

Scholix is a framework

FAIR Data Principles



Findable



Accessible



Interoperable

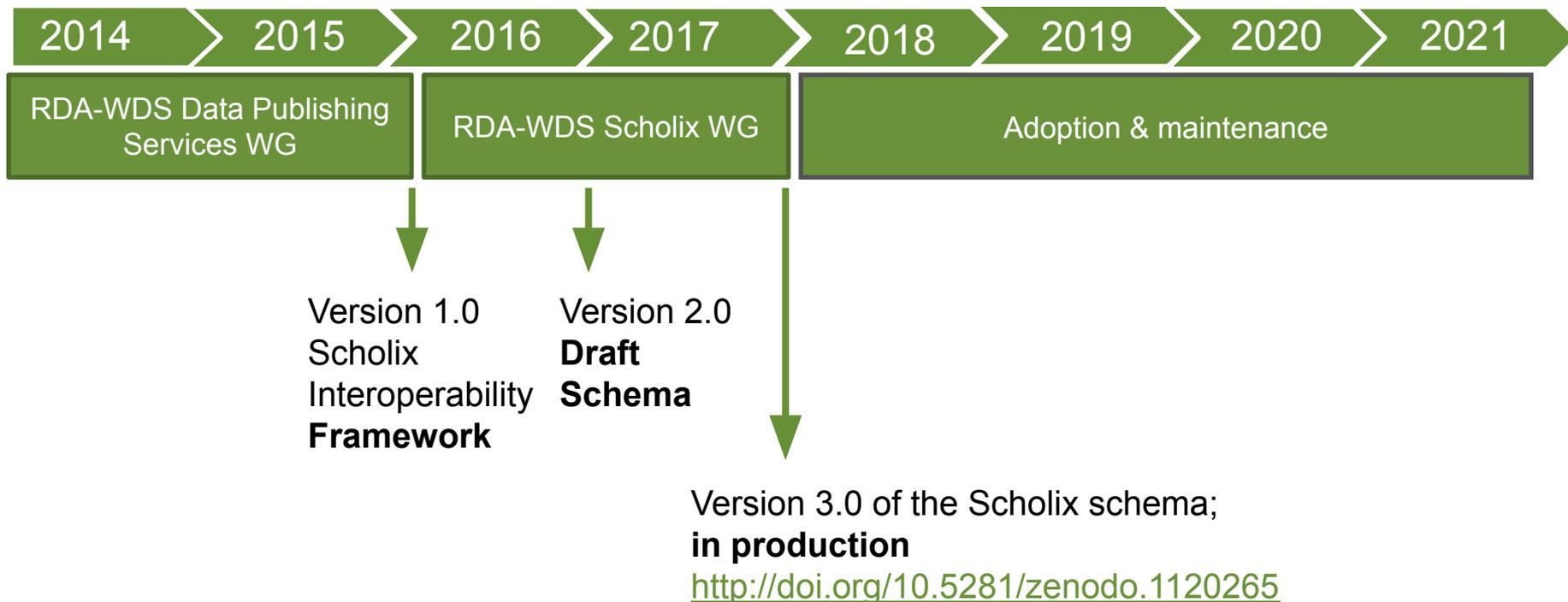


Reusable

SCHOLIX

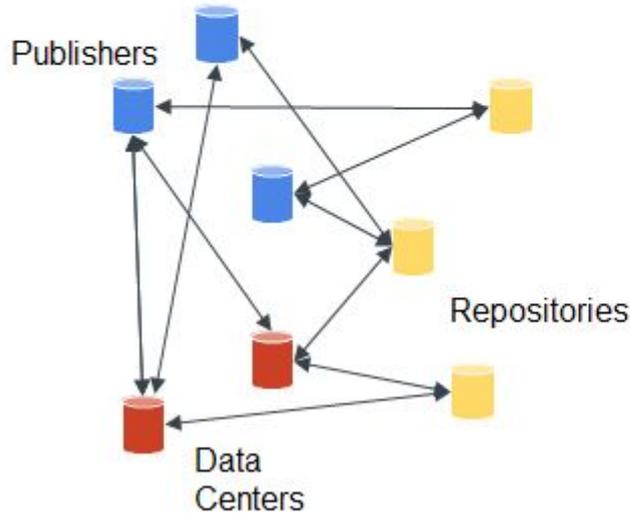
- *Scholarly Link Exchange*
- A framework for standardizing the exchange of *scholarly link* information between scholarly infrastructure providers
 - Focus on articles and datasets
 - Information Model for scholarly links representation
 - Recommendation and provision of exchange formats and protocols

Scholix Timeline

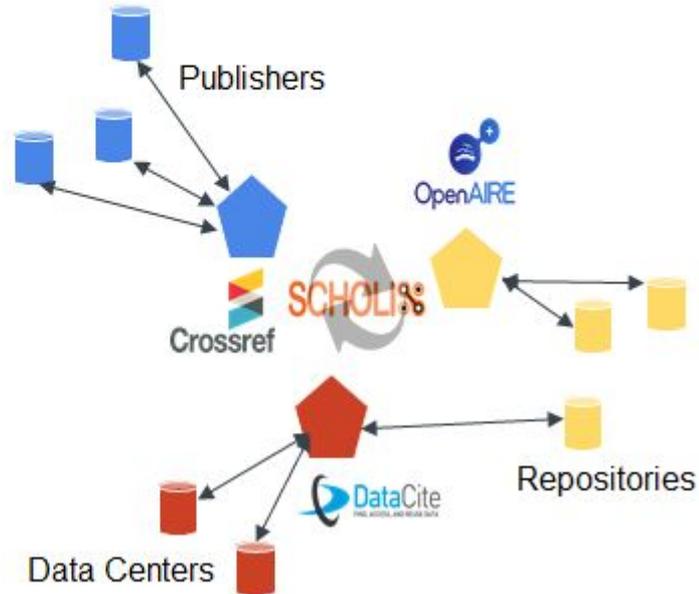


Scholix hubs

Problem: disconnected sources using heterogeneity of practices



Scholix: standard set of guidelines for exposing and consuming links, supported by hubs



Outcome of the WG: the schema

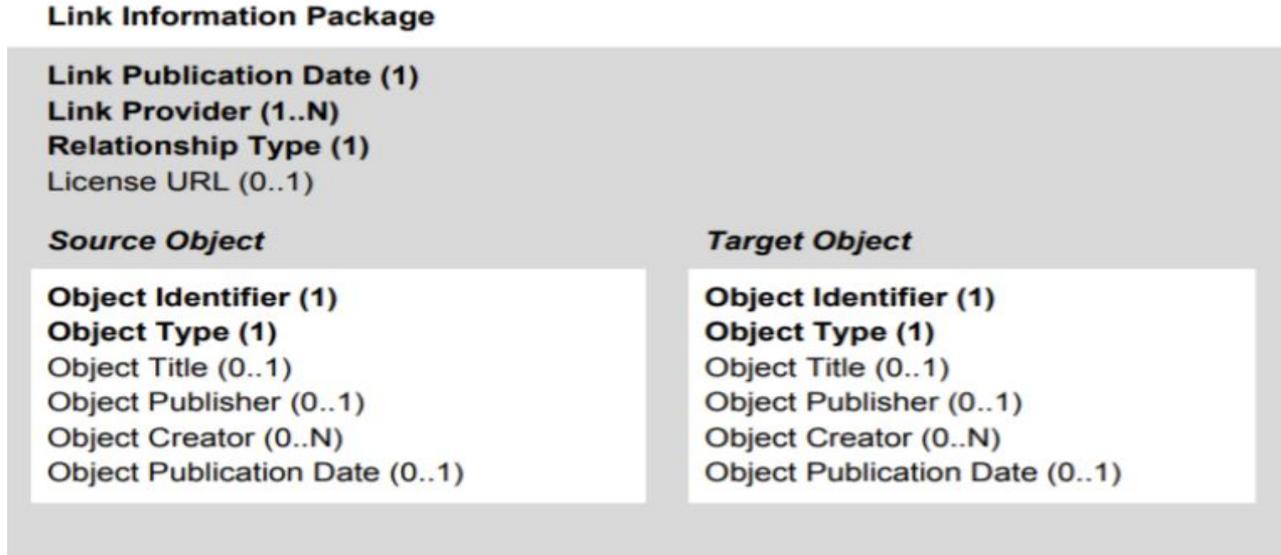


Figure 2 - Link Information Package: high-level information model

At its simplest

This thing

The screenshot shows the eLife website interface. At the top, there's a navigation bar with 'HOME', 'MAGAZINE', 'COMMUNITY', and 'INNOVATION'. Below that, the article title 'A multicellular way of life for a multipartite virus' is prominently displayed. The authors listed are Anne Sicard, Elodie Prolles, Romain Gallet, Marie-Stéphanie Vermeray, Michel Yvon, Cica Urbino, Michel Peterschmitt, Sérafin Gutierrez, Yannis Michalakis, and others. The article is categorized under 'Microbiology and Infectious Disease'. A short report label indicates it was published on Mar 12, 2019. The abstract section is visible, starting with 'A founding paradigm in virology is that the spatial unit of the viral replication cycle is an individual cell. Multipartite viruses have a segmented genome where each segment is encapsidated separately. In this situation the viral genome is not recapitulated in a single virus particle but in the viral population. How multipartite viruses manage to efficiently infect individual cells with all segments, thus with the whole genome information, is a long-standing but perhaps deceptive mystery. By localizing and quantifying the genome segments of a nanovirus in host plant tissues we show that they rarely co-occur within individual cells. We further demonstrate that distinct segments accumulate independently in different cells and that the viral system is functional through complementation across cells. Our observation deviates from the classical conceptual framework in virology and opens an alternative possibility (at least for nanoviruses) where the infection can'.

points to

The 'Data availability' section states: 'All data are available in the manuscript and in Supplementary files. Raw data of all quantified green and red fluorescence within individual cells of infected plants are provided as a separate Excel supplementary file: Table S4. To allow repeat/reproduce all correlation tests, the 508 raw/unprocessed images (.ism format) used for preparing all figures and for fluorescence quantification in individual cells have been deposited in the public repository figshare. They can be accessed at the DOI: 10.6084/m9.figshare.5981968'. Below this, it lists '1 Figshare' with the details: 'Sicard Anne (2018) Sicard-2018-External-database-S1. https://doi.org/10.6084/m9.figshare.5981968'.

this thing

The Figshare page shows the file 'Sicard-2018-External-database-S1.zip'. It includes buttons for 'Cite', 'Download (821.08 MB)', 'Share', 'Embed', and '+ Collect'. The post date is '14.03.2018, 13:08 by Stéphane Blanc'. A description states: 'The zip file contains: -1 excel file providing name and information for each image -508 raw image files .ism format, each corresponding to a confocal microscopy image Images are grouped in one folder per petiole analyzed'.

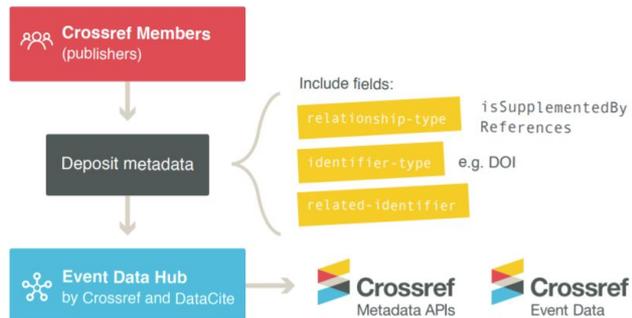
In this way

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</rel:program>
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Contributing information

Work with us on data citation!

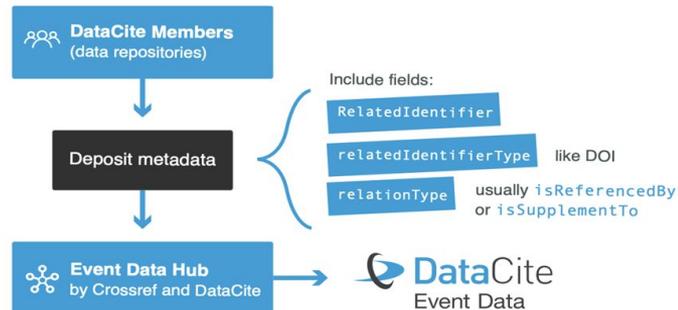
Want to share your data citations following the Scholix framework? Here is what you need to do:



Interested in using this information? Find out more at: <https://www.crossref.org/services/event-data/>

Work with us on data citation!

Want to share your data citations following the Scholix framework? Here is what you need to do:



Interested in using this information? Find out more at: <https://support.datacite.org/docs/eventdata-guide>

Our workflow for supporting data citation at Crossref

Data deposit

- Publisher deposits metadata, including data citations (in bibliography or in relations section of schema)

Data reference matching. We look at:

- Is there a DOI tag with a DataCite DOI?
- Is it a structured reference that we identify as a data citation?

Data output (**openly available**)

- Added to Event Data
- Scholix data is a subset of Event Data containing only data citations, in Scholix format

In Crossref Event Data

Crossref
community
utilization
calendar
summary
details
Metadata
Terminology
FAQ
Support
Marketing
http

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Extracting and displaying information

Bioorganic and Medicinal Chemistry
Volume 14, Issue 23, 1 December 2006, Pages 7917-7923

A new dihydroxanthrone from a plant-associated strain of the fungus *Chaetomium globosum* demonstrates anticancer activity (Article)

Wijeratne, E.M.K.^a, Turbyville, T.J.^{ab}, Fritz, A.^a, Whitesell, L.^b, Gunatilaka, A.A.L.^a ✉

^aSouthwest Center for Natural Products Research and Commercialization, Office of Arid Lands Studies, College of Agriculture and Life Sciences, 250 E. Valencia Road, Tucson, AZ 85706-6800, United States
^bSteele Memorial Children's Research Center, University of Arizona Health Sciences Center, 1501 N. Campbell Avenue, Tucson, AZ 85724, United States

Abstract

[View references \(28\)](#)

Bioassay-guided fractionation of a cytotoxic EtOAc extract of the fungal strain, *Chaetomium globosum*, inhabiting the rhizosphere of the Christmas cactus, *Opuntia leptocaulis*, of the Sonoran desert afforded a new dihydroxanthrone, globosuxanthrone A (1), a new tetrahydroxanthrone, globosuxanthrone B (2), two new xanthrones, globosuxanthrone C (3) and D (4), 2-hydroxyvertixanthone (5), and two known anthraquinones (6 and 7). The structures of the new compounds 1-4 were elucidated by NMR and MS techniques, and the relative stereochemistry of 1 was determined by X-ray crystallographic analysis. Of the compounds encountered, 1 was found to exhibit strong cytotoxicity against a panel of seven human solid tumor cell lines, disrupt the cell cycle leading to the accumulation of cells in either G₂/M or S phase, and induce classic signs of apoptosis. © 2006 Elsevier Ltd. All rights reserved.

Inform me when this document is cited in Scopus:

[Set citation alert >](#)

[Set citation feed >](#)

Related research data

CCDC 610092: Experimental Crystal Structure Determination
Wijeratne, E.M.K., et al
Date of Collection: 2015
Cambridge Crystallographic Data Centre

Data linking provided by 

Related documents

Globosumones A-C, cytotoxic orsellinic acid esters from the sonoran desert endophytic fungus *Chaetomium globosum*
Bashyal, B.P., Kithsiri Wijeratne, E.M., Faeth, S.H.
(2005) *Journal of Natural Products*

Antifungal aranzhlinone from the

<https://doi.org/10.5517/ccngvdb>



Details

CCDC Number: 610092

3D view

Chemical diagram

Associated documents

CCDC Number	CCDC Details	Synonyms	Deposited on
610092	E.M.K. Wijeratne, T.J. Turbyville, A. Fritz, L. Whitesell, A.A.L. Gunatilaka. CCDC 610092: Experimental Crystal Structure Determination, 2014. DOI: 10.5517/ccngvdb	10 ⁴ , 20 ⁴ & 10 ⁴ hydroxy-1,2-dihydroxanthrone-1-carboxylic acid methyl ester	05/05/2006

Associated publications

E.M.K. Wijeratne, T.J. Turbyville, A. Fritz, L. Whitesell, A.A.L. Gunatilaka. Bioorganic & Medicinal Chemistry, 2006, 14, 7917. DOI: 10.1039/b604954g

Looking at citations

Data from: Impact of negative frequency-dependent selection on mating pattern and genetic structure: a comparative analysis of the S-locus and nuclear SSR loci in *Prunus lannesiana* var. *speciosa*

Kato Shuri, Teruyoshi Nagamitsu, Hiroyoshi Iwata, Yoshihiko Tsumura, Yuzuru Mukai, K Michiharu, K Saika & K Junko
Version 1 of Dataset published 2012 in [DRYAD](#)

Mating processes of local demes and spatial genetic structure of island populations at the self-incompatibility (S-) locus under negative frequency-dependent selection (NFDS) were evaluated in *Prunus lannesiana* var. *speciosa* in comparison with nuclear simple sequence repeat (SSR) loci that seemed to be evolutionarily neutral. Our observations of local mating patterns indicated that male-female pair fecundity was influenced by not only self-incompatibility, but also various factors such as kinship, pollen production and flowering synchrony. In spite of the mating bias caused by these factors, the NFDS effect on changes in allele frequencies from potential mates to mating pollen was detected at the S-locus but not at the SSR loci although the changes from adult to juvenile cohorts were not apparent at any loci. Genetic differentiation and isolation-by-distance over various spatial scales were smaller at the S-locus than at the SSR loci, as expected under the NFDS. All allele sharing distributions among the populations also had a unimodal pattern at the S-locus, indicating the NFDS effect except for alleles unique to individual populations probably due to isolation among islands, although this pattern was not exhibited by the SSR loci. Our results suggest that the NFDS at the S-locus has an impact on both the mating patterns and the genetic structure in the *P. lannesiana* populations studied.

DOI registered April 17, 2012 via DataCite.

1 Citation 99 Views 16 Downloads

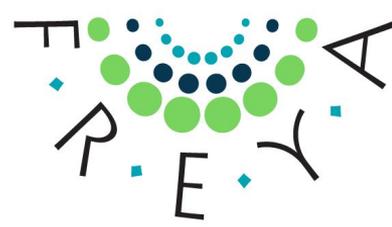
[Dataset](#) [English](#)

<https://doi.org/10.5061/dryad.7c425>

Examples of Scholix in use

- <https://makedatacount.org/implementation/>
 - <https://www.scholcommlab.ca/research/data-citation/>
- <https://www.osti.gov/ostigov-links-research-results>
 - <https://www.osti.gov/biblio/1618569-association-mapping-aerial-dron-e-reveals-genetic-associations-sorghum-bicolor-biomass-traits-under-drought>
- https://europepmc.github.io/techblog/literature_data_integration/2018/06/04/integrating-literature-and-data.html
 - <https://europepmc.org/article/MED/28818901>
- <https://scholexplorer.openaire.eu/>

Relation to the PID Graph

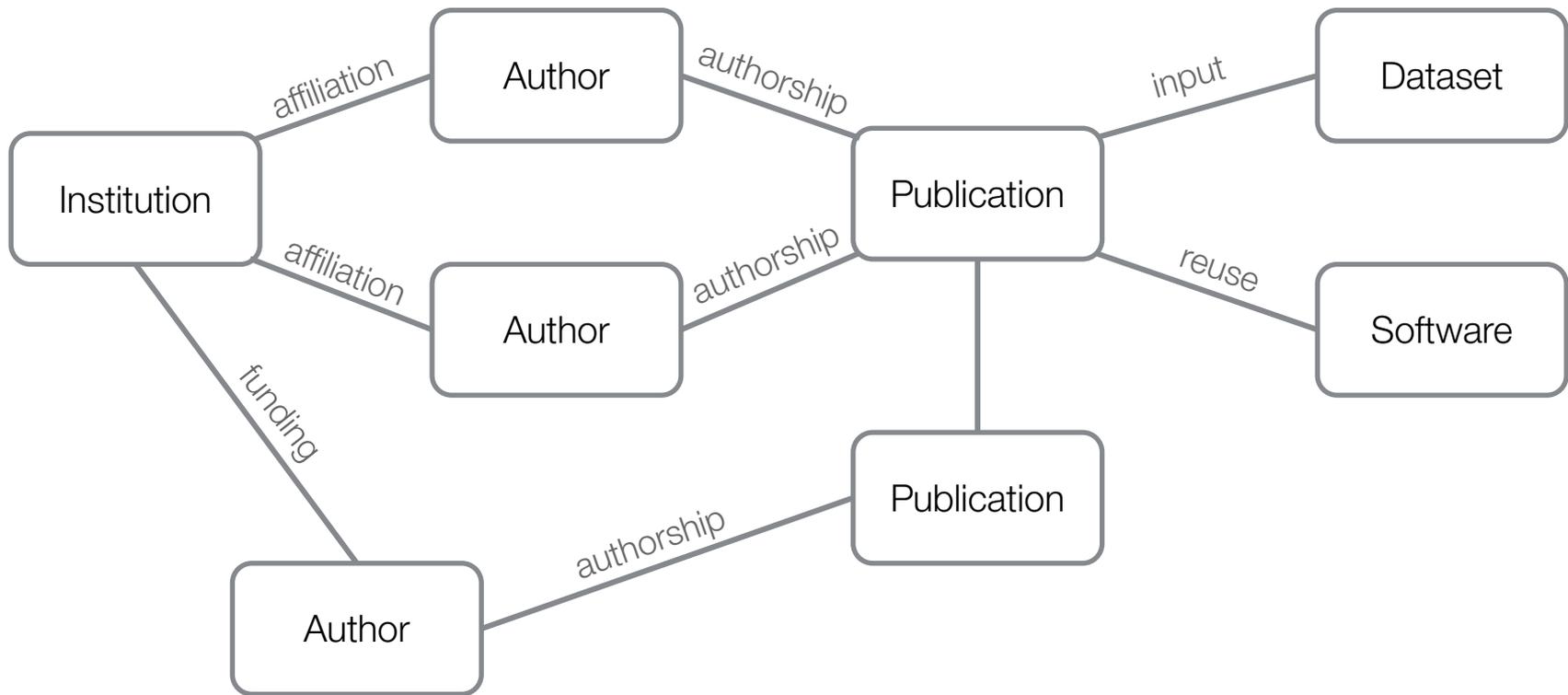


Research is already a graph

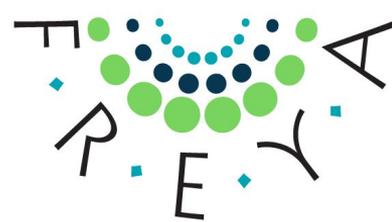
Researchers, institutions, publications, datasets, and more are interconnected.

Entities and the relationships between them form a conceptual graph of the connected research landscape.

It could look like this

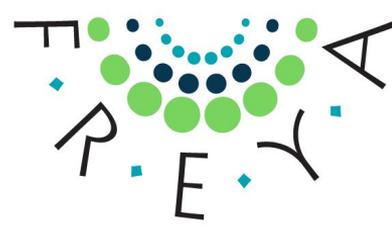


PIDs are the backbone of connected research



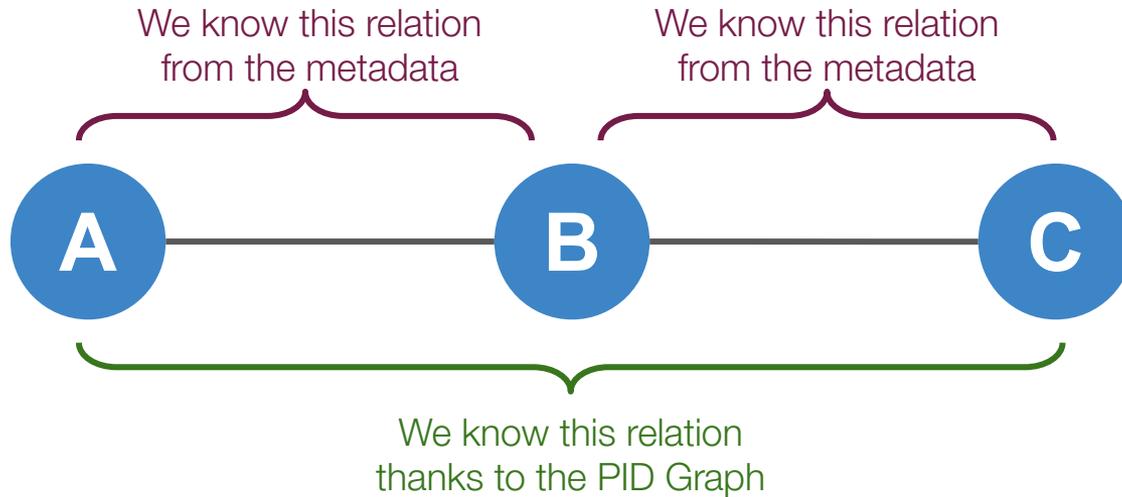
Having unique persistent identifiers for researchers and their outputs is crucial to connecting pieces of the research landscape together.

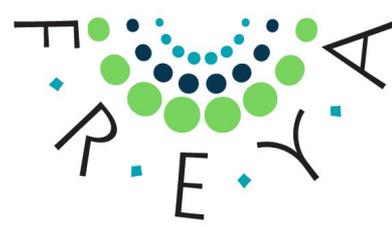
PIDs already have the potential to enable the connected research graph, but we're not yet taking full advantage of their connecting powers.



Enter the PID Graph

We can link PIDs together via relations in their metadata to enable the discovery of connections at least two “hops” away.





The PID Graph concept

FREYA partners will implement services that enable their local PID Graph.

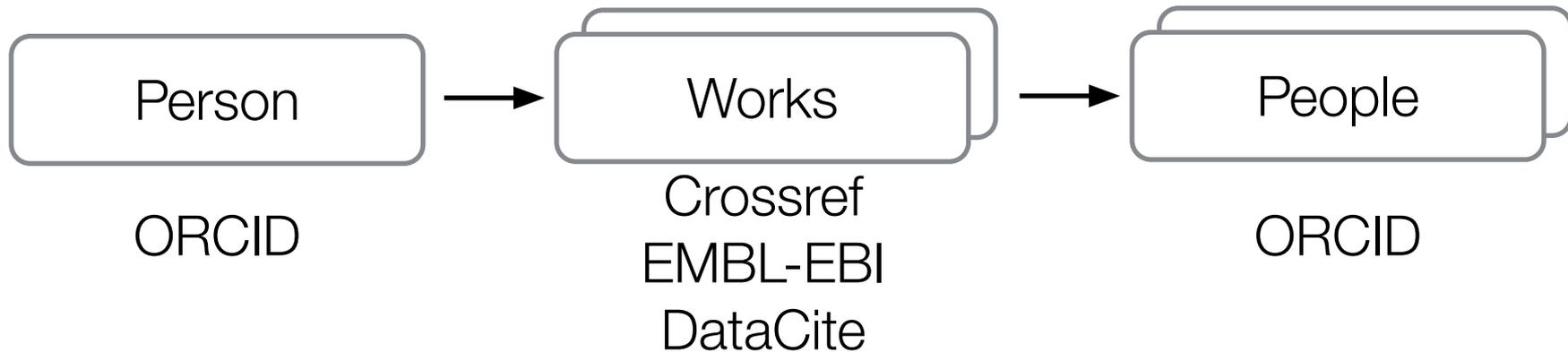
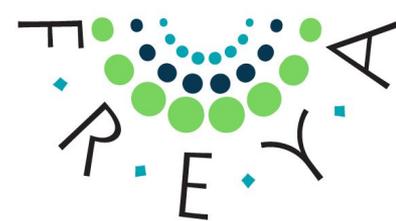
Looking up a single PID in these services should return the graph for that PID.

Infrastructural partners and the magic of related identifiers bring these local graphs together.

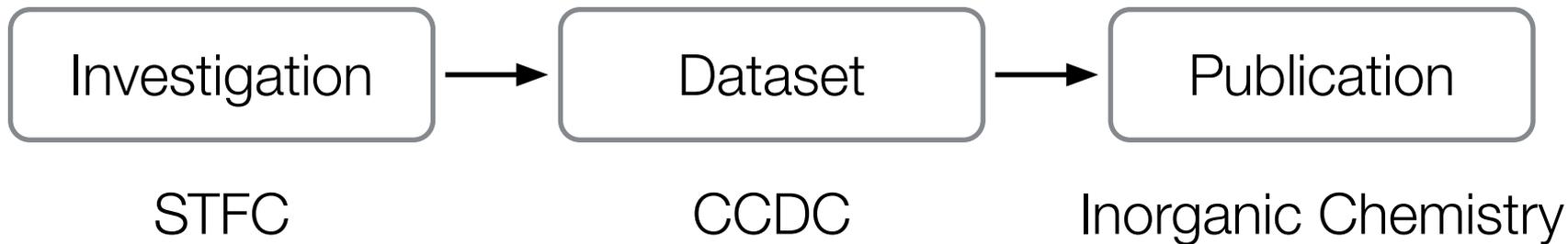
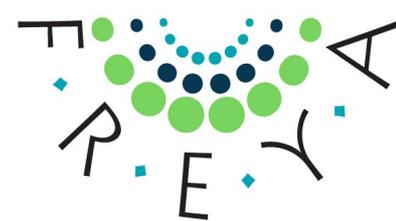
Users can tap into this PID Graph for use in their own applications.

**What questions could the PID Graph
answer?**

Who are all the co-authors of a particular researcher?



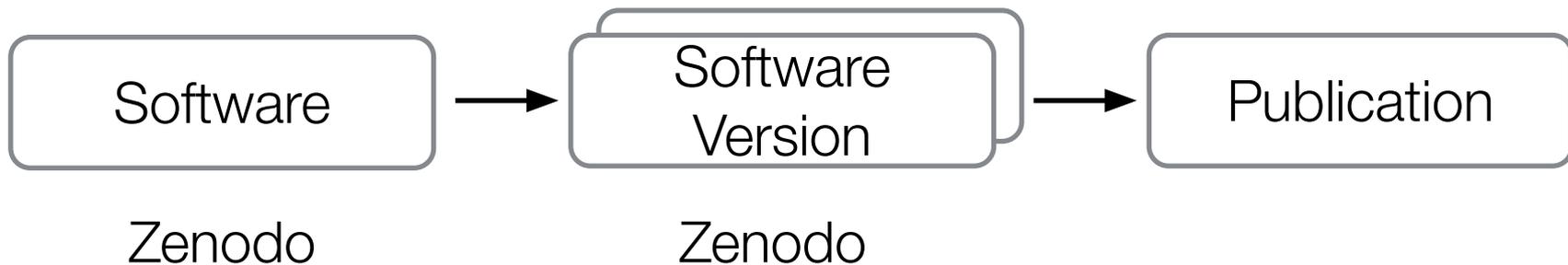
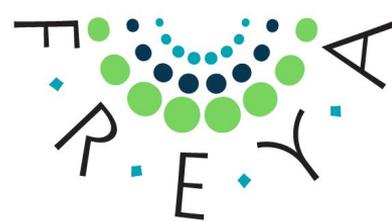
Which publications used STFC investigations for the underlying data?



Which publications cite papers based on PANGAEA data?



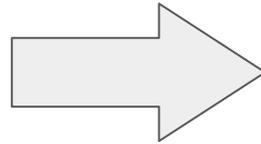
Which publications cite any version of a piece of software?



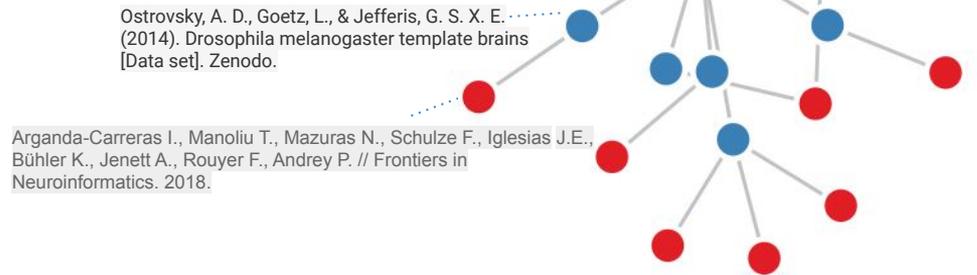
Which datasets, funded by the European Commission, have been cited by a journal article?



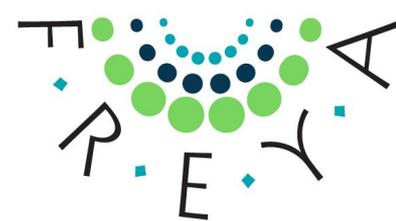
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- Dataset
- Article
- Funder

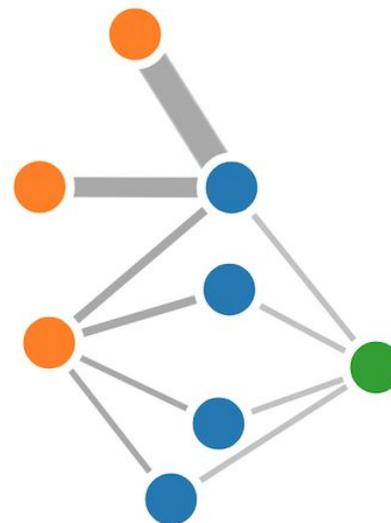
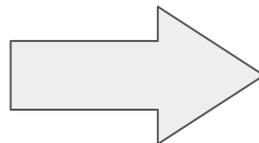


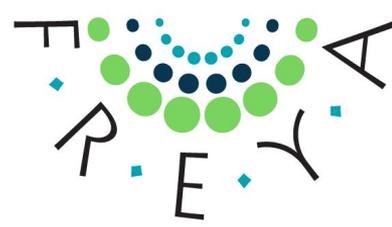
How many citations and repository usage counts do a researchers' datasets have?



- Dataset
- Article
- Researcher

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Working with other initiatives

To expand and improve the PID Graph, FREYA needs to work with other initiatives.

We have started these collaborative activities via RDA, such as the recent Research Data Graph BoF that involved representatives from FREYA, OpenAIRE, Scholix, and DDRI. The BoF will be taken forward as an Interest Group at future RDA meetings.

<https://blog.datacite.org/powering-the-pid-graph/>
<https://pidforum.org/c/pid-graph/17>



Thank you!
Questions?

research data sharing without barriers
rd-alliance.org