

Software tools
supporting research activities:

Information gathering

Information gathering

- the process of collecting information about something you are interested in
- Is one of the most time-consuming tasks in research and that is why time management is so important

Categories of tools for academic research

1. Reference/index resources
2. Research management tools
3. Information collection tools

1. Reference/Index Resources – first 10+1

1. Google Scholar
2. ResearchGate
3. Web of Science
4. Scopus
5. Springer Link
6. arXiv
7. HAL (Hyper Articles en Ligne)
8. [CS] DBLP
9. [CS] CiteSeerX
10. [CS,Elec.] IEEE Xplore
11. [CS] Microsoft Academic Search

Category 1 – free access

To do: follow the links & search

Google Scholar

- Freely accessible web search engine
- Indexes the full text or metadata of scholarly literature
- It includes academic journals and books, conference papers, theses and dissertations, preprints, abstracts, technical reports
- Individual and institutional profiles

ResearchGate

- European commercial social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators
- Largest academic social network in terms of active users
- Users can upload research output including papers, data, chapters, patents, research proposals, methods, presentations, software source code

Category 1 – commercial

To do: follow the links & search

Available under RO Anelis

Web of Science

- Owner: Clarivate Analytics (US)
- Is an online subscription-based scientific citation indexing service
- Previously known as Web of Knowledge and produced by Institute for Scientific Information (ISI)

Scopus

- Owner: Elsevier (NL);
- large abstract and citation database of peer-reviewed research literature

Springer Link

- Owner: Springer Nature (SW);
- Documents from journals, books, proceedings
- Category: Computer Science

Category 1 - preprints

To do: follow the links & search

arXiv

- Repository of electronic preprints (e-prints) approved for publication after moderation
- Owner: Cornell University (NY, US)
- Scientific papers in the fields of mathematics, physics, astronomy, electrical engineering, computer science, quantitative biology, statistics, and quantitative finance, which can be accessed online.

HAL (Hyper Articles en Ligne)

- Is an open archive where authors can deposit scholarly documents from all academic fields
- Owner: French National Centre for Scientific Research.
- An uploaded document does not need to have been published or even to be intended for publication
- Has an automated depositing agreement with arXiv
- Over 120 institutions have their own entrance to HAL, (portals)

Category 1 – discipline specific (1/2)

To do: follow the links & search

DBLP

- Provides open bibliographic information on major computer science journals and proceedings
- Originally created at the University of Trier, is now operated by Schloss Dagstuhl – Leibniz-Zentrum für Informatik

CiteSeerx/Citeseer

- Is public search engine and digital library for scientific and academic papers, primarily in the fields of computer and information science.
- Owner: Pennsylvania State University (US)
- Is the first academic paper search engine and the first automated citation indexing system.
- CiteSeer holds a US patent # 6289342, titled "Autonomous citation indexing and literature browsing using citation context".

Category 1 – discipline specific (2/2)

To do: follow the links & search

IEEE Xplore

- a research database for discovery and access to journal articles, conference proceedings, technical standards, and related materials on computer science, electrical engineering and electronics, and allied fields.
- It contains material published mainly by the Institute of Electrical and Electronics Engineers (IEEE) and other partner publishers
- access to full-text documents requires an individual or institutional subscription

Available under RO Anelis

Microsoft Academic Search

- Information about academic papers, authors, conferences, journals, organizations from multiple sources

2. Research Management Tools – first 10

Free

1. Mendeley (see next slide)
2. Zotero (see next slide)
3. JabRef (see next slide)
4. [Qiqqa](#)
5. [Docear](#)

Commercial

6. [RefWorks](#)
7. [EndNote](#)
8. [MarginNote](#)
9. [Paperpile](#)
10. [ReadCube](#)

To do: follow the links

Category 2: three examples

To do: follow the links

Mendeley

- Is a free academic software for organizing and sharing research papers and generating bibliographies
- Free online storage (1GB) to automatically back up and synchronize your library across desktop, web and mobile

JabRef

- Open source bibliography reference manager, a desktop application (on Java VM)
- The native file format used by JabRef is BibTeX, the standard LaTeX bibliography format.
- Entries can be searched in external databases and BibTeX entries can be fetched from there.; e.g. from arXiv, CiteseerX, Google Scholar, IEEEExplore, Springer.

Zotero

- Help to collect, organize, cite, share research
- It supports managing bibliographic data and related research materials.
- Include web browser integration, online syncing, generation of in-text citations, footnotes, and bibliographies, as well as integration with Microsoft Word and LibreOffice Writer.

3. Information collection tools – first 10

Web data collection tools

1. Scrapy (free, next slide)
2. [Octoparse](#)
3. [Parsehub](#)
4. [Docparser](#)
5. [Feedit](#)

Survey collection tools

1. LimeSurvey (free, next slide)
2. [Google Forms](#) (free)
3. [Survey Monkey](#)
4. [Survey Gizmo](#)
5. [PollDaddy](#)

To do: follow the links

Category 3: two examples

To do: follow the links

Scrapy

- open source and collaborative framework for extracting the data from websites
- it can be used to extract data using APIs or as a general-purpose web crawler
- built around "spiders", which are self-contained crawlers that are given a set of instructions
- maintained by UK company Scrapinghub

LimeSurvey

- open source survey software
- provided as professional SaaS solution or as a self-hosted Community Edition.
- professional free version provides 25 responses/month with unlimited no surveys and 10 MB upload storage