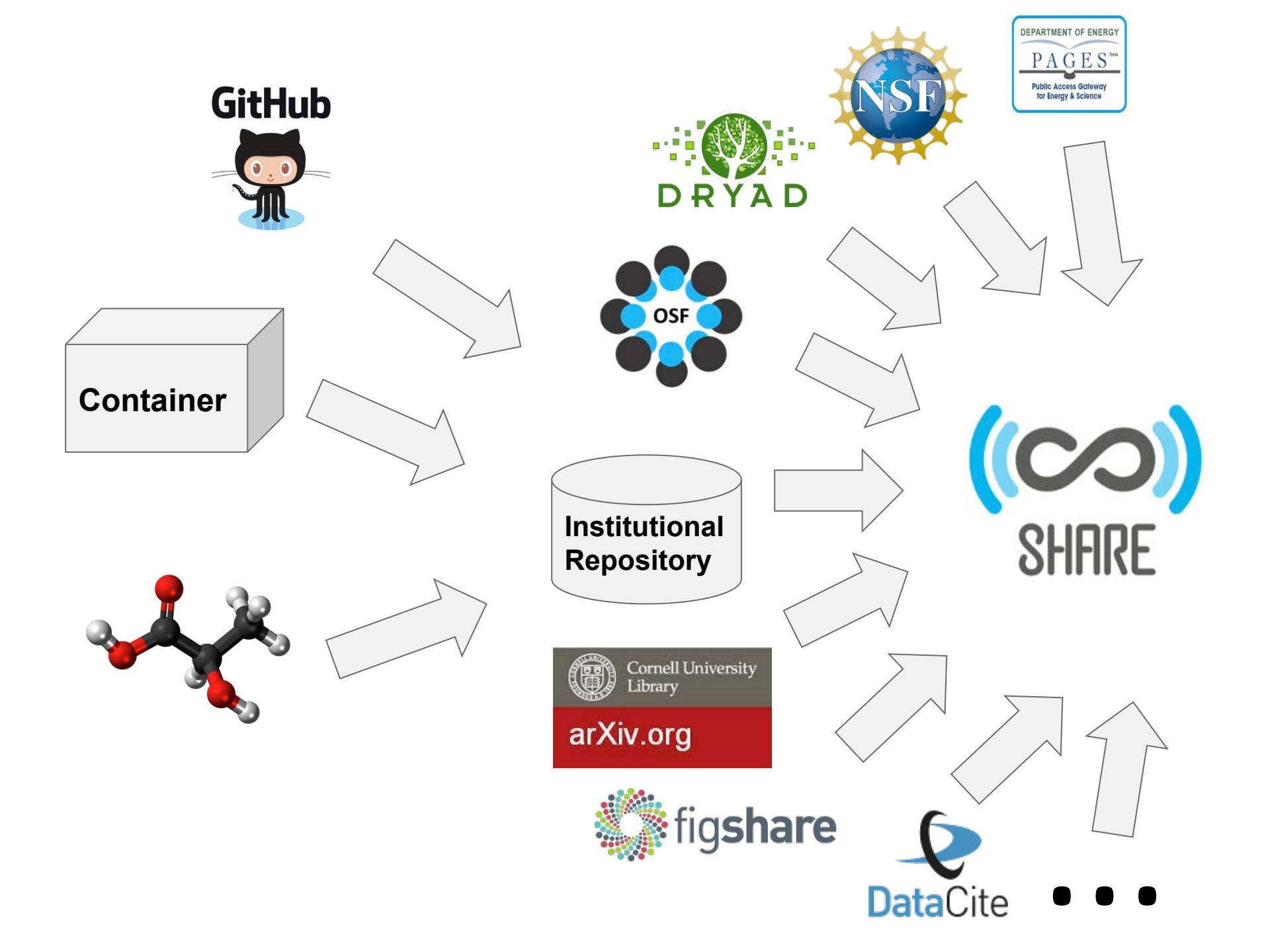
SHARE is

Free, open data set of research and scholarly activities harvested from 129+ data providers

Notification service of >7 million research events of data mgmt plans, preprints, articles, repository deposits, and **other scholarly activity**

Harvester of **diverse set** of data providers: funders, publishers, data repositories, institutional repositories, scholarly activity

Community of international members such as funders, publishers, government orgs, universities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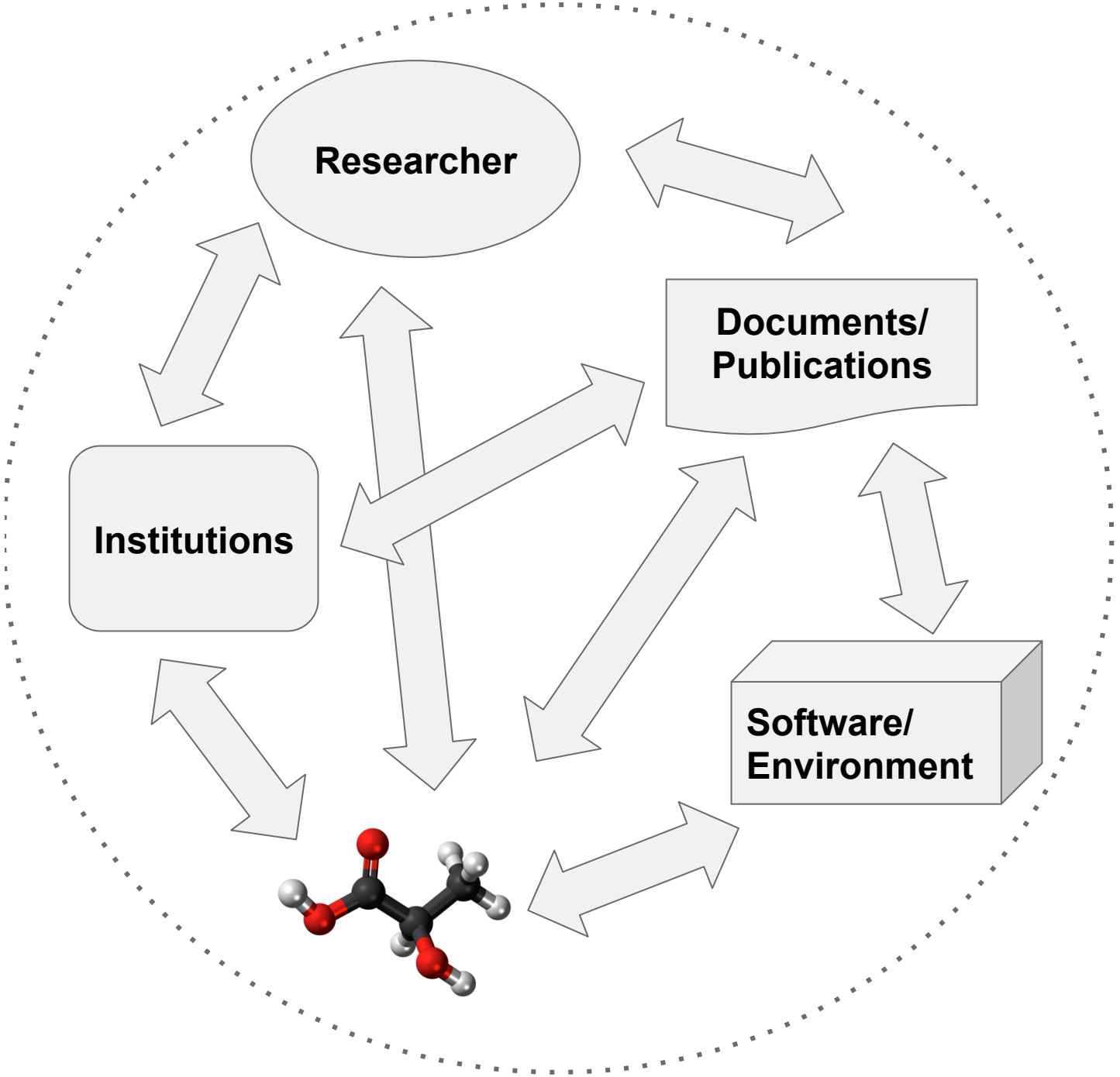
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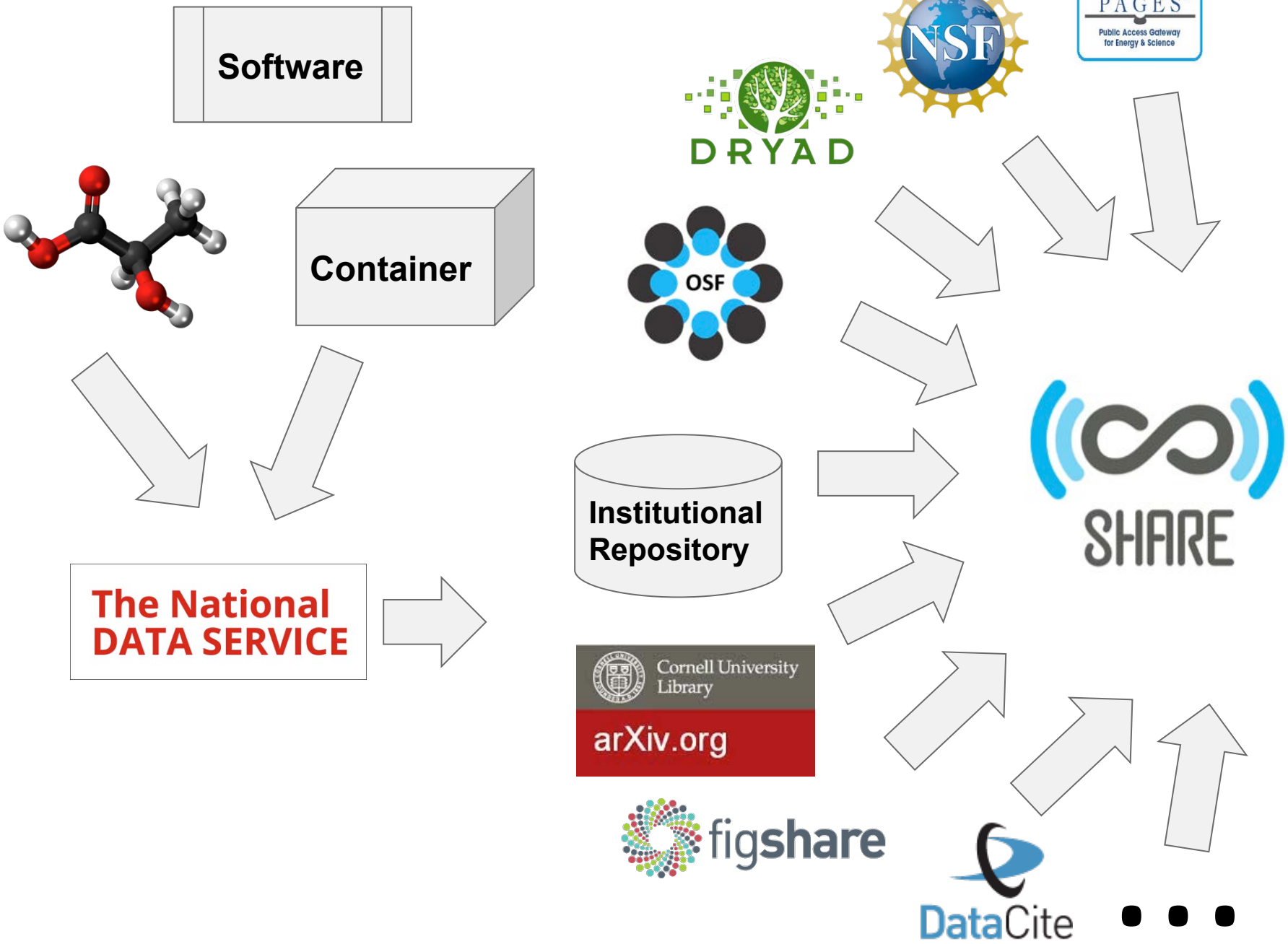
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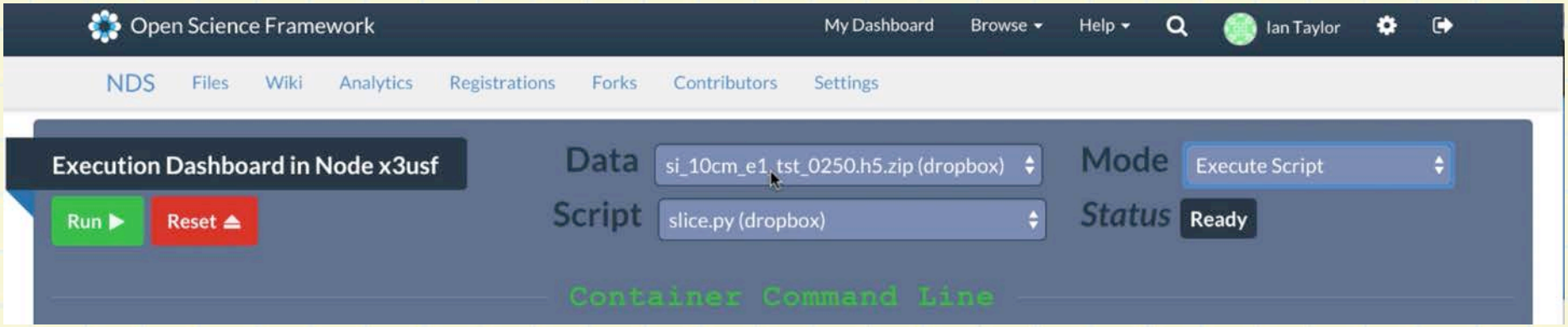
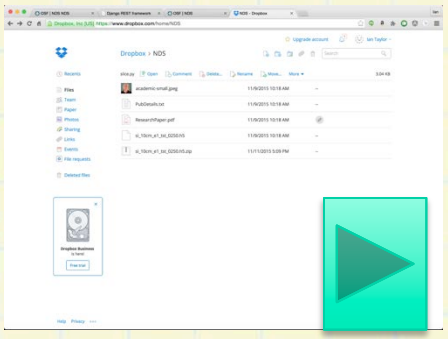
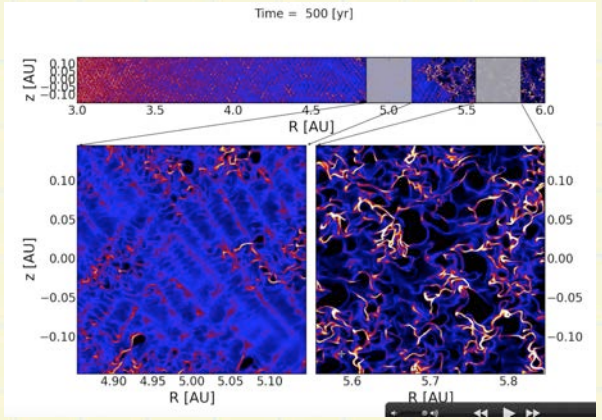


Contact:
Ian Taylor

ian.j.taylor@gmail.com

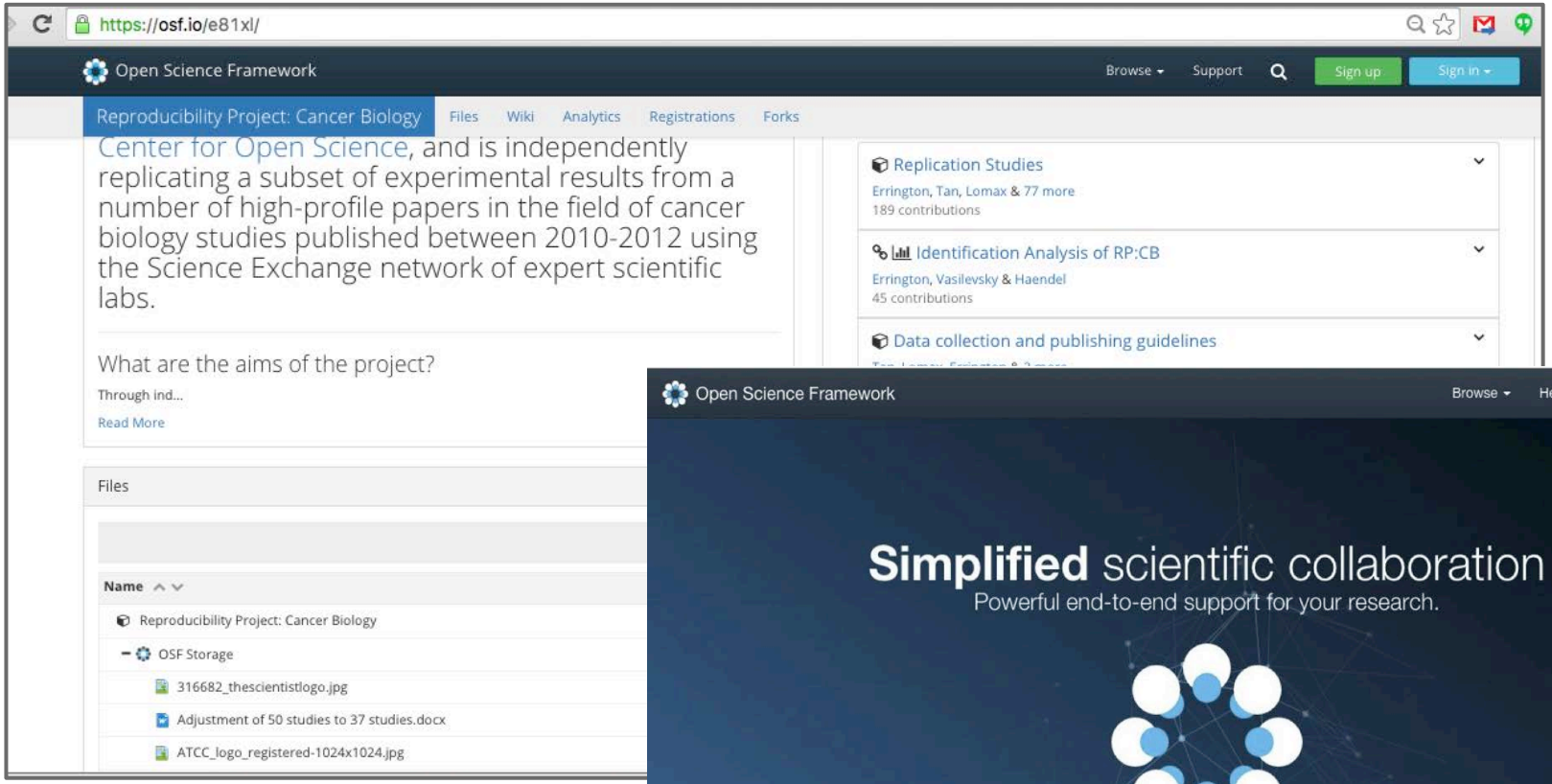




bitbucket.org/nds-org/nds-dashboard

http://www.nationaldataservice.org/
http://ndspilot.com

Active Research in Open Science Framework



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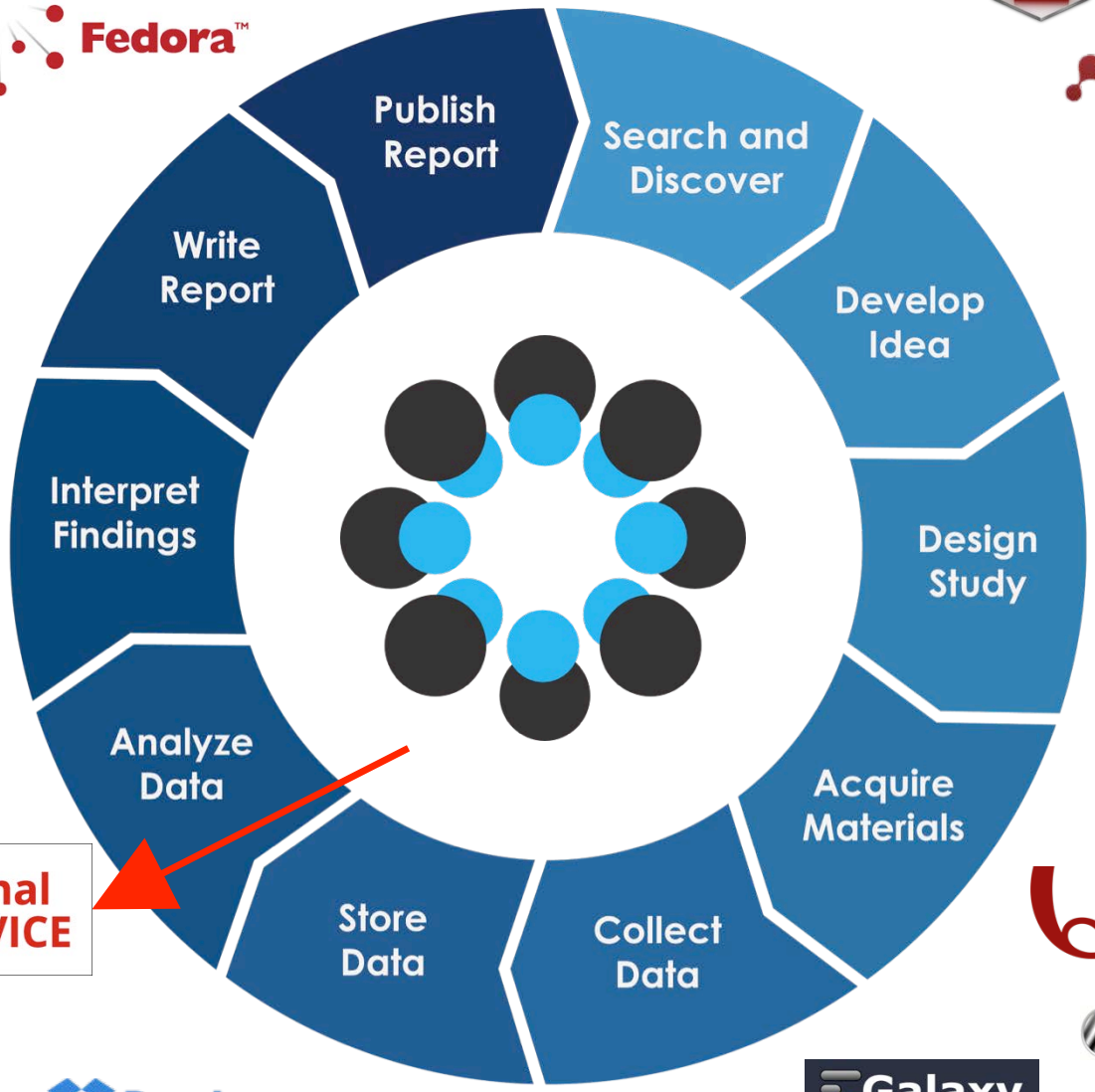

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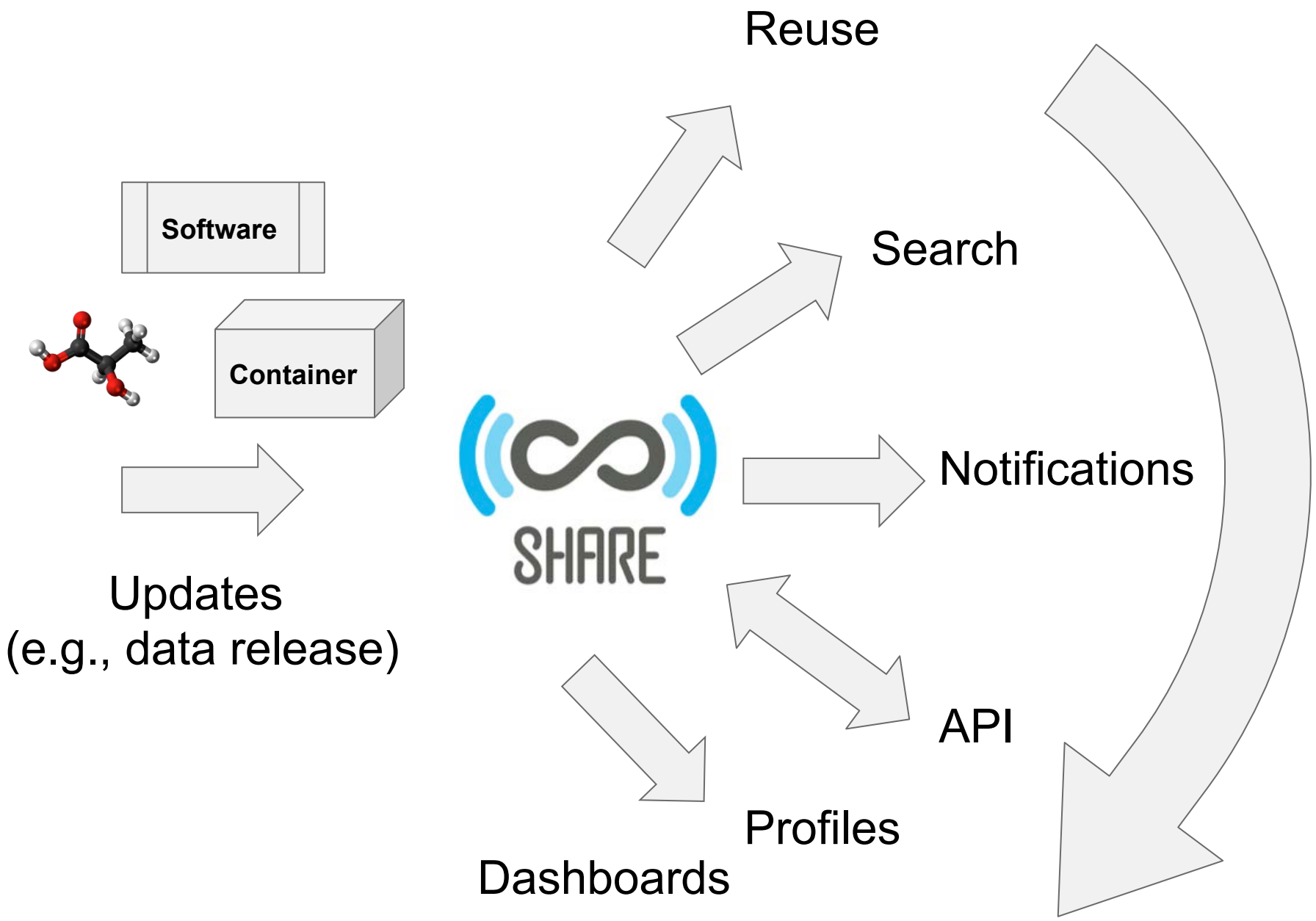
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Connecting Globally

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Benjamin Franklin (1706–1790). *Experiments and Observations on Electricity, Made at Philadelphia in America.* London: E. Cave, 1751. Benjamin Franklin Collection, Rare Book and Special Collections Division, Library of Congress (001.00.00). Retrieved from https://www.loc.gov/exhibits/books-that-shaped-america/1750-to-1800.html

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Rick Johnson, rick.johnson@nd.edu, @rick_nd

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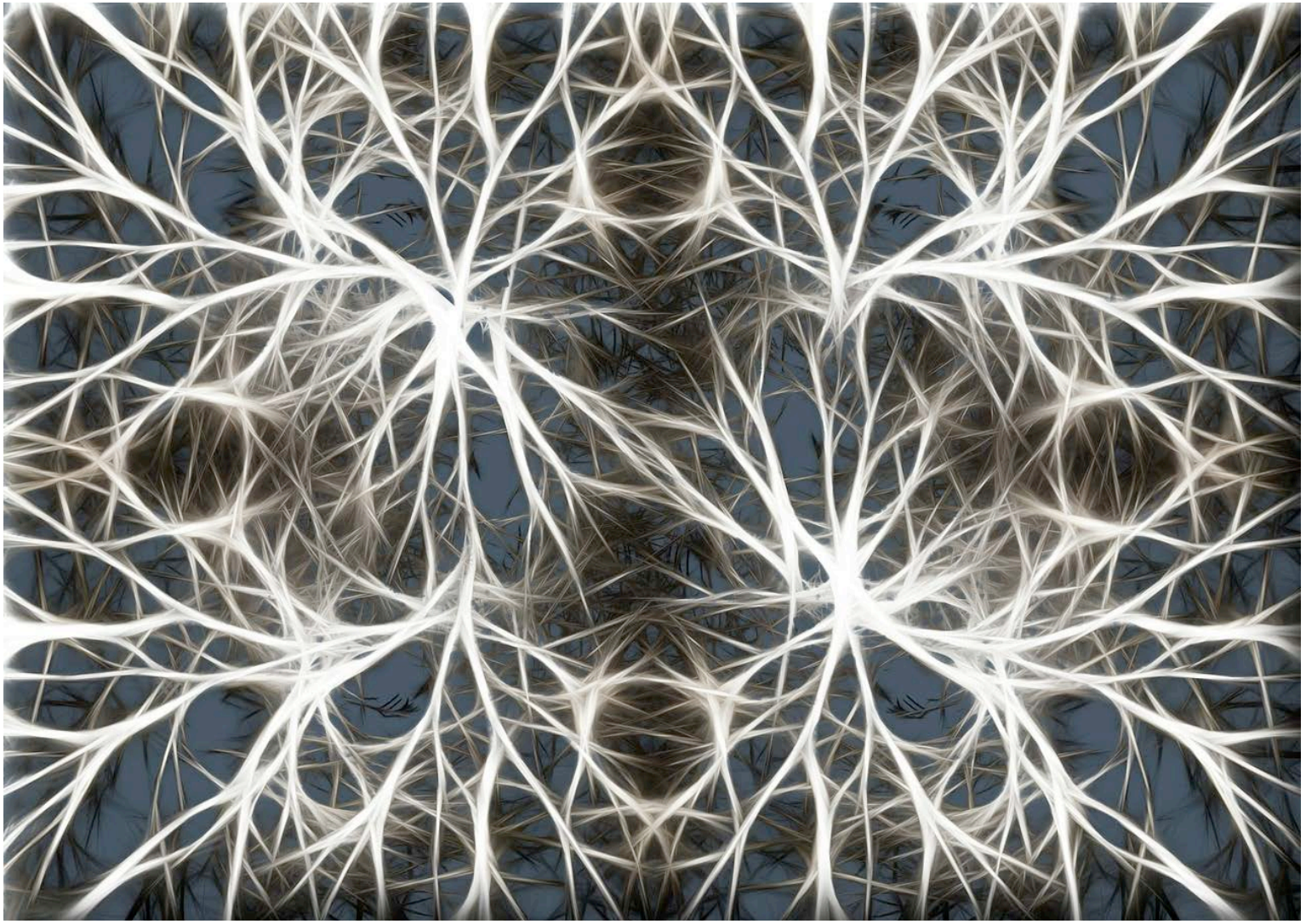
Our Digital Scholarly Workflow



What are Your Ideas?

Let's make some connections...