

Ricgraph

Research in context graph introduction & developments

Presentation at Utrecht University Library
Publishing Support & Research Data Services
November 3, 2025

Rik D.T. Janssen
Utrecht University
r.d.t.janssen@uu.nl

 0000-0001-9510-0802

www.ricgraph.eu

Contents

- Ricgraph introduction
- Developments
- Questions
- Demo
- Discussion

What is Ricgraph - Research in context graph?

Ricgraph enables the exploration of

- researchers, teams, their results, collaborations, skills, ...
- and their relations
- using a graph (network)

These originate from

- various systems and multiple organizations

You can

- explore research information
- infer (new) relations

What if...

we look at research information as a network (graph)?

- We have relations between items
- Related items are neighbors
- We can “walk” from one item to another
- No duplicates



person



article



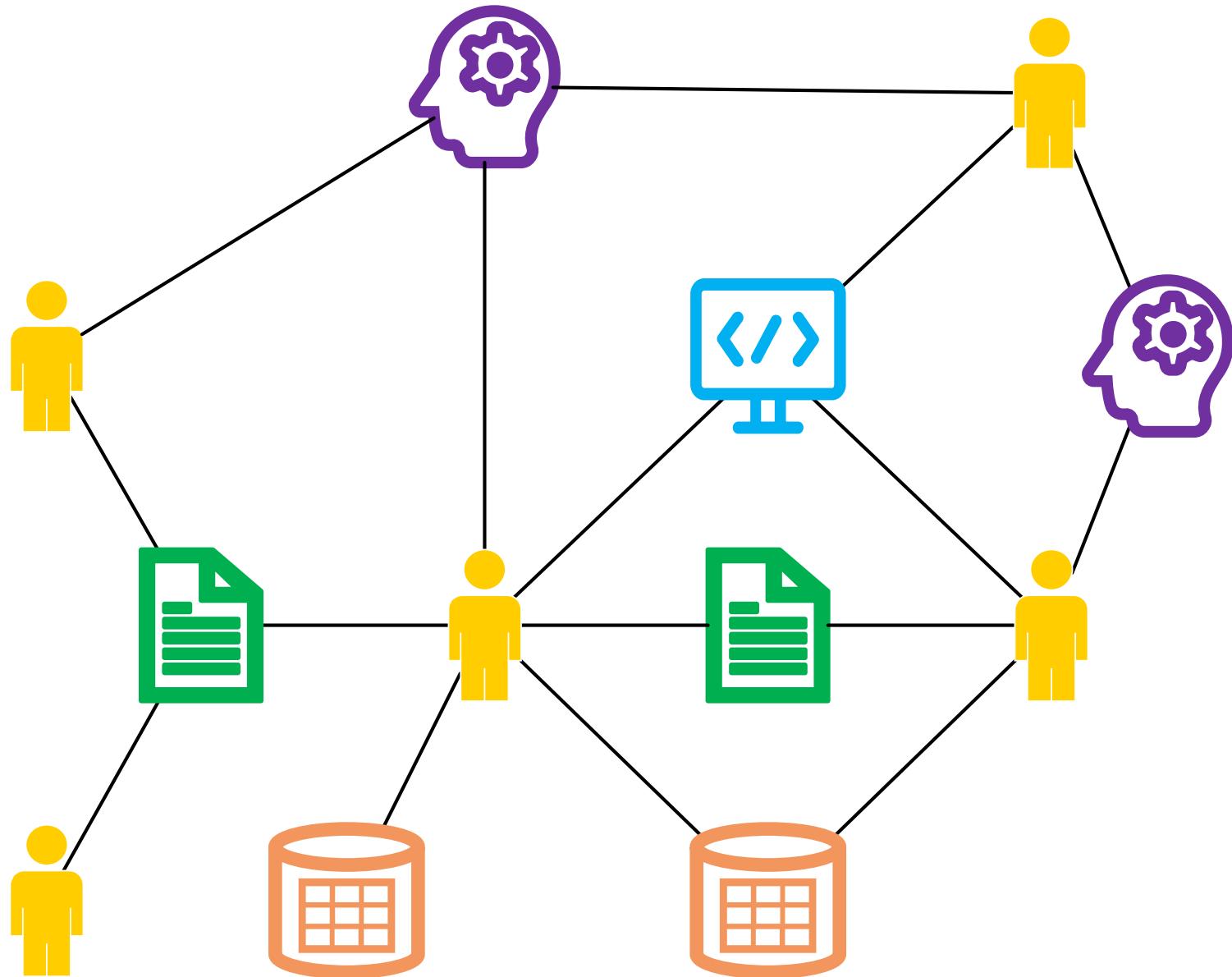
data set



software

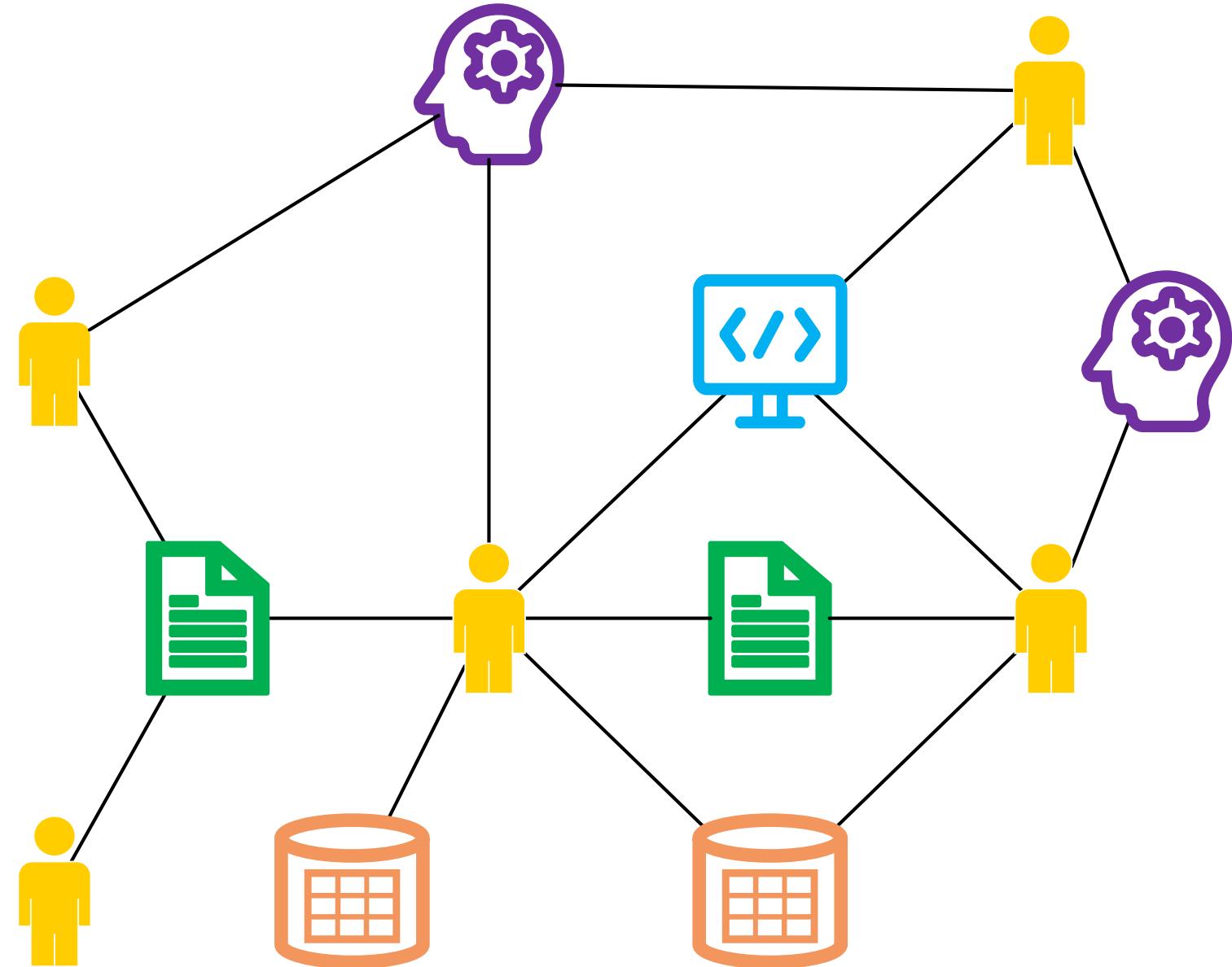
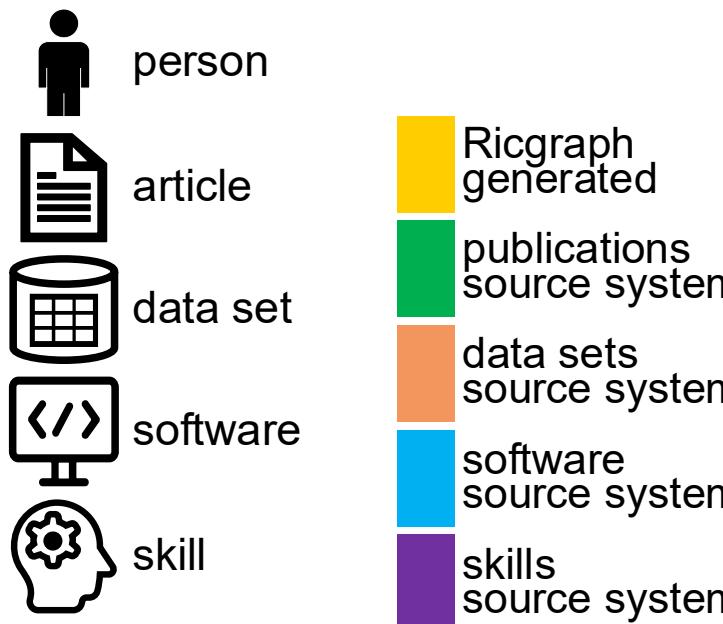


skill



What is Ricgraph?

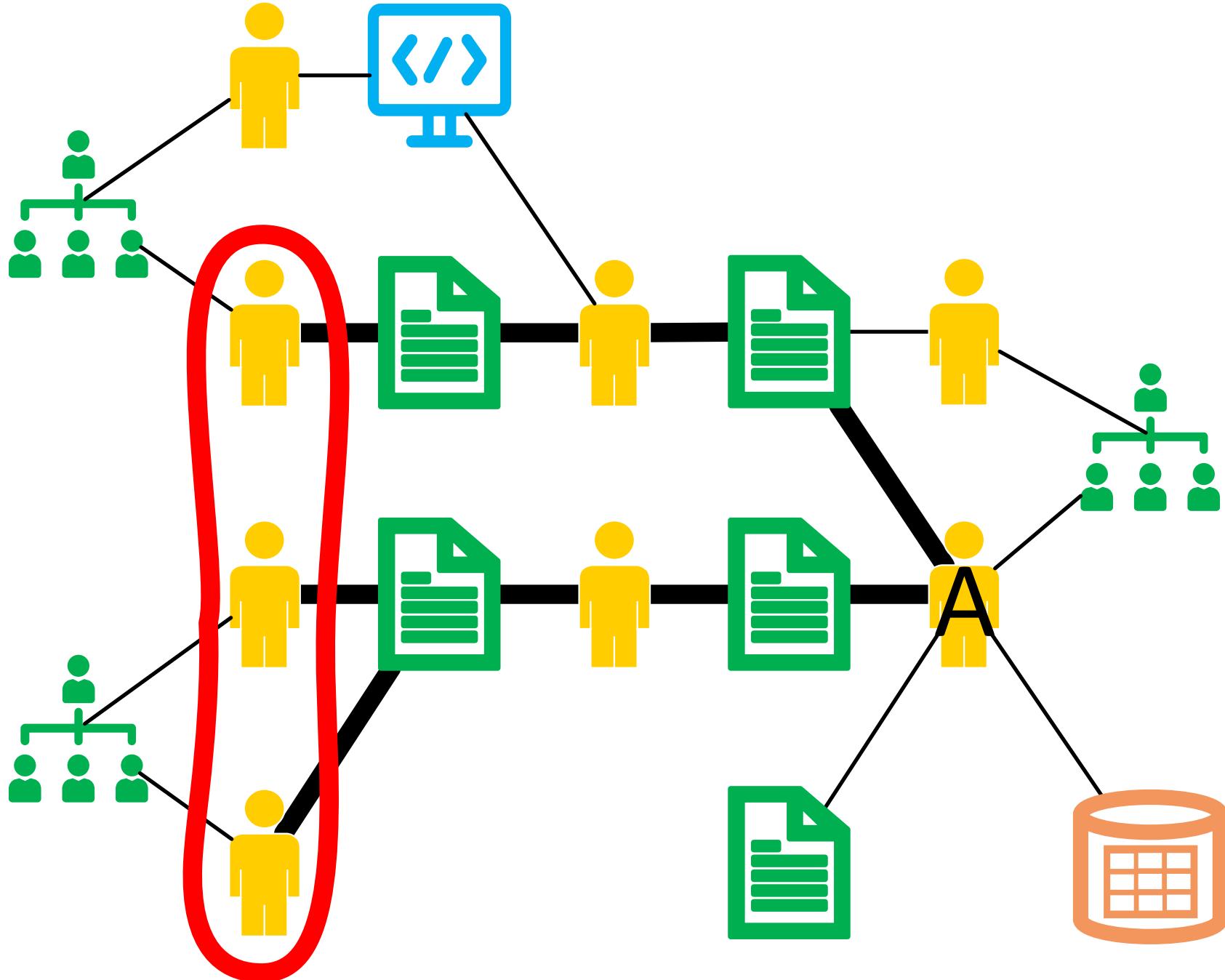
- many types of items in a single graph
- multiple source systems
- facilitates reasoning: infers new relations between items



What can Ricgraph do?

Use case

As researcher A, I want to find co-authors of my co-authors from other organizations, so that I can read their publications to find out if we share common research interests

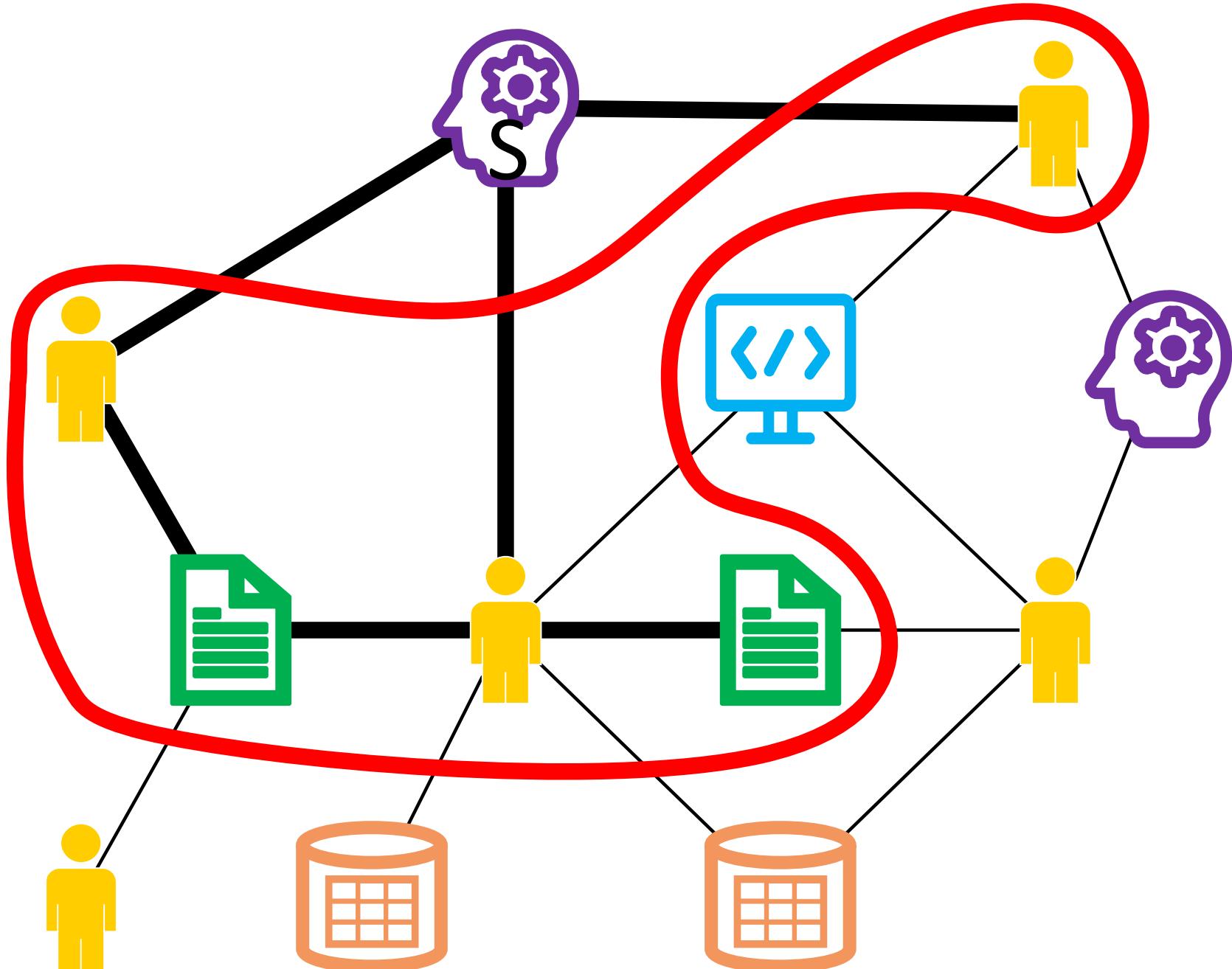


What can Ricgraph do?

Use case

As a journalist, I want to find experts with skill S and their publications, so that I can interview them for a newspaper article

Example skill: climate change, stem cells

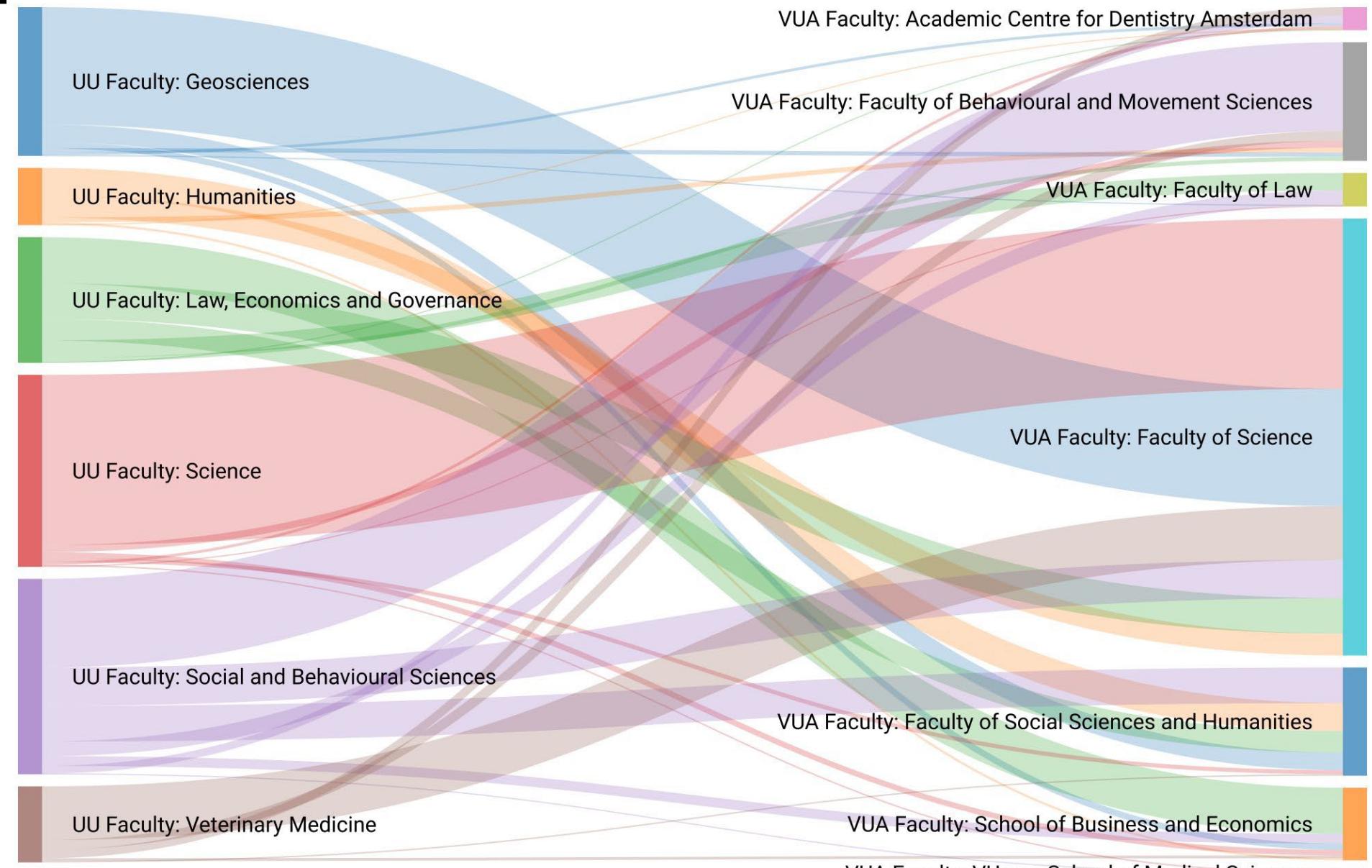


Ricgraph developments

What can Ricgraph do?

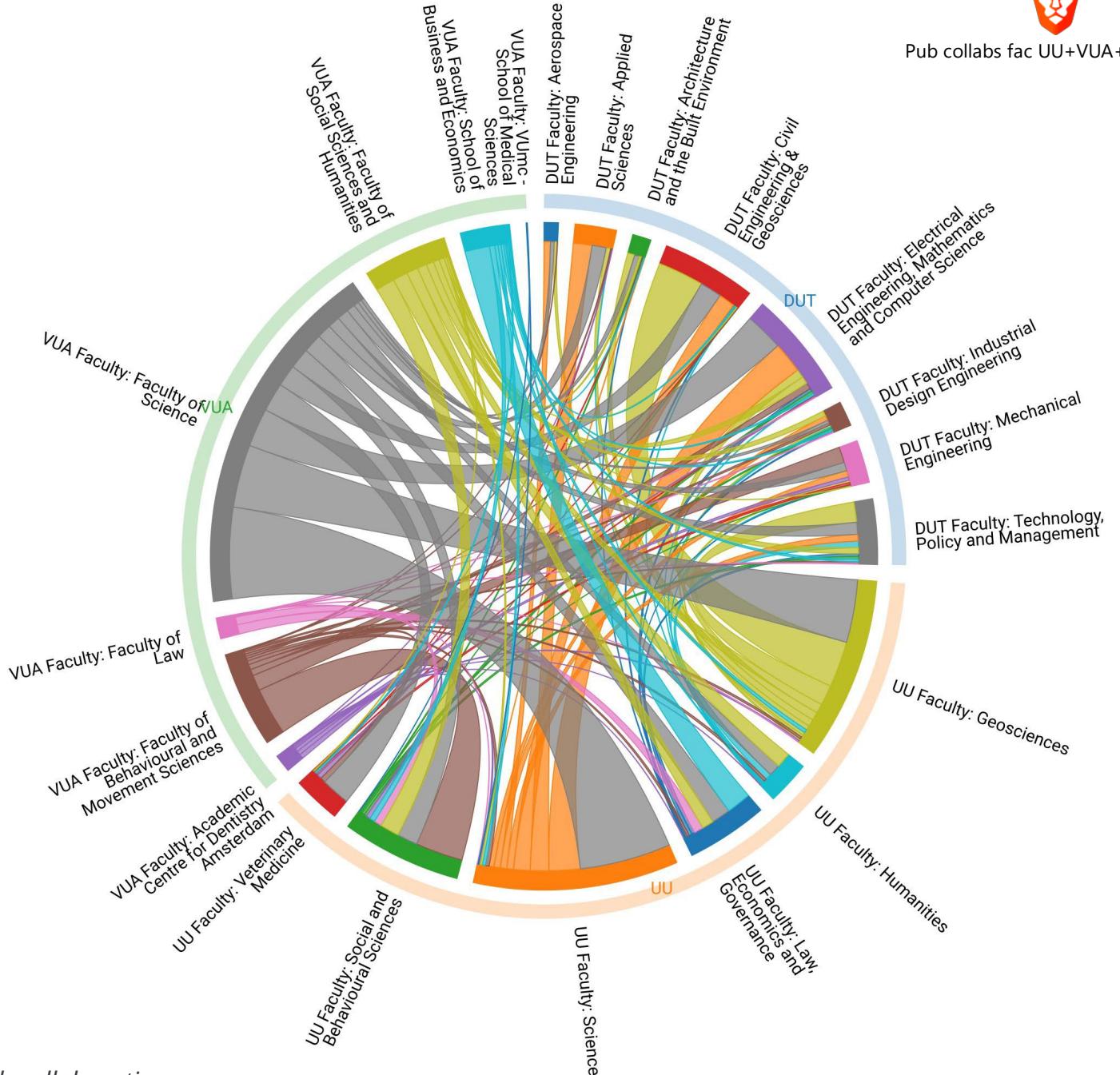
Publication collaborations

- UU and VUA faculties, 2022 – July 2025
- Total 1139 collaborations
- Example: UU Geosciences has 168 collaborations with VUA Science

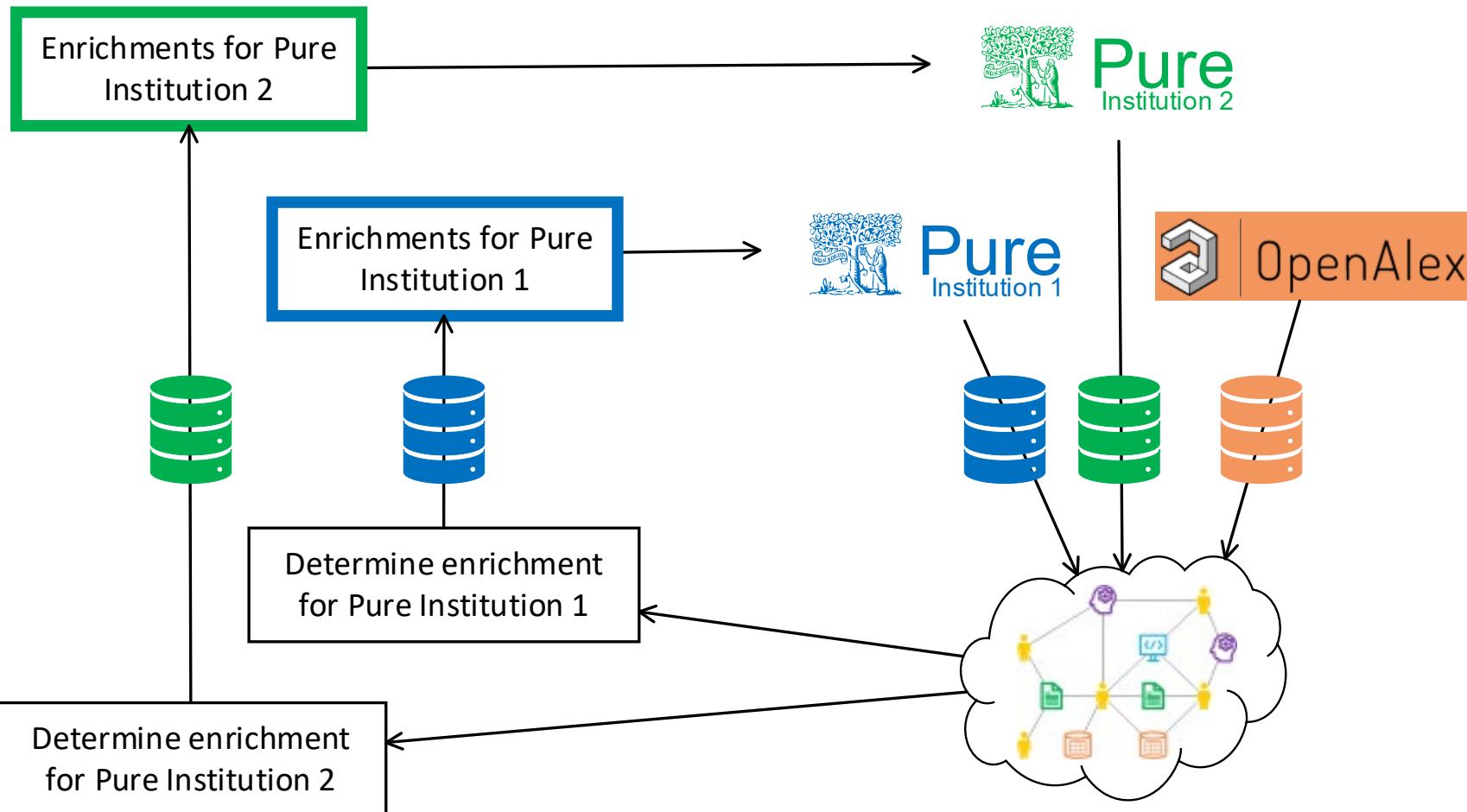


What can Ricgraph do? Publication collaborations

- UU, VUA, and DUT faculties, 2022 - July 2025
- Example: UU Geosciences has 168 collaborations with VUA Science, and 123 with DUT Civil Engineering & Geosciences



Enriching Pure from OpenAlex and other Pures using BackToPure



Other developments

- Ricgraph chatbot → David Grote Beverborg
- Clean up external organizations in Pure → David
- General harvester → 6 HU students, sept 2025 – jan 2026
- Topics using AI & LLMs → 1 HU student, start ~nov 2025
- Security scan → HU students, ~nov 2025 – jan 2026
- Modern frontend backend UI → 1 HU student

How to use Ricgraph?

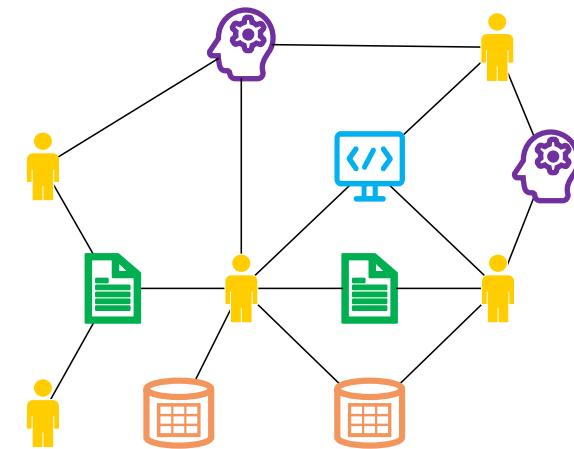
Install it on your own laptop or server:

- full control
- choose your own source systems and organizations

Use the pilot Open Ricgraph demo server

<https://explorer.ricgraph.eu>:

- nothing to install
- DUT Pure, OpenAlex, and Research software directory



Questions

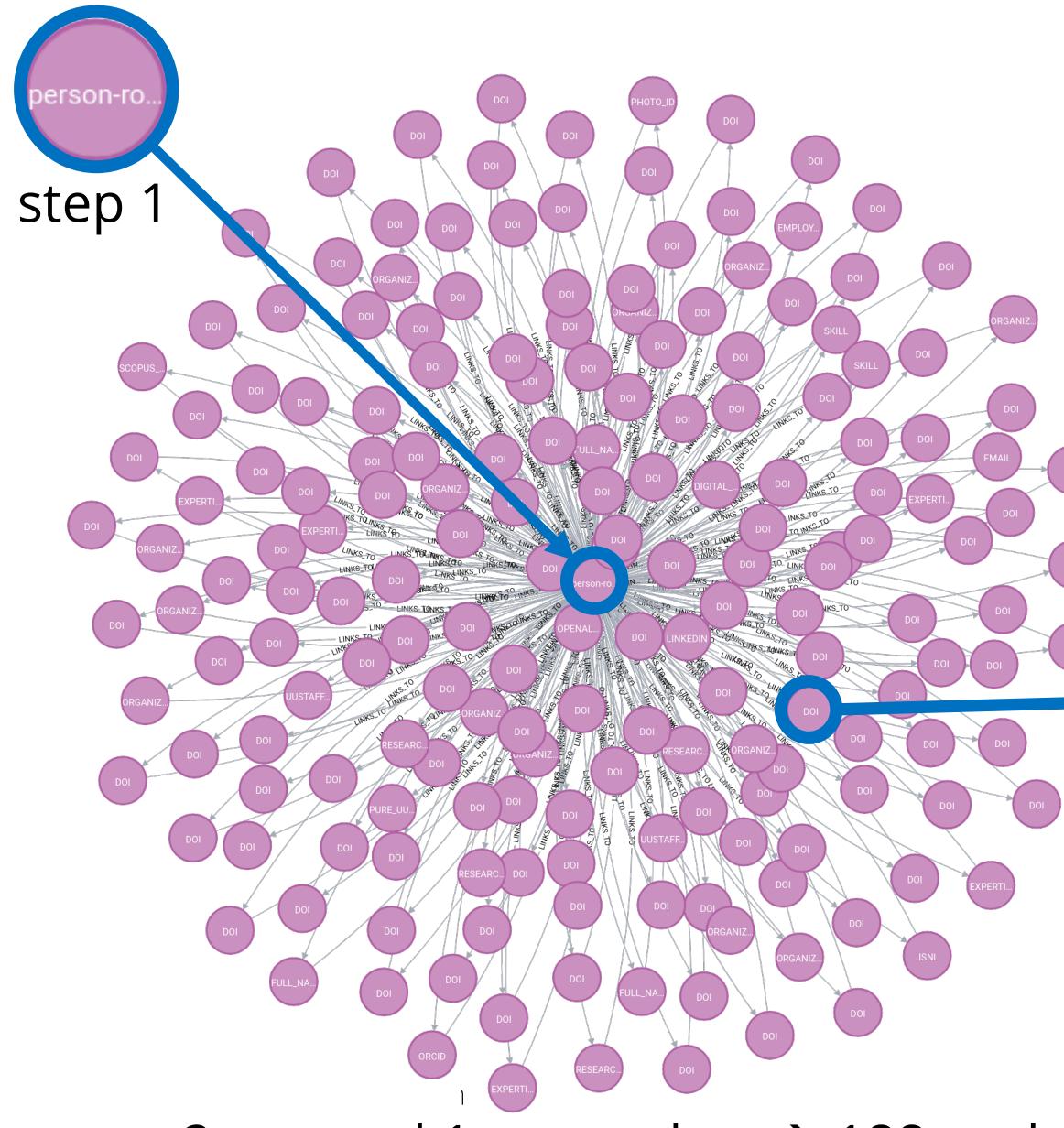
Demo

Discussion

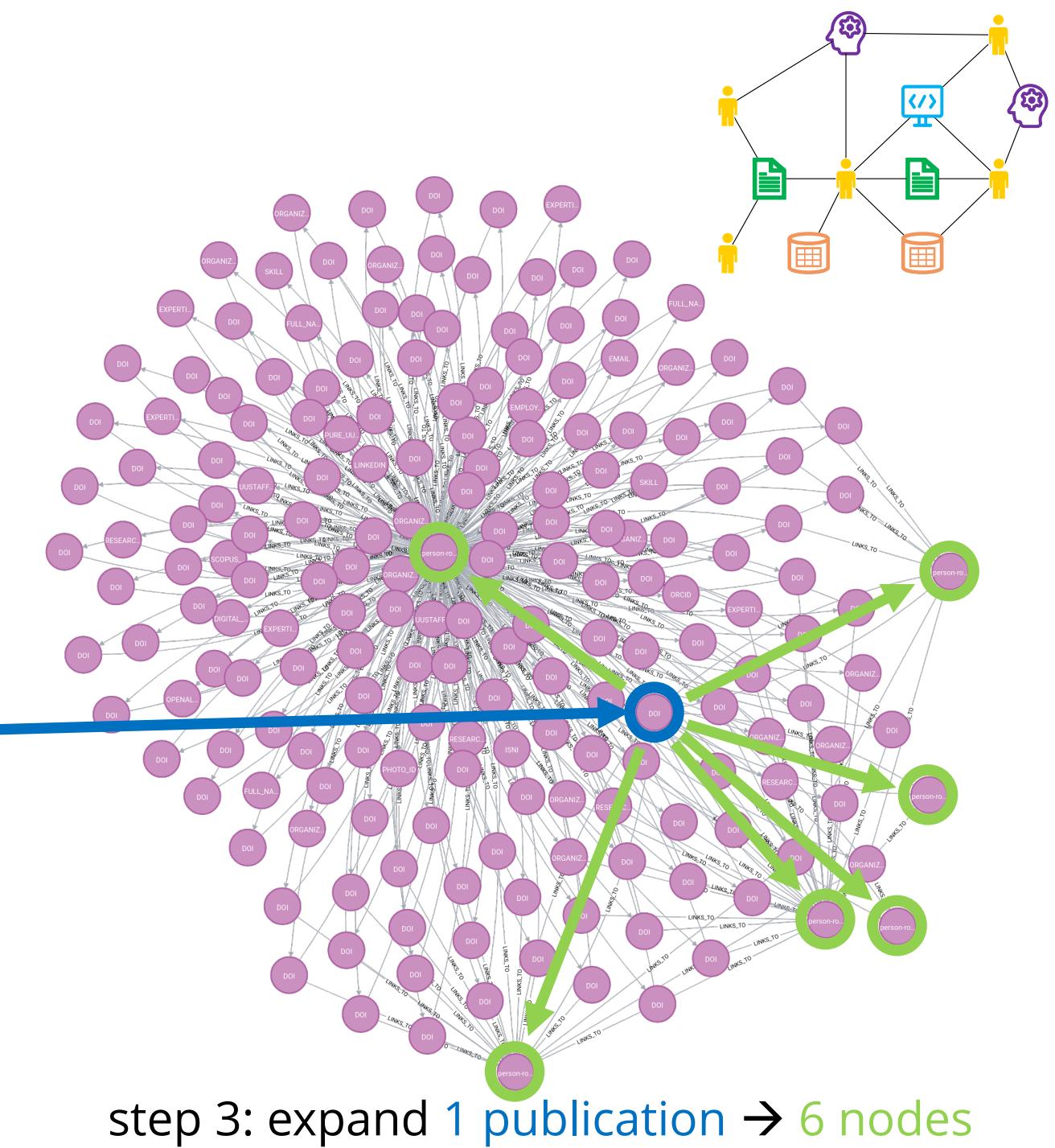
Possible topics:

- UI design for researchers? → see next slide
- (Limited) content coverage?
- Standardization of metadata formats? Is this a problem?
- Handling requests to change the access and content from specific disciplines?
- Competition with other services?

Visualization of a graph is not easy



step 2: expand 1 researcher → 188 nodes



Visualization approach chosen in Ricgraph Explorer

Can be modified depending on your use case

step 2: expand researcher
→ 188 nodes

Ricgraph Explorer Home Broad search Advanced search REST API doc ▶ Click for information about your search

Ricgraph Explorer found item:									
name ▾	category ▾	value ▾	comment ▾	year ▾	url_main	url_other	source	history	
FULL_NAME	person	van Sebille, E.					• Pure-UU	▶ Click for history	

Histogram

This is personal information related to this person:

EXPERTISE_AREA (5)	RESEARCH_AREA (4)	FULL_NAME (3)	SKILL (2)	OPENALEX (1)	LINKEDIN (1)	PHOTO_ID (1)	EMAIL (1)	UUSTAFF_ID_PERS (1)	UUSTAFF_PAGE_ID (1)	PURE_UUID_PERS (1)	ORCID (1)	ISNI (1)	SCOPUS_AUTHOR_ID (1)	DIGITAL_AUTHOR_ID (1)	EMPLOYEE_ID (1)

There are 26 rows in this tabbed table.

List of EXPERTISE_AREAS:

name ▾	category ▾	value ▾	comment ▾	year ▾	url_main	url_other	source	history
EXPERTISE_AREA	competence	Science Communication			url_main link		• UU staff pages	▶ Click for history
EXPERTISE_AREA	competence	Open Science			url_main link		• UU staff pages	▶ Click for history
EXPERTISE_AREA	competence	Ocean Circulation			url_main link		• UU staff pages	▶ Click for history
EXPERTISE_AREA	competence	Marine Debris			url_main link		• UU staff pages	▶ Click for history
EXPERTISE_AREA	competence	Climate Dynamics			url_main link		• UU staff pages	▶ Click for history

There are 5 rows in this table.

There are 26 rows in this tabbed table.

Filter on "name"

- DOI (147)
- ORGANIZATION_NAME (14)

Filter on "category"

- journal article (58)
- preprint (39)
- review (18)
- organization (14)
- data set (13)
- book chapter (11)
- other contribution (4)
- book (2)
- software (1)
- conference article (1)

refresh

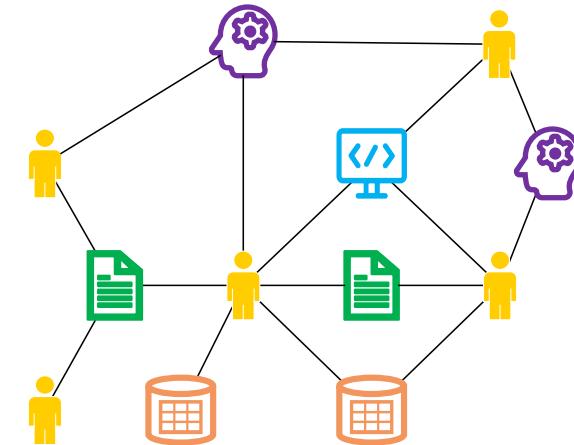
Histogram on "name"

Histogram on "category"

This is other information related to this person:

name ▾	category ▾	value ▾	comment ▾	year ▾	url_main	url_other	source	history
DOI	preprint	10.1002/essoar.10512397.5	Impact impact of Tidal Forcing Tidal Forcing on Surface Particle Transport Properties: Insights from Twin Ocean SimulationsSurface Particle Transport Properties: Insights from Twin Ocean Simulations	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.1002/essoar.10512397.4	Effects of tide induced dynamics on surface transport properties	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	journal article	10.1080/1461670x.2024.2409836	Journalism Versus Churnalism: How News Factors in Press Releases Affect Journalistic Processing of Ocean Plastic Research in Newspapers Globally	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.22541/essoar.170365322.22869313/v3	Disentangling Carbon Concentration Changes Along Pathways of North Atlantic Subtropical Mode Water	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.22541/essoar.172408257.70342970/v1	Stability Bias in Lagrangian Backtracking in Divergent Flows	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.22541/essoar.172372980.07264354/v1	Separation timescales of vertically migrating zooplankton and other (abiotic) materials in the Benguela system	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.5194/egusphere-2024-1596	Possible provenance of IRD by tracing late Eocene Antarctic iceberg melting using a high-resolution ocean model	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.5194/egusphere-2024-1649	Designing and evaluating a public engagement activity about sea level rise	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.22541/essoar.170365322.22869313/v2	Disentangling Carbon Concentration Changes Along Pathways of North Atlantic Subtropical Mode Water	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.5194/egusphere-2024-1002	Non-negligible impact of Stokes drift and wave-driven Eulerian currents on simulated surface particle dispersal in the Mediterranean Sea	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.5194/egusphere-egu24-13046	Non-negligible impact of Stokes drift and wave-driven Eulerian currents on simulated surface particle dispersal in the Mediterranean Sea	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	preprint	10.5194/egusphere-2024-543	The (non)effect of personalization in climate texts on credibility of climate scientists	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	review	10.5194/egusphere-2023-2730.ac2	Reply on RC2	2024	url_main link		• OpenAlex-UU	▶ Click for history
DOI	software	10.5281/zenodo.823961	Parcels	2024	url_main link	url_other link	• Research Software Directory-UU	▶ Click for history
DOI	data set	10.24416/uu01-05b2at	Code and data for "Disentangling Carbon Concentration Changes Along Pathways of North Atlantic Subtropical Mode Water"	2024	url_main link		• Yoda-DataCite	▶ Click for history
DOI	data set	10.24416/uu01-qcoob8	Global Marine Plastic Mass Budget	2024	url_main link		• Yoda-DataCite	▶ Click for history
DOI	journal article	10.12688/openresreurope.16913.2	Modelling drift of cold-stunned Kemp's ridley turtles stranding on the Dutch coast	2024	url_main link	url_other link	• OpenAlex-UU	▶ Click for history
DOI	journal article	10.5194/gc-7-201-2024	The (non)effect of personalization in climate texts on the credibility of climate scientists	2024	url_main link	url_other link	• Pure-UU	▶ Click for history
DOI	journal article	10.1029/2023-020814	Disentangling Carbon Concentration Changes Along Pathways of North Atlantic Subtropical Mode Water	2024	url_main link	url_other link	• OpenAlex-UU	▶ Click for history
DOI	journal article	10.5194/gc-7-91-2024	Evaluating the impact of climate communication activities by scientists	2024	url_main link	url_other link	• Pure-UU	▶ Click for history
DOI	conference article	10.22323/2.23010201	A comparative study of frames and narratives identified within scientific press releases on ocean climate change and ocean plastic	2024	url_main link	url_other link	• Pure-UU	▶ Click for history
DOI	journal article	10.5194/os-20-31-2024	Assessing the drift of fish aggregating devices in the tropical Pacific Ocean	2024	url_main link	url_other link	• OpenAlex-UU	▶ Click for history

There are 161 rows in this table.



Links

- Websites: www.ricgraph.eu and docs.ricgraph.eu
- Reference publication: Rik D.T. Janssen (2024). *Ricgraph: A flexible and extensible graph to explore research in context from various systems*. SoftwareX, 26(101736). <https://doi.org/10.1016/j.softx.2024.101736>
- Rik D.T. Janssen (2025). *Utilizing Ricgraph to gain insights into research collaborations across institutions, at every organizational level*. [preprint]. <https://doi.org/10.2139/ssrn.5524439>.
- GitHub (software): <https://github.com/UtrechtUniversity/ricgraph>
- Zenodo: <https://doi.org/10.5281/zenodo.7524314>
- BackToPure: <https://github.com/UtrechtUniversity/BackToPure>

More information, presentations, demos, install workshops:
• Rik D.T. Janssen, r.d.t.janssen@uu.nl



**Utrecht
University**

Sharing science,
shaping tomorrow

 Ricgraph