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This application, developed by UBICS, provides a comprehensive tool for retrieving a list of publications indexed in the OpenAlex database. It delivers detailed bibliometric data, journal statistics, author collaboration networks, concept networks, institutional networks, and information on interdisciplinarity. Additionally, it includes centrality measures and statistics on funding sources, offering a thorough analysis of scholarly impact and collaboration.

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# Search methods

## Search by:

The image shows three blue rounded rectangular buttons arranged horizontally. The first button is labeled 'Parameters', the second 'Files', and the third 'Collaboration'. Below each button is a list of search criteria or instructions.

- Parameters**
  - Affiliation name
  - Research Organization Registry (ROR) ⓘ
  - Author name
  - ORCID ⓘ
  - ISSN ⓘ
  - Keywords ⓘ
  - Topics ⓘ
- Files**

Upload a .dat file with an ORCIDs or DOIs list.
- Collaboration**

Explore the collaboration network between universities by entering the ROR IDs.

There are three ways to search:

- **Parameters**

There are several filters you can use:

- Affiliation

An affiliation refers to the institutional or organizational association of an author. This could be a university, research institute, or any other research-oriented organization where the author is based or employed.

- ROR

The Research Organization Registry (ROR) filter enables you to search publications by the ROR identifier of institutions. ROR is a unique, persistent identifier for research organizations, ensuring accurate and consistent identification of institutions across different databases and publications.

- Author

An author is an individual who has written or contributed to a publication. Use this filter to search for publications by entering an author's name.

- ORCID

The Open Researcher and Contributor ID (ORCID) is a unique identifier assigned to individual researchers. It ensures that their work is attributed to the correct person, even if they have a common name.

- ISSN

International Standard Serial Number (ISSN) is a unique code used to identify serial publications such as journals, magazines, and newspapers. It helps distinguish between different serials.

- Keyword

A keyword is a specific term or phrase that describes the main topics or themes of a publication. Keywords help in indexing and searching for content related to particular subjects.

- Topic

A topic refers to a broader subject area or field of study under which research publications are categorized. Topics represent general academic disciplines or research themes.

▲ Search fields are accent-sensitive

not Affiliation name ▾ Princeton, Ami Bhatt, Kuramoto model...

+ search field

You can use the select button to choose the filter that best suits your search criteria. If you wish to exclude this filter from your search results, click the "Not" button located to the left of the select button to apply it as a Boolean operator.

You can type directly into the input field. When using the ROR, Author, Keyword, or Topic filters, as you type, a list of options will appear to help you select from relevant choices. You can check as many checkboxes as needed to select multiple options. Remember to click the checkmark button to confirm your selections.

Barcelona

- University of Barcelona (UB)
- Autonomous University of Barcelona (UAB)
- Barcelona Supercomputing Center (BSC)
- Barcelona Media (BM)
- Starlab Barcelona SI

All ✓

If you want to add another field to apply multiple filters in the same search, click the "+ Search" button below the input field.

▲ Search fields are accent-sensitive

not Affiliation name ▾ Princeton, Ami Bhatt, Kuramoto model...

and ▾

not ROR ▾ Princeton, Ami Bhatt, Kuramoto model... 

+ search field

A new input field will appear, along with a garbage bin icon next to it that you can click to delete the field if needed. You can also use Boolean operators like "AND" or "OR" and create new queries to refine your search further.

You can add as many fields as you want.

To start your search, click on the search icon.

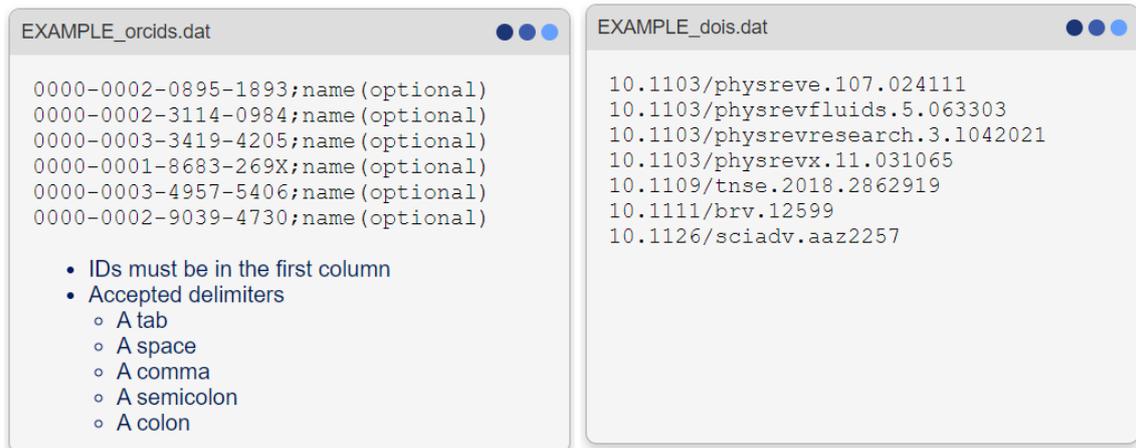


If you want to define a specific date range, click the calendar icon next to the search field to choose the years you wish to include.

## • Files



You can also perform a search by uploading a file containing a list of ORCID IDs or DOIs. Simply upload your file and the system will process the list to retrieve the publications.



In case you want to search by ORCID IDs you may choose the date range.

## • Collaboration

Our collaboration tool emphasizes connections between institutions, focusing on the collective impact rather than individual author centrality. Discover how institutions collaborate on scientific research, with options to filter results by discipline and keyword. Highlighting the key authors from each institution, this tool helps you dive deep into academic partnerships across fields. Perfect for gaining insights into large-scale collaborations and interdisciplinary work.

⚠ Search fields are accent-sensitive

Acronym (optional)

Princeton, University of Barcelona, Oxford...

+ filter

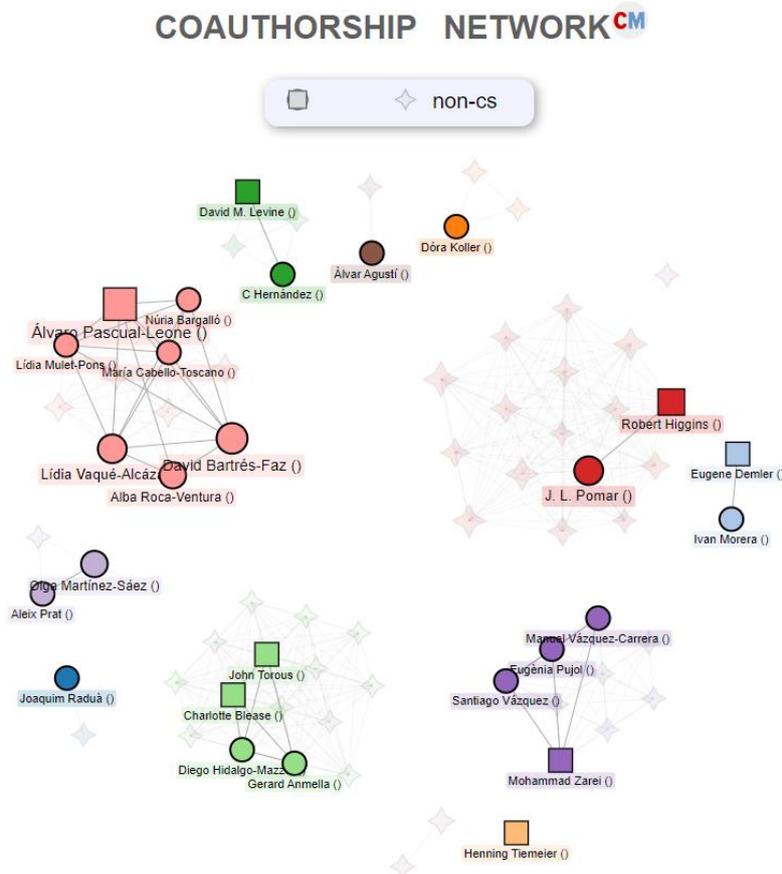
On the left side of the search bar, there's an optional input field where you can enter an acronym to represent the institution in the visualized networks. If you choose not to provide an acronym, the system will automatically generate one using the first letter of each word in the institution's name.

On the right side of the search bar, you can add a discipline or keyword filter to refine your search results.

Directly below the search bar, there's a button to add more institutions to the search. Please note that you must add at least one institution to begin the analysis.

Once you've selected the institutions, you can also specify a date range to focus on collaborations and publications within a particular time frame.

The co-authorship network visualization offers a more insightful perspective compared to searching by ROR as it emphasizes the collaborative relationships between institutions.



# Search Results

The screenshot displays the search results interface. On the left, a blue header contains a 'Hide query panel' button. Below it, the text 'Results for the search query:' is followed by a text input field containing the URL: `https://api.openalex.org/works?filter=raw_affiliation_strings.search:UBICS,authorship`. A 'Search again' button is positioned below the input field. Further down, there are several buttons for network visualizations: 'Coauthorship network', 'Concept network', 'Author statistics', 'Institution Network', 'Funders statistics', and 'Download .csv'. At the bottom of this section is an 'Interdisciplinarity chart' button. On the right side, a summary states: '176 articles were found between 2022-01-01 & 2024-11-01, with a total of 686 citations, making 3.9 as average of citations per article.' Below this, three search results are listed, each with a title, authors, journal name, and a 'Show Journal info' button. The first result is 'Conceptualization of a functional random walker for the analysis of socio-technical systems' by Riccardo Patriarca, Francesco Simone, Oriol Artme, Tarcisio Abreu Saurin, Flavio Sanson Fogliatto, published in *Reliability Engineering and System Safety* (2024). The second is 'Real-time hardware emulation of neural cultures: A comparative study of in vitro, in silico and in duris silico models' by Bernardo Vallejo-Mancero, Sergio Faci-Lázaro, Mireya Zapata, Jordi Soriano, Jordi Madrenas, published in *Neural Networks* (2024). The third is 'Feature-aware ultra-low dimensional reduction of real networks' by Robert Jankowski, Pegah Hozhabrieldi, Marián Bogaña, M. Angeles Serrano, published in *Deleted Journal* (2024).

Once you click the search button, the page will be divided into two sections. On the left side, you'll find an input area where you can modify your query, filter the articles, and access buttons for different network visualizations. This section also provides explanations of all the metrics measured for each publication. On the right side, you'll see all the articles that match your search criteria, along with detailed metrics for each one.

## Left side:

This close-up screenshot focuses on the search query input area. It shows the 'Hide query panel' button at the top left. The text 'Results for the search query:' is followed by a text input field containing the URL: `https://api.openalex.org/works?filter=raw_affiliation_strings.search:UBICS,authorship`. A 'Search again' button is located at the bottom right of the input area.

You can modify the query and click the Search button again to perform a search with your updated query.

Below that, you will find several buttons that allow you to create different network visualizations.



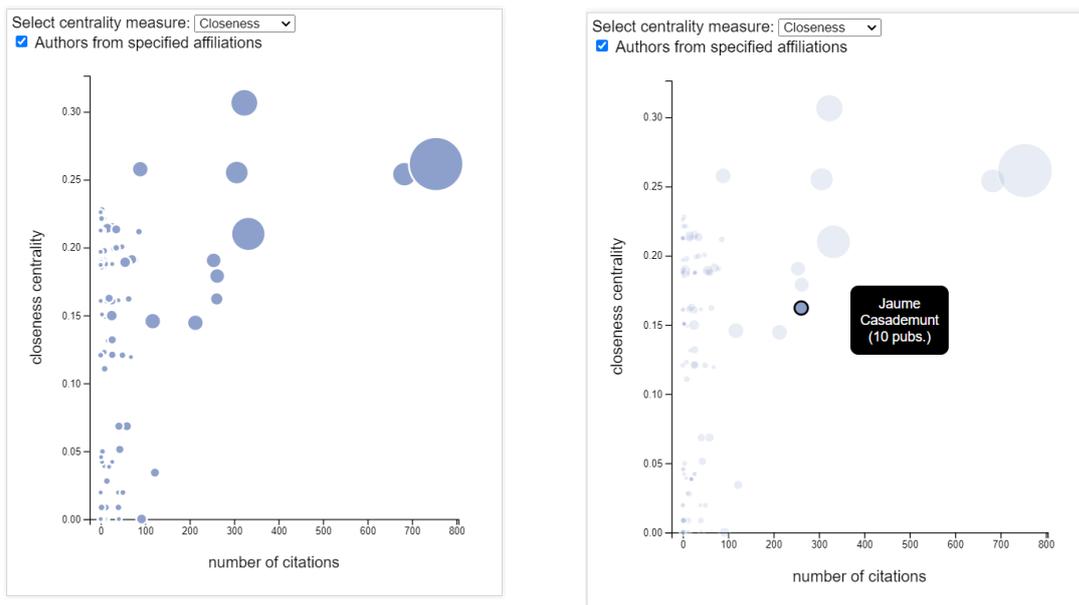
- **Networks and statistics:**

### Coauthorship network

When entering the coauthorship network, a sidebar will appear with several options. If you prefer, you can hide the sidebar to have a clearer view of the network. Simply toggle the sidebar to show or hide it as needed. A slider will allow you to set the minimum number of publications required for an author to appear in the network, with a default value set to 5. You can adjust this value as you wish. After selecting the minimum number, you can further refine the network by

selecting or excluding specific authors. If you search by affiliation, institution, author, or ORCID, a checkbox will appear, allowing you to filter the network to display only authors from that particular affiliation or institution. By default, the network includes all authors from the articles.

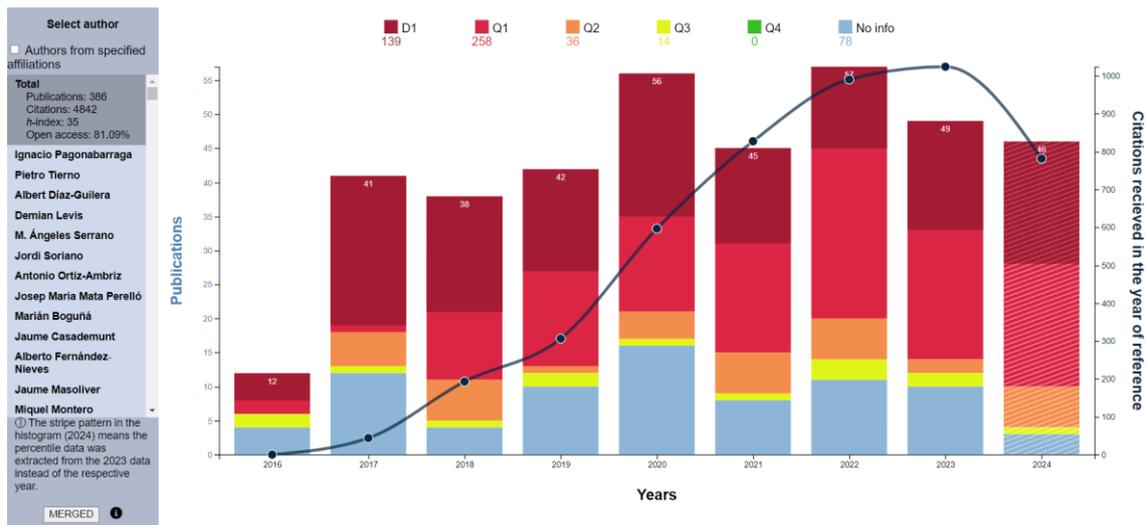
The network itself is interactive, allowing you not only to choose which authors appear but also to reposition the nodes, moving them to different locations as you prefer. In the lower-left corner, you will find options to UPDATE the network once you've modified the list of authors to display. There is also a CENTRALITY button that displays a centrality graph, which can be calculated using measures like closeness, betweenness, or eigenvector centrality.



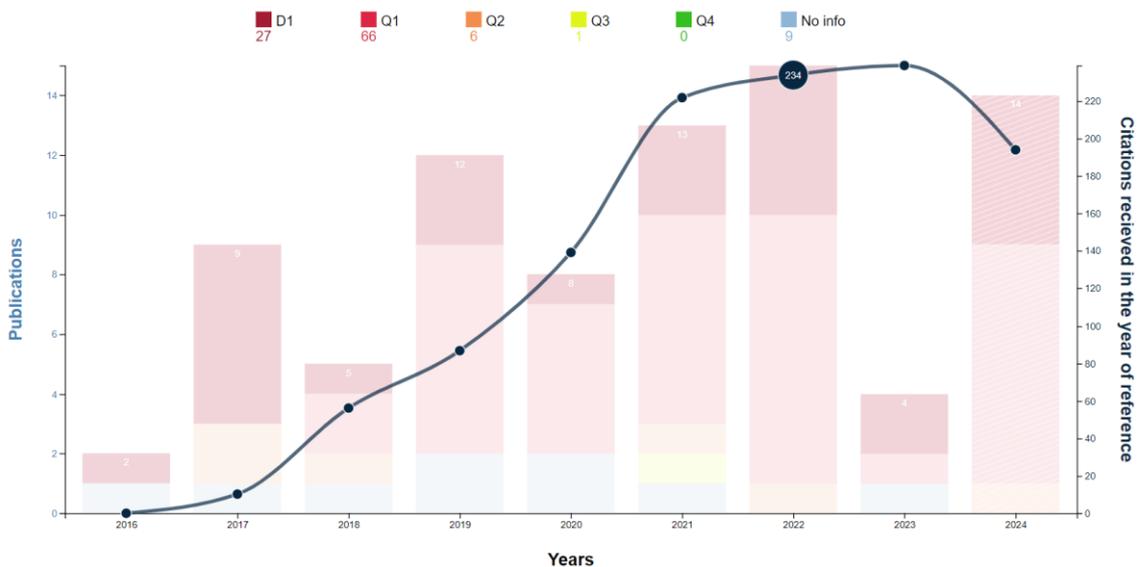
Additionally, there's a MERGE button for downloading a text file that contains the merged author results, as the merging procedure using cosine similarity is done for better visualization in the coauthorship network and author statistics.

For adjusting the view, the Zoom function allows you to zoom in and out, with a "RESET ZOOM" button to return to the default perspective. At the top of the page, you'll find a search bar that lets you search for specific authors within the network. When you hover over an author, the authors connected to them will be highlighted, making it easier to visualize their collaboration links.

## Author statistics

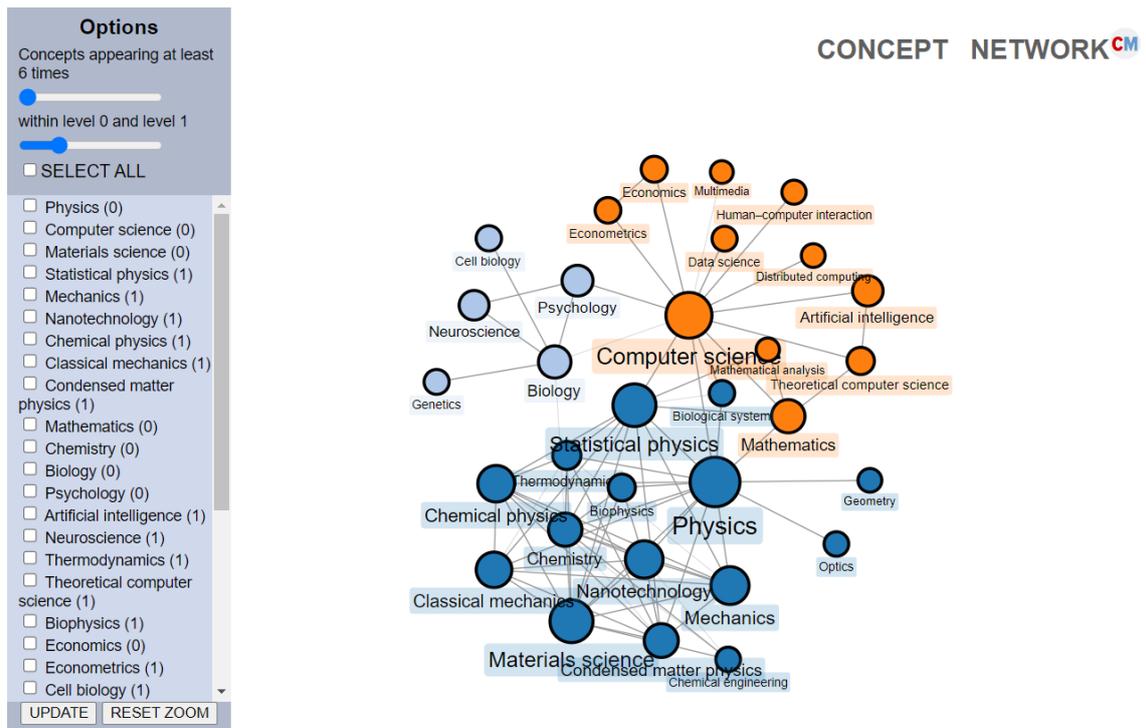


You'll find complete statistics for the journals where the entire set of authors has published, or you can choose to view statistics for individual authors. These statistics include the number of publications per year, the number of citations those publications have received, and the quartiles (and 1st decile) if Citescore data is available for the journal. Years without information are highlighted differently. Additionally, there is a checkbox in the upper left corner that allows you to filter only the authors from the institution or affiliation, in case you have used this parameter as a filter.



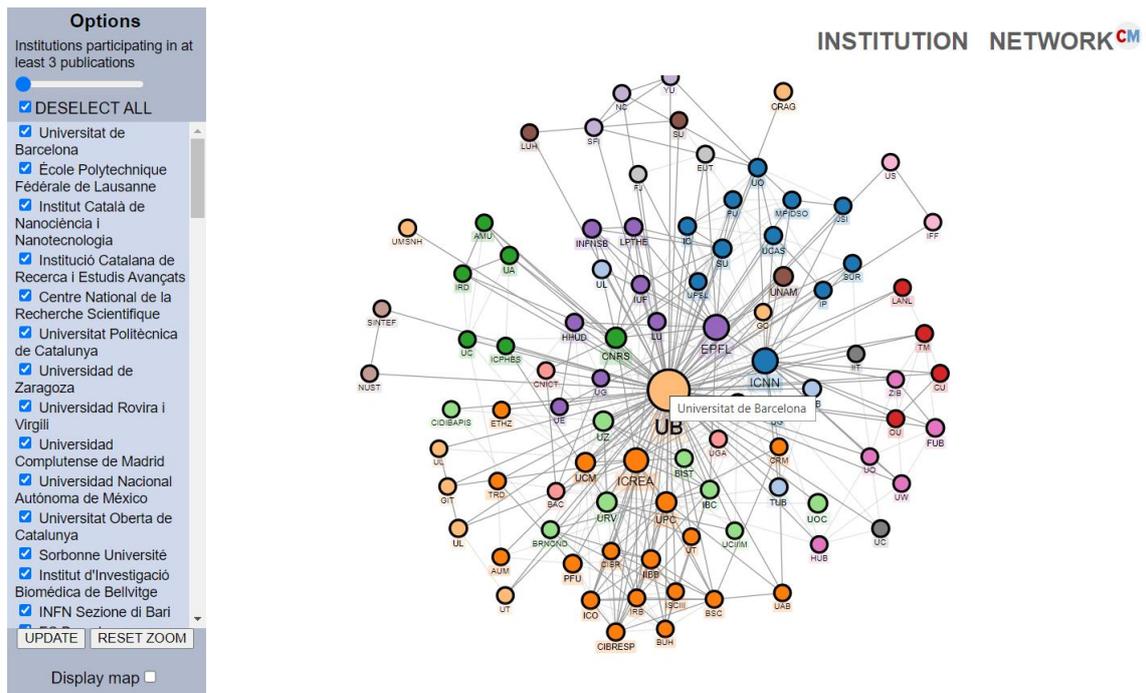
As the coauthorship network, on the inferior left side of the author statistics section, you will find a MERGE button. By clicking this button, you can download a text file that contains the results of the merged author data.

# Concept network



Concepts are defined based on the classifications in the OpenAlex database and are organized hierarchically. For each publication, the database provides a list of concepts at various levels, along with their respective significance. In this section, two filters are available: one for setting the minimum number of occurrences of a concept and another for defining the maximum level of detail in the classification. Level 0 represents the highest level, corresponding to the discipline category, with subsequent levels offering more specific classifications.

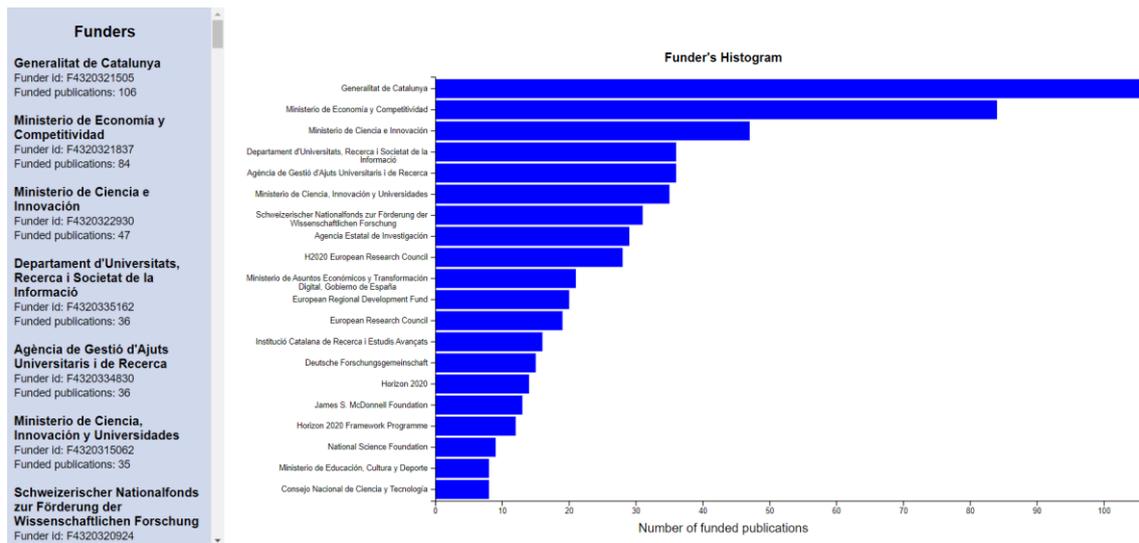
# Institution network



Similar to the coauthorship network, institutions can be selected or deselected by checking the corresponding boxes. You can also specify the minimum number of contributions required for an institution to be represented in the network. Additionally, there is a checkbox in the lower left corner that allows you to display the selected institutions on a map. When you hover over the institutions on the map, the name of each institution will be displayed.

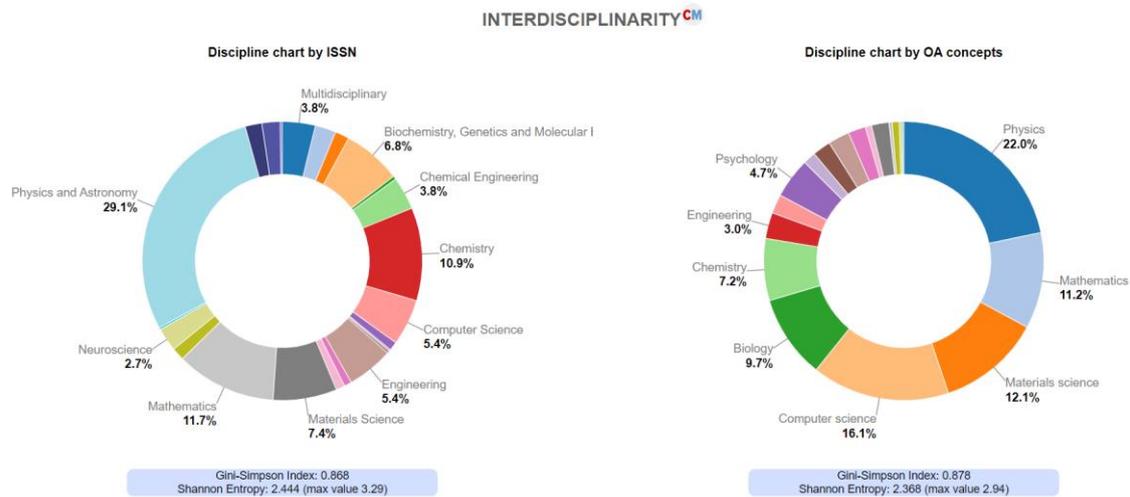


## Funders statistics



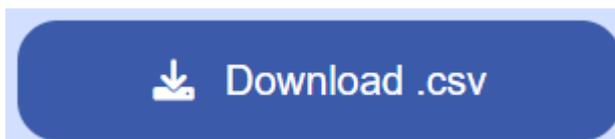
A list of funding organizations will be displayed, accompanied by a histogram in the right panel. The histogram illustrates the number of publications funded by each organization.

## Interdisciplinary chart



There are two interdisciplinarity charts provided. The chart on the left displays disciplines based on the journal classifications in CiteScore. The chart on the right presents disciplines derived from the top-level concepts of publications in OpenAlex. Both charts include two indices—the Gini-Simpson index and Shannon entropy—to quantify interdisciplinarity. The maximum value for each index is also indicated to provide a benchmark for comparison.

- **Download .CSV**



Underneath all the network generation buttons, there is an option to download a CSV file containing information about all the articles. This CSV file, which is unformatted, can be easily imported into Excel or Word, making it convenient to generate reports, summaries, and other documents.

Remove arXiv publications  
 Remove arXiv duplicates

Max authors per publication: 100

A horizontal blue slider bar with a circular handle on the right side, indicating a value of 100.

If a paper has more than 100 authors, only the first 100 are considered.

**To optimize visualization and avoid timeout errors during the author merging process, it's recommended to further reduce the maximum number of authors.**

You can manage arXiv contributions with two checkboxes: "Remove arXiv publications" and "Remove arXiv duplicates." By default, duplicates are identified based on titles. Additionally, there is a slider to select the maximum number of authors. If a paper has more than 100 authors, only the first 100 will be considered. For optimal visualization and to prevent timeout errors during the author merging process, it is recommended to further reduce the maximum number of authors.

Below that, there is a panel with information about the metrics measured.

↑ Hide metrics info

Data for year 2024 is not available. Percentile data for this year is taken from 2023's.

- **Percentile:** Percentile indicates the relative standing of a serial title in its subject field.
- **CiteScore:** CiteScore measures average citations received per peer-reviewed document published in the serial (March 2023).
- **SNIP:** Source Normalized Impact per Paper measures actual citations received relative to citations expected for the serial's subject field.
- **SJR:** SCImago Journal Rank measures weighted citations received by the serial. Citation weighting depends on subject field and prestige (SJR) of the citing serial.

## Right side:

178 articles were found between 2022-01-01 & 2024-11-01, with a total of 690 citations, making 3.88 as average of citations per article.

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### [Conceptualization of a functional random walker for the analysis of socio-technical systems](#)

Riccardo Patriarca, Francesco Simone, Oriol Artime, Tarcísio Abreu Saurin, Flávio Sanson Fogliatto  
*Reliability Engineering and System Safety* (2024)

 10.1016/j.ress.2024.110341  Cited by: not found  Open access: Yes

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### [Real-time hardware emulation of neural cultures: A comparative study of in vitro, in silico and in duris silico models](#)

Bernardo Vallejo-Mancero, Sergio Faci-Lázaro, Mireya Zapata, Jordi Soriano, Jordi Madrenas  
*Neural Networks* (2024)

 10.1016/j.neunet.2024.106593  Cited by: not found  Open access: Yes

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### [Feature-aware ultra-low dimensional reduction of real networks](#)

Robert Jankowski, Pegah Hozhabrierdi, Marián Boguñá, M. Ángeles Serrano  
*Deleted Journal* (2024)

 10.1038/s41260-024-00013-z  Cited by: not found  Open access: Yes

At the top, you will find the date range, total citations, and average citations per article. Below, all articles are listed with their titles (which link to the full article), authors, journal names, DOIs, citation counts, and open access status (and soon... FWCI: -represents the field-weighted citation impact- and metrics from *Scite*). Additionally, it provides journal indicators such as:

- **Percentile:** Indicates the journal's rank within its field.
- **CiteScore:** Measures the average citations per document published.
- **SNIP:** Reflects the impact of citations within the field.
- **SJR:** Assesses the journal's influence based on citation data.

## Author names and merging procedures

Due to inconsistencies in the OpenAlex data, where different Open Alex IDs are assigned to authors with similar or identical names, we have implemented a merging procedure. This process involves calculating the cosine similarity between names and merging those that exceed a specified threshold. The method also takes into account the order of names and surnames, as well as the compatibility between names and initials.