Navigating Scientific Resources & Staying Organized

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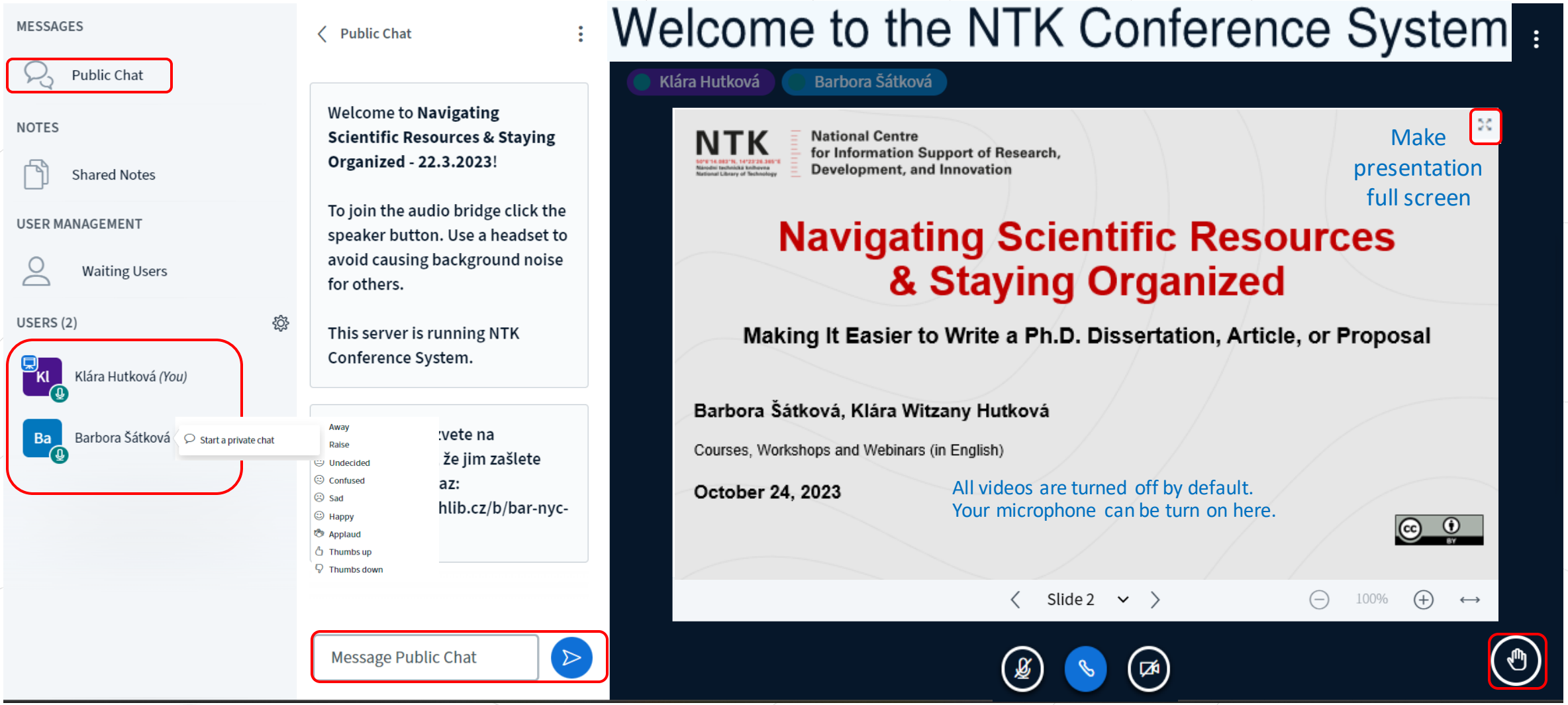

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National Centre
for Information Support of Research,
Development, and Innovation

Navigating Scientific Resources & Staying Organized

Making It Easier to Write a Ph.D. Dissertation, Article, or Proposal

Barbora Šátková, Klára Witzany Hutková

Courses, Workshops and Webinars (in English)

March 5, 2024

The project National Centre for Information Support of Research, Development and Innovation with the identification code MS21 01 is implemented with the support of the Ministry of Education, Youth and Sports.

Which University Are You from?

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A. Czech Technical University in Prague

B. University of Chemistry and Technology Prague

C. Czech University of Life Sciences Prague

D. Charles University

E. Other

Agenda

1. Searching: Introduction
2. Google Scholar
3. Library Resources & Full Text Access
4. Types of Sources
5. Reading & Organizing Sources
6. Publishing and Presenting of the Outputs

1. SEARCHING: INTRODUCTION

Keywords (for Searching)

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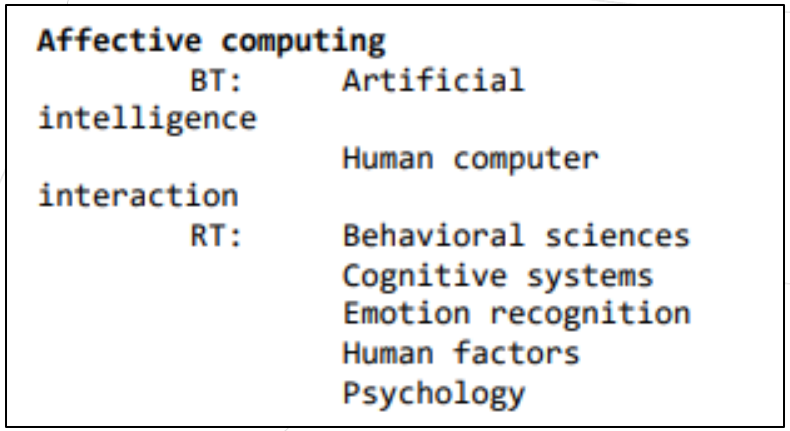
- Which keywords in your subject area are used by other authors?

- Is there a thesaurus/dictionary for your field?
  - MeSH (Medical Subject Headings)
  - IEEE Thesaurus and Taxonomy
  - Mathematics Subject Classification
  - The Transportation Research Thesaurus
  - INSPEC Thesaurus (after login)



- Other useful tools:
  - Wikipedia (translation of terms, fact checking,...)
  - Google Scholar

Which of These Techniques Do You Use Most Often when Searching?

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A. AND, OR, NOT/-

B. Phrase searching (“”)

C. Truncation (*/?/…)

D. Advanced search & filters (search engine tools)

E. Combination of the above

F. None of the above

Database Search Tips

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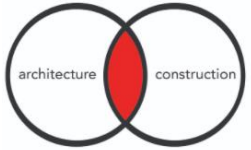
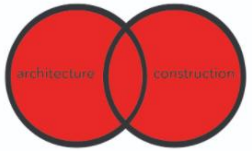
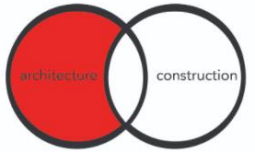
- AND, OR, NOT/-







- Phrase searching “”
- Truncation *
- Filters
- Advanced search
  - (author, title, abstract, full text, other)

➔ More database tips

Where Do You Go First when Searching for Information Related to Your Writing?

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A. Google

B. Google Scholar

C. University Library Searching Tool ("Discovery")

D. Web of Science or Scopus search

E. Article databases (Elsevier, Nature, EBSCO, Springer, IEEE, ScienceDirect, and others provided by libraries) or open access full-text and pre-print collections (such as arXiv, PubMed, ResearchGate, repositories)

Search Tools for Scientific Resources

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- **Search engines**
  - Google Scholar
  - Library discovery tool (NTK, chemTK, CTU)

…searching through multiple databases and collections mentioned below

- **Article/book databases**
  - Paid databases (eg. IEEE, ScienceDirect, see library subscribed databases)
  - Open databases and journals (eg. DOAJ, PubMed Central and others)
- **Preprint collections** on servers as arXiv, ResearchGate, Academia.edu or institutional repositories
- **Citation databases** Web of Science and Scopus (no full text, but links to full text)

& **P2P servers** as Sci-Hub, LibGen

2. GOOGLE SCHOLAR

Library Links

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Google Scholar

&

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- CTU is currently not fully integrated with Google Scholar

Library Links Setting

Google Scholar & NTK
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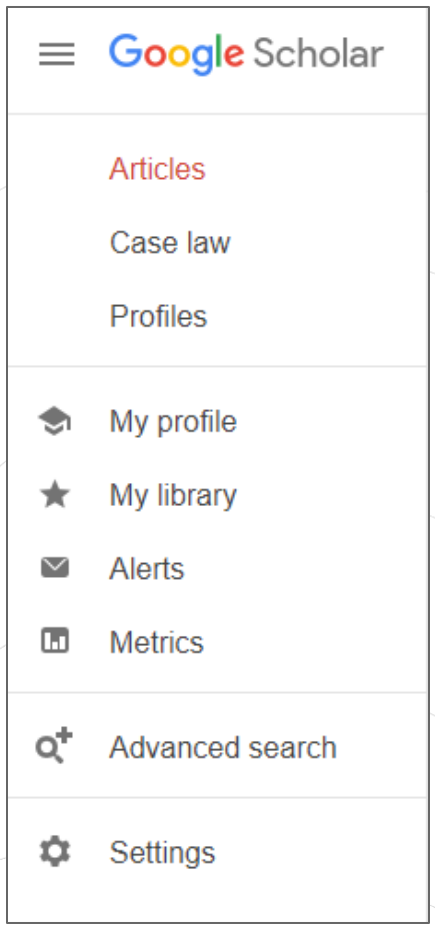

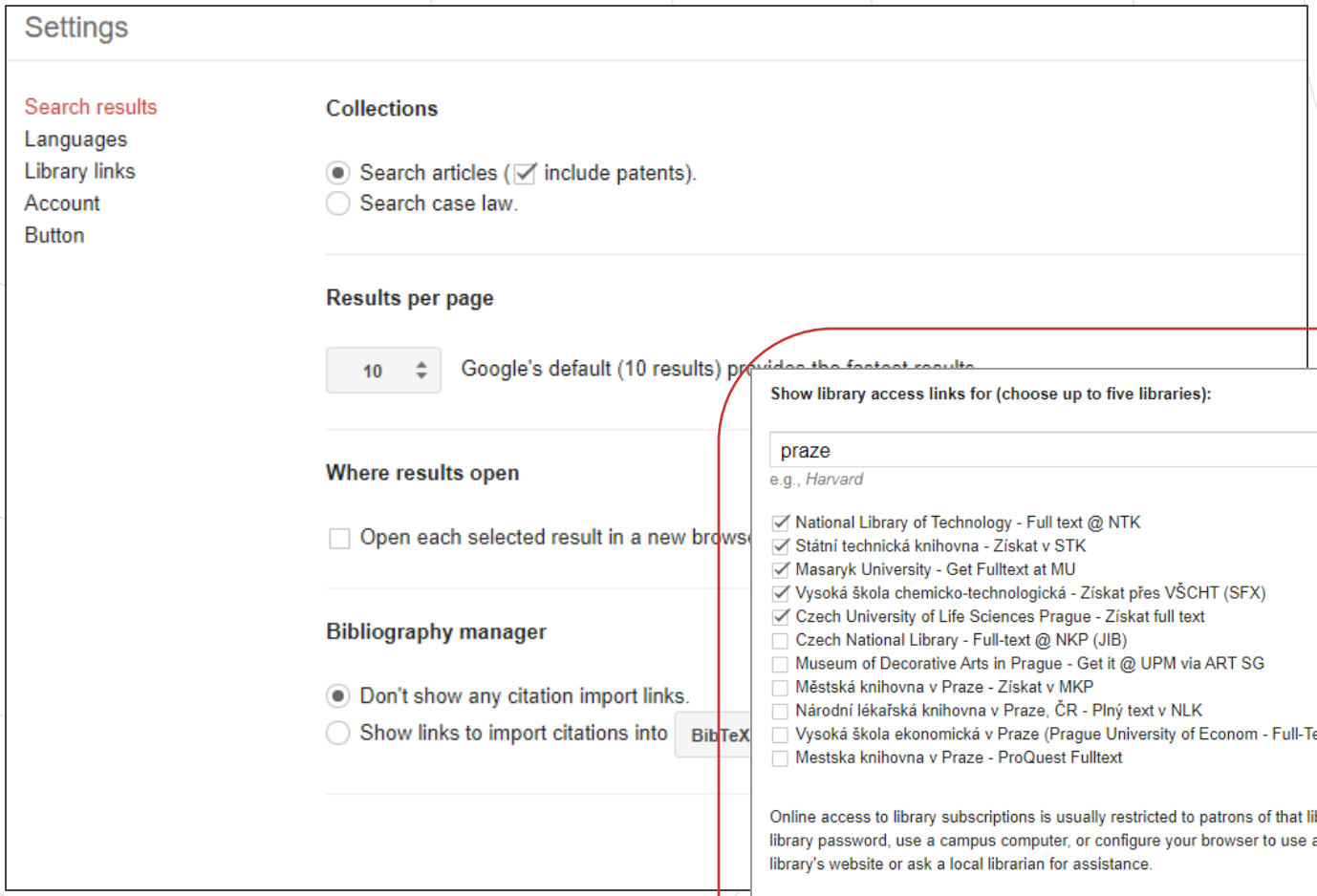

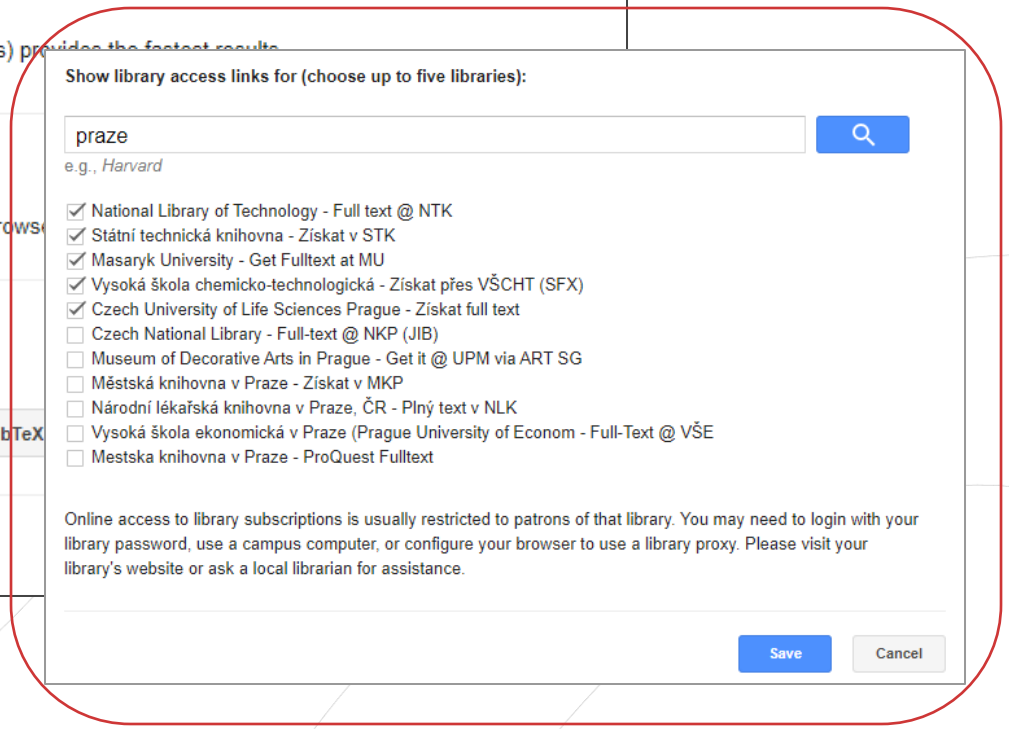

Google Scholar Button

Browser extension (Chrome, Firefox, Opera)

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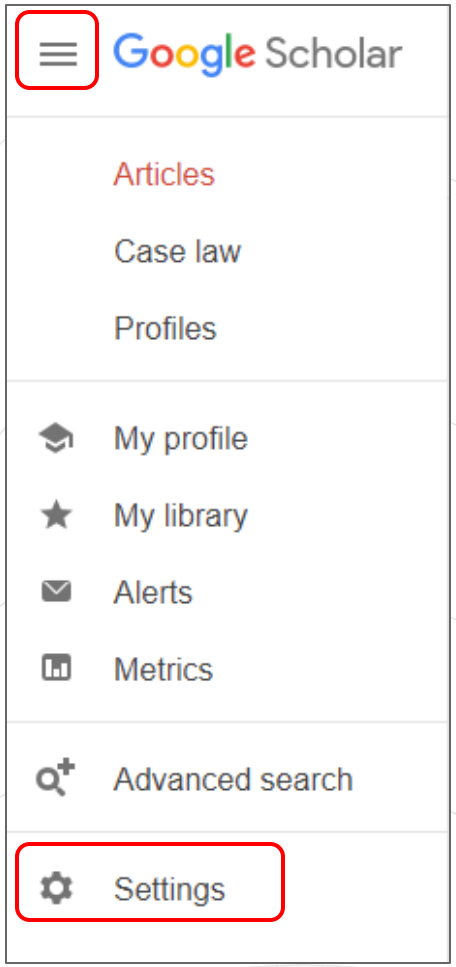
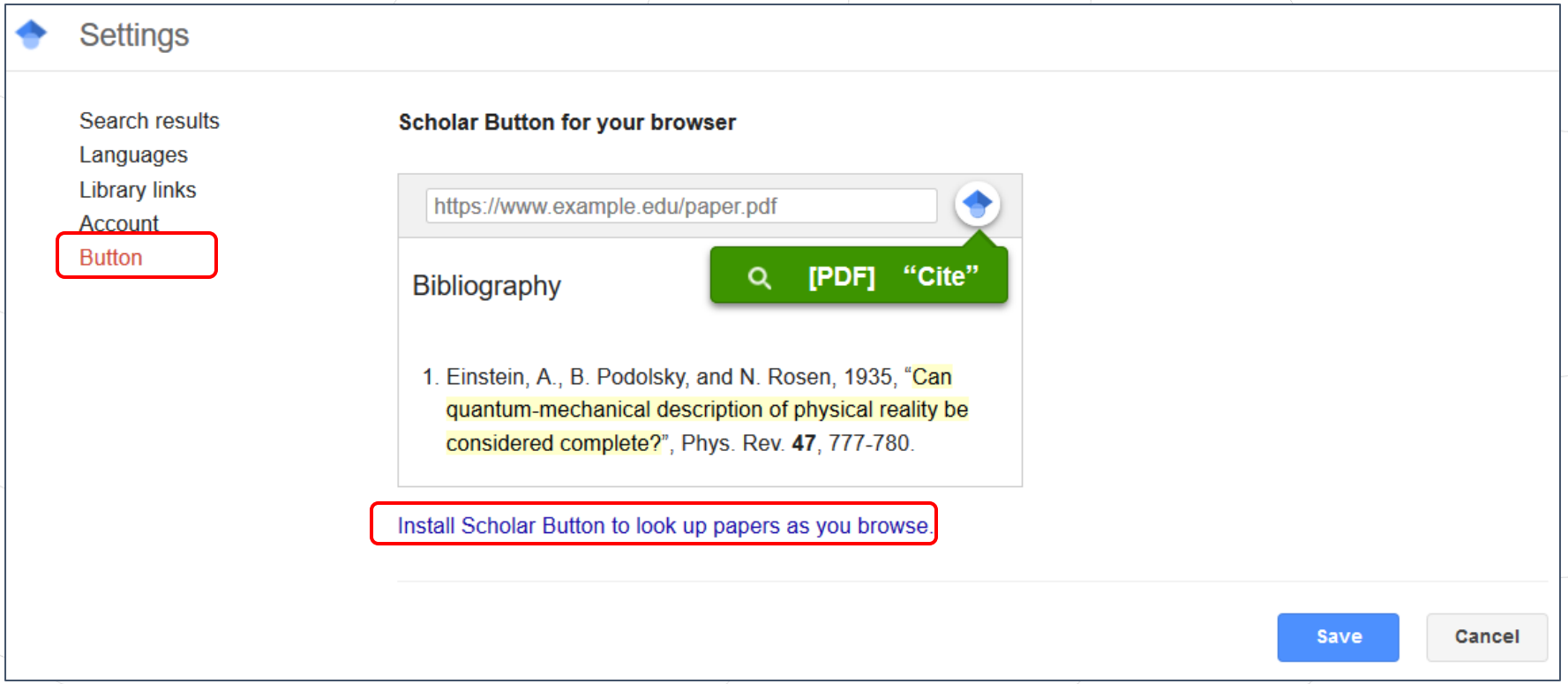
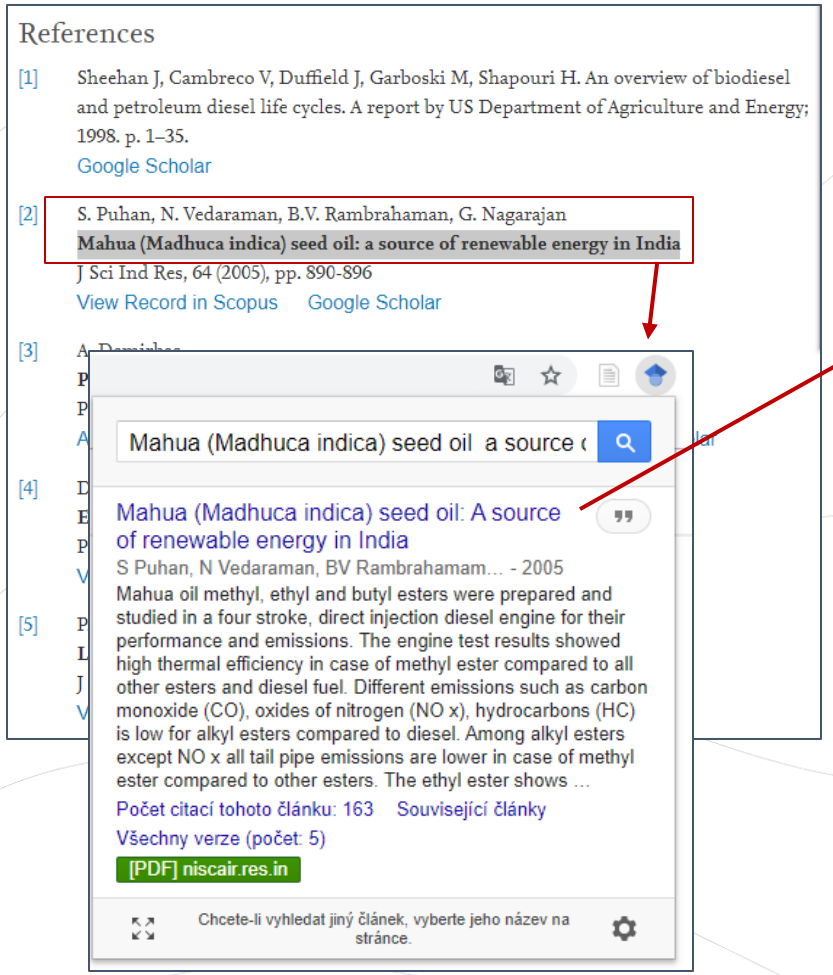
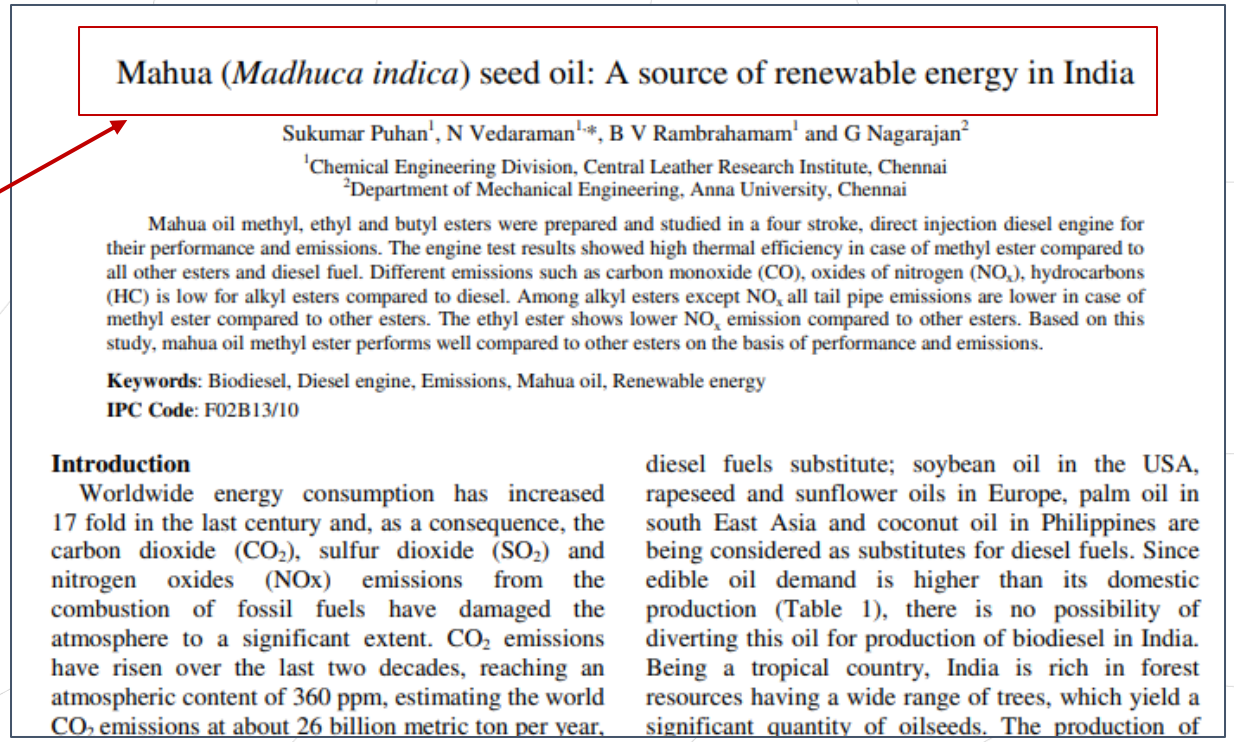




Google Scholar Button

Quick access to **full text** & citations download





Mahua (*Madhuca indica*) seed oil: A source of renewable energy in India

Sukumar Puhan[1], N Vedaraman[1,*], B V Rambrahamam[1] and G Nagarajan[2]
[1]Chemical Engineering Division, Central Leather Research Institute, Chennai
[2]Department of Mechanical Engineering, Anna University, Chennai

Mahua oil methyl, ethyl and butyl esters were prepared and studied in a four stroke, direct injection diesel engine for their performance and emissions. The engine test results showed high thermal efficiency in case of methyl ester compared to all other esters and diesel fuel. Different emissions such as carbon monoxide (CO), oxides of nitrogen (NO_x), hydrocarbons (HC) is low for alkyl esters compared to diesel. Among alkyl esters except NO_x all tail pipe emissions are lower in case of methyl ester compared to other esters. The ethyl ester shows lower NO_x emission compared to other esters. Based on this study, mahua oil methyl ester performs well compared to other esters on the basis of performance and emissions.

Keywords: Biodiesel, Diesel engine, Emissions, Mahua oil, Renewable energy
IPC Code: F02B13/10

Introduction

Worldwide energy consumption has increased 17 fold in the last century and, as a consequence, the carbon dioxide (CO_2), sulfur dioxide (SO_2) and nitrogen oxides (NOx) emissions from the combustion of fossil fuels have damaged the atmosphere to a significant extent. CO_2 emissions have risen over the last two decades, reaching an atmospheric content of 360 ppm, estimating the world CO_2 emissions at about 26 billion metric ton per year,

diesel fuels substitute; soybean oil in the USA, rapeseed and sunflower oils in Europe, palm oil in south East Asia and coconut oil in Philippines are being considered as substitutes for diesel fuels. Since edible oil demand is higher than its domestic production (Table 1), there is no possibility of diverting this oil for production of biodiesel in India. Being a tropical country, India is rich in forest resources having a wide range of trees, which yield a significant quantity of oilseeds. The production of

Google Scholar

Tips & Tricks

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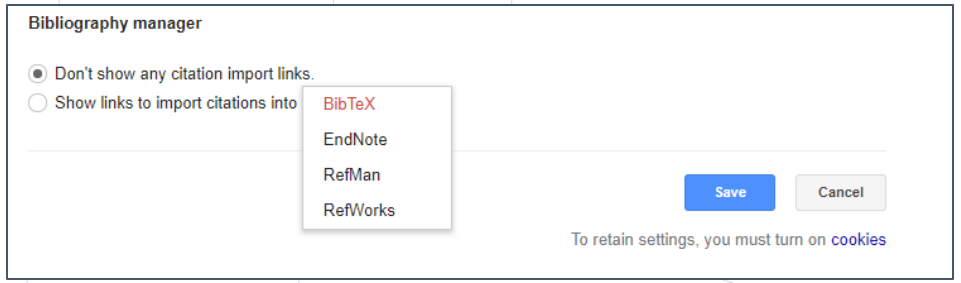
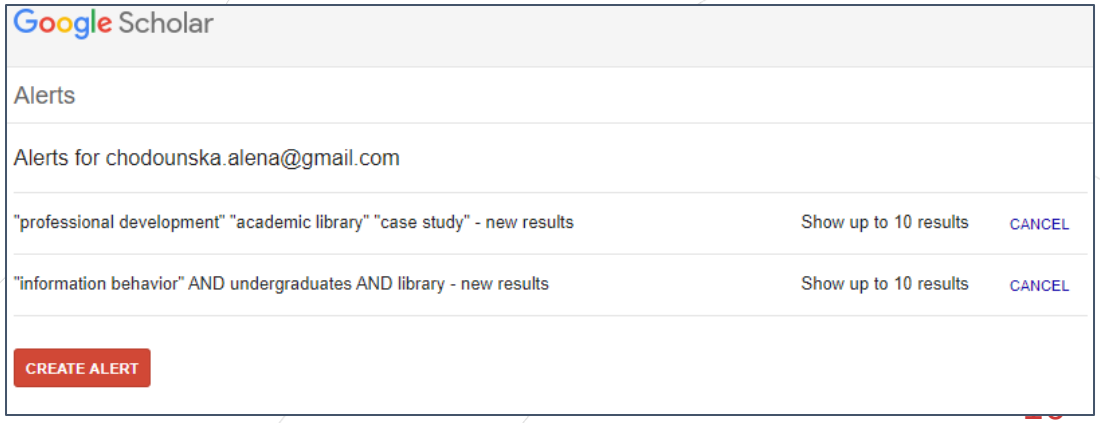
- Library links
- Citation management tools
- Google Scholar Button
- Google Scholar Alerts
- Google Scholar Account
  - GS author profile
  - My library





Google Tips & Tricks

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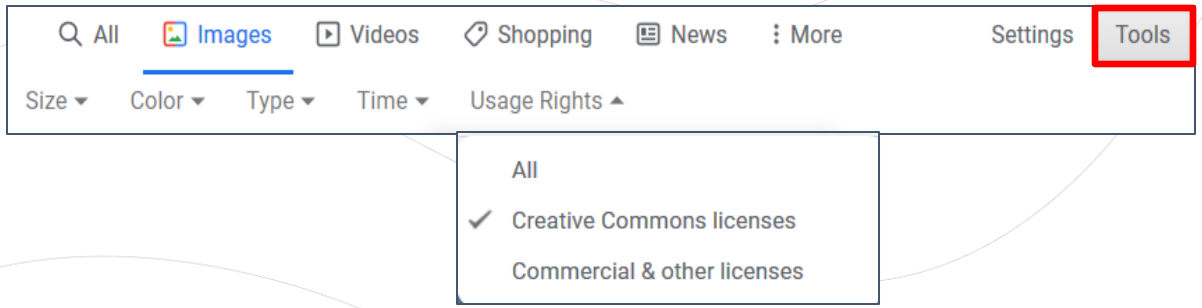
- Find the **name of the person** you are citing (especially when you are writing in Czech)

site:cvut.cz dissertation (all pages with keyword “dissertation“ on domain “cvut.cz”)

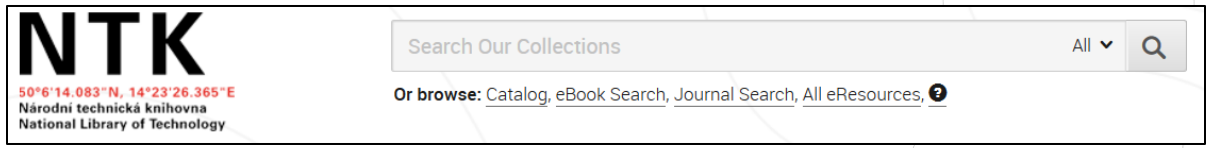
- Find pictures under **open licence**



➔ More Tips & Tricks on Google

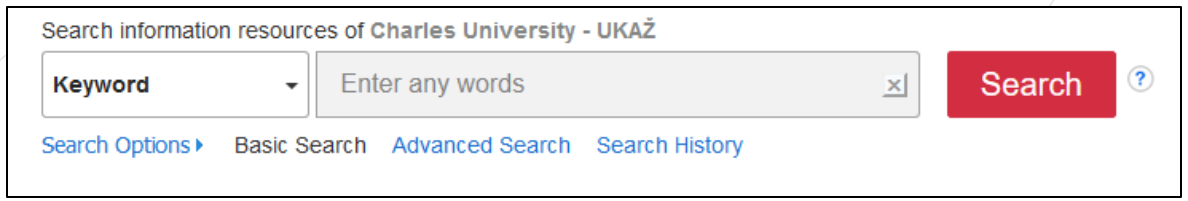
3. LIBRARY RESOURCES & FULL-TEXT ACCESS

Library Discovery Tools

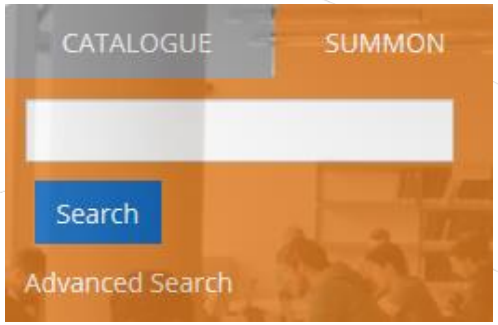


https://www.techlib.cz/en/

https://www.chemtk.cz/en/



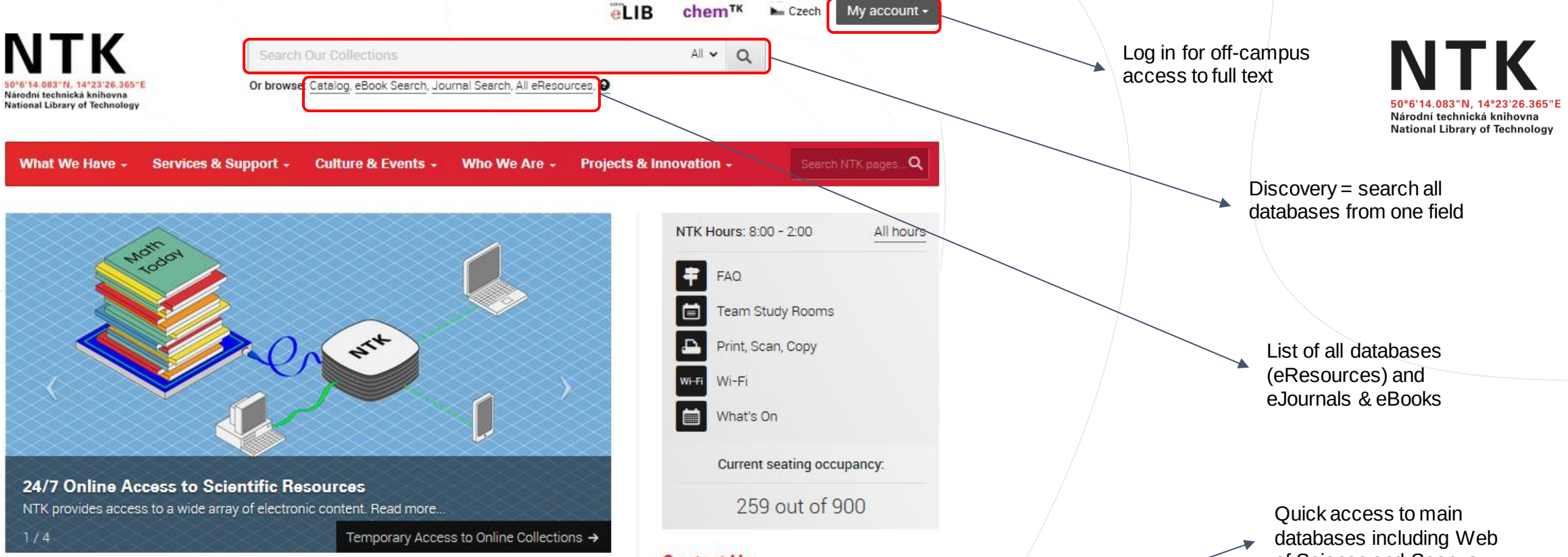
https://ukaz.cuni.cz



http://knihovna.cvut.cz/en/#summon

- **One box** for searching across **all journals** and **books** (both electronic and print) provided by the library (items from databases like IEEE, ScienceDirect, EBSCO, ProQuest, and more)

- Advanced searching options
- Advanced filtering
- Library print collection included



Log in for off-campus access to full text

Discovery = search all databases from one field

List of all databases (eResources) and eJournals & eBooks

Quick access to main databases including Web of Science and Scopus

www.techlib.cz/en/

Searching @ NTK

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- NTK discovery tool
- Browse/find eBooks and eJournals
- Specific databases and electronic collections
- Access to full text
- Document delivery/interlibrary loan

Electronic resources accessible from home

Direct Access to Databases and Collections Provided by NTK

eLIB chemTK Czech My account

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Search Our Collections All

Or browse: Catalog, eBook Search, Journal Search, All eResources,

What We Have | Services & Support | Culture & Events | Who We Are | Projects & Innovation | Search NTK pages...

Homepage / What We Have / eResources

Electronic Resources

Most of these eResources can be accessed outside the library. To search a specific database, select *via NTK*. To search all eResources at once, use the *Search Our Collections* box above.

Use filters to find resources relevant to a particular subject, in a particular format, or by language.

Title	Access	Description
Academic Search Ultimate	via NTK	Description
AccessScience New	via NTK	Description
ACM Digital Library	via NTK	Description
ACS New	Open access	Description
American Institute of Physics - Complete	via NTK	Description
Analytical Abstracts	via NTK	Description
Anopress IT	Workstations in the library	Description
Apress	via NTK	Description
APS e-Journals	via NTK	Description

Search and Filters

Type to filter

- RESOURCE TYPE
- CONTENT TYPE
- SUBJECTS
- ACCESS
- CONTENT LANGUAGE

Member of CZECH eLIB

Contacts

eResources Acquisition
eiz@techlib.cz
(+420) 232 002 572

eResources Administration
eservices@techlib.cz

See also

- Subject Guides
- eBooks A-Z
- eJournals A-Z
- Remote Access
- Access & Privileges
- Interlibrary Loan and Document Delivery
- Suggest a purchase
- Reference and Research Help
- Library Rules
- Catalog
- Scientific resources for COVID-19

https://www.techlib.cz/en/2883-eresources

Getting Full Text (when Sci-Hub is down) ;)

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1. Always make sure you are logged onto the library website for **off-campus access**
2. Activate Library links on Google Scholar
3. Use tools on library web page

eJournals	eArticles	eBooks
Journal Search ● Search for journal title or ISSN	Discovery tool ● "Phrase search" of article title ● Supplement with name of one author for better accuracy	Discovery tool ● "Phrase search" of book title ● Supplement with name of one author for better accuracy eBook Search ● Search for book title, ISBN, or author

Getting Full Text: Other Options

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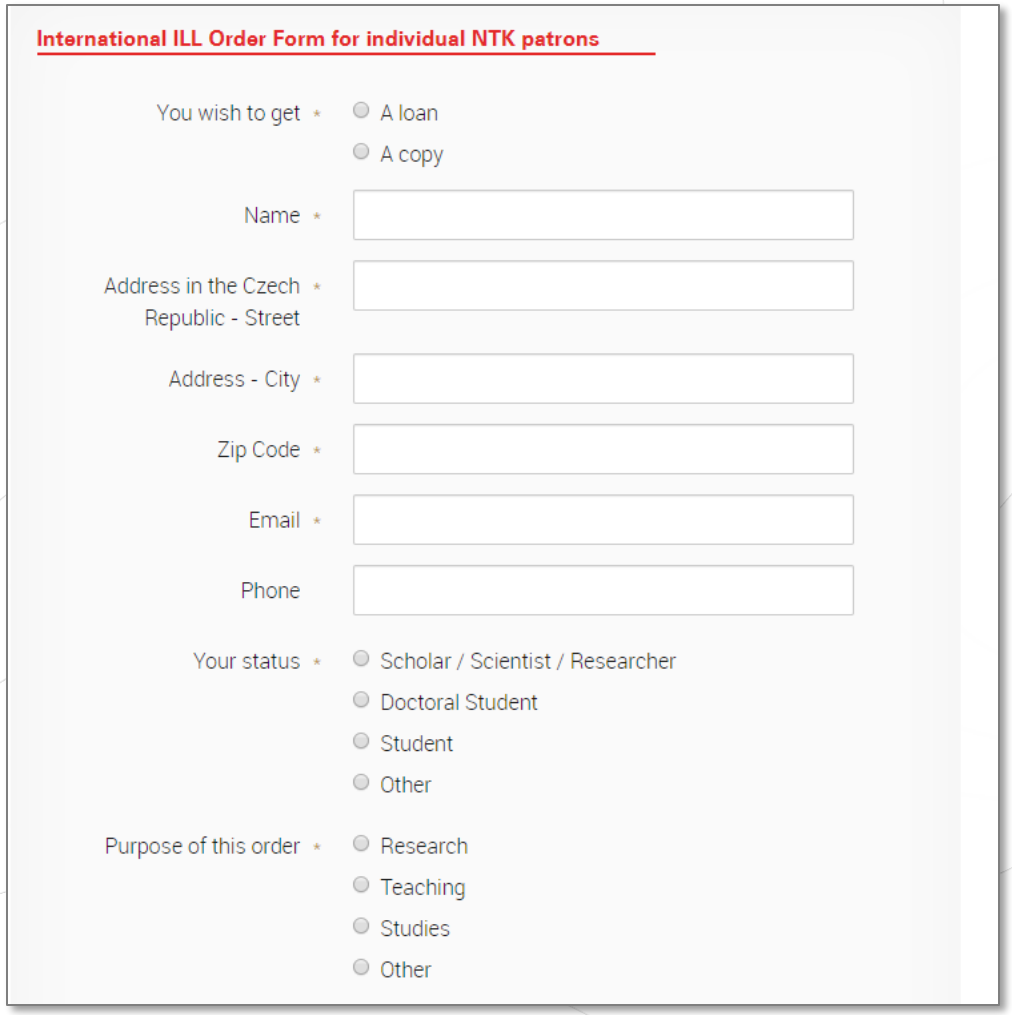

International ILL Order Form for individual NTK patrons

You wish to get *
- A loan
- A copy

Name *

Address in the Czech Republic - Street *

Address - City *

Zip Code *

Email *

Phone

Your status *
- Scholar / Scientist / Researcher
- Doctoral Student
- Student
- Other

Purpose of this order *
- Research
- Teaching
- Studies
- Other

https://www.techlib.cz/en/83429-international-ill-order-form

For materials that are not available online:

- Use ILL form (Interlibrary Loan)
- Ask for assistance: info@techlib.cz

Searching with new AI tools

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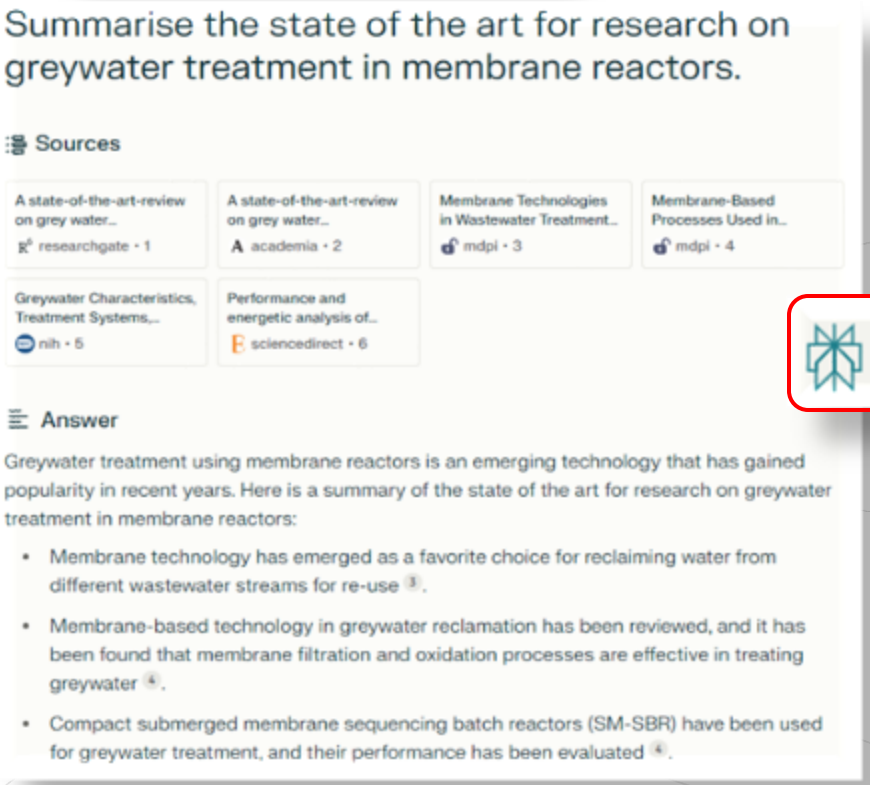
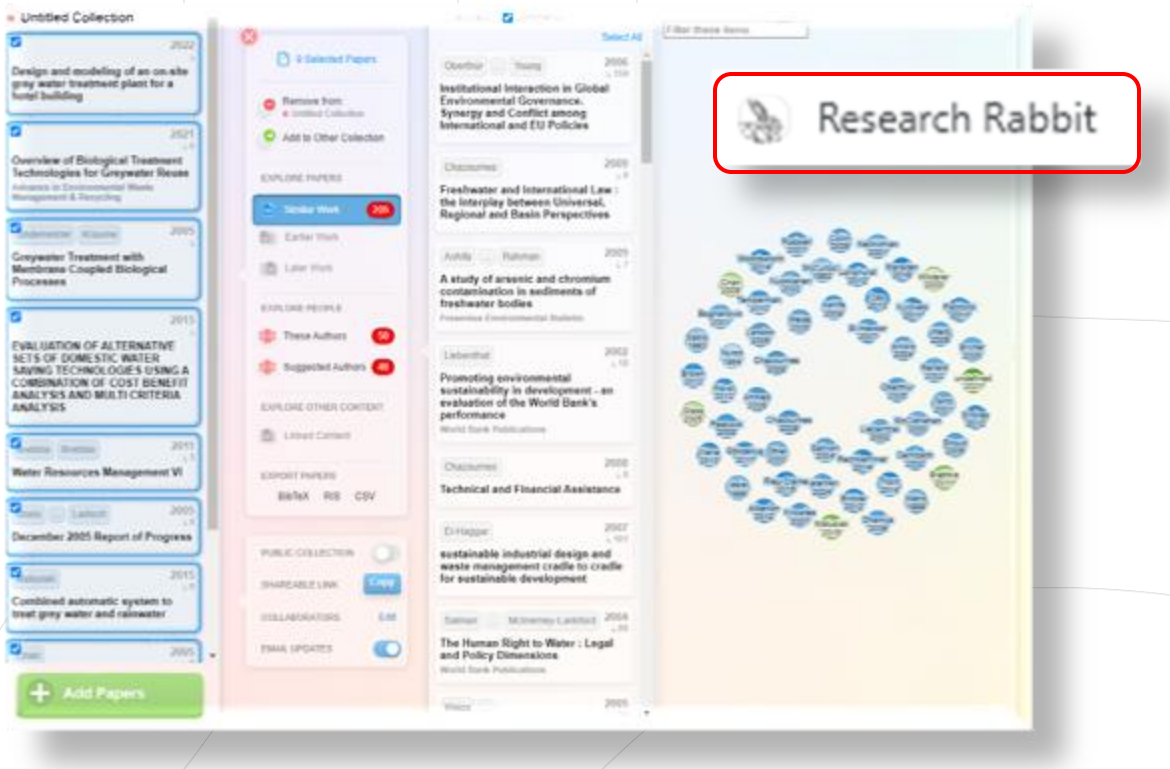
Overview of AI search tools, chatbots, text analyzers and detectors



perplexity



www.https://www.techlib.cz/en/2719-tutorials

4. TYPES OF SOURCES

Handbooks, Textbooks, & Encyclopedias

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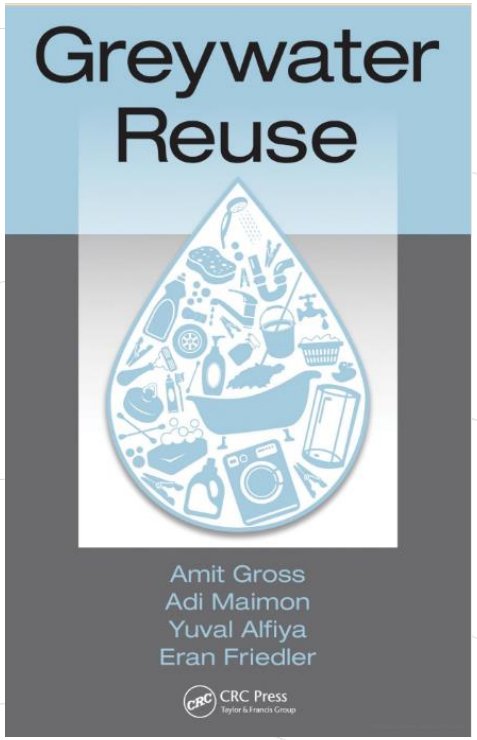
- To get familiar with **terminology** and **context** for a new project



Contents

GROSS, Amit et al. *Greywater reuse*. London; New York; Boca Raton: CRC Press, Taylor & Francis Group, 2015. ISBN 9781482255041;1482255049;

➔ *greywater AND (handbook OR text book OR encyclopedias OR dictionary)*

Dissertations

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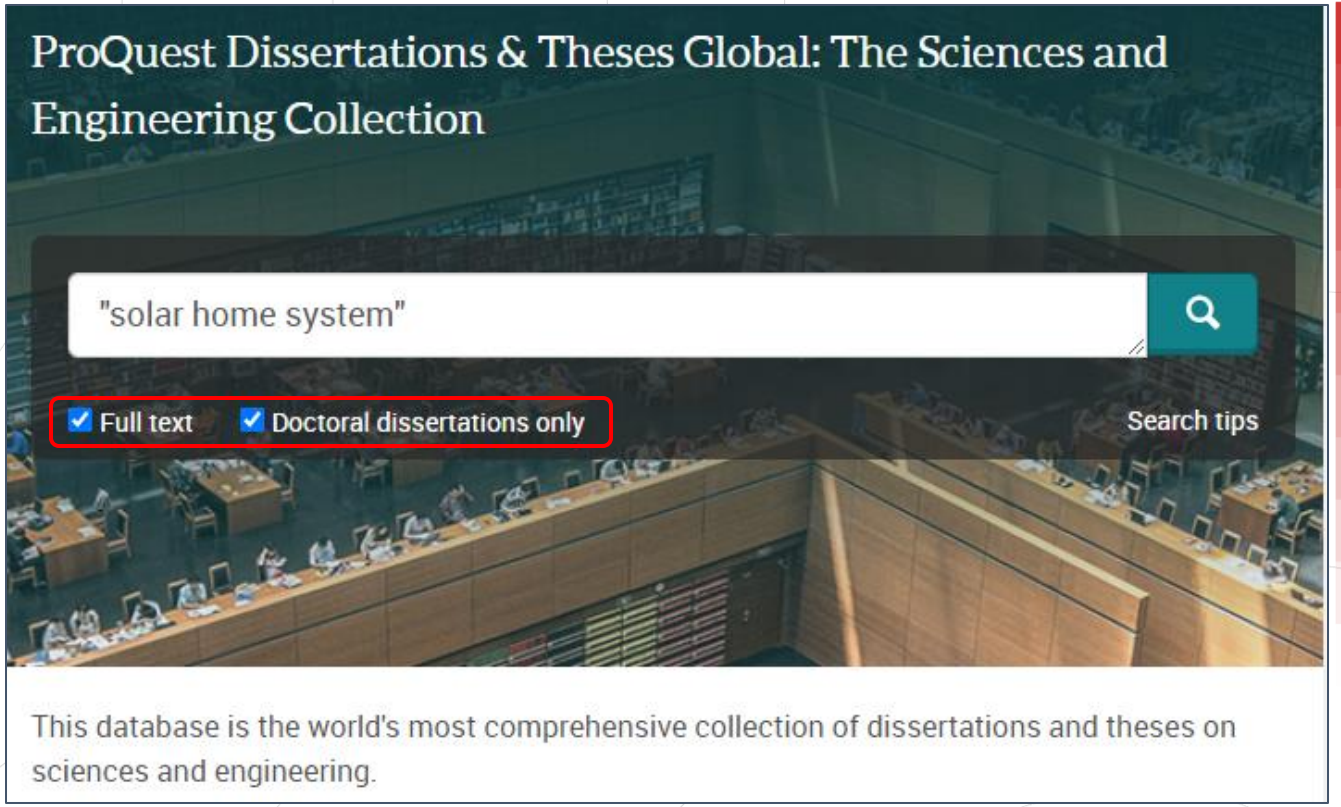
- Get inspired by others' approaches to similar dissertation topics, formatting, and structure
- List of sources
- Discuss the choice of sample theses with mentor
- Avoid plagiarism



➔ *Czech institutional repositories* (CTU, UCT, CU, Grey literature)
➔ *International repositories*, *ProQuest Theses* (via NTK)

Review Articles

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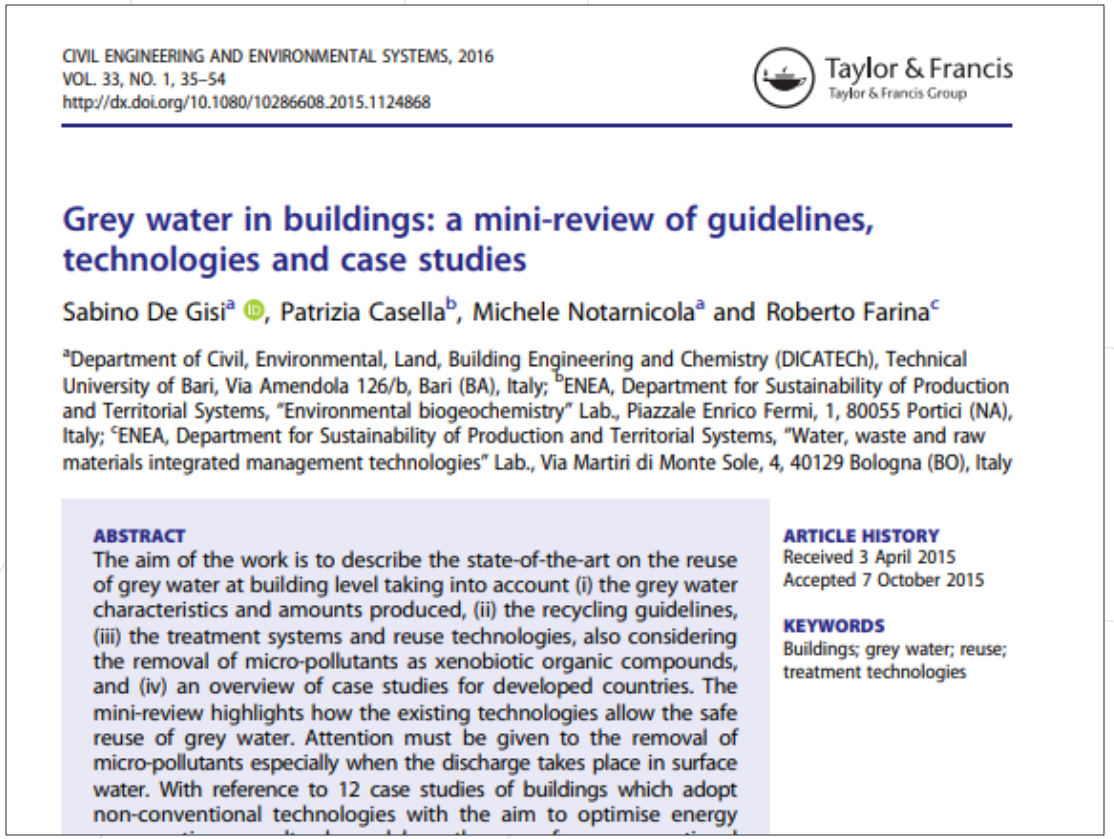
- Type of scholarly articles that provide summary and analysis of previous research on a specific topic/problem/question
- Efficient way to gain an overview of existing research and current state-of-the-art
- A comprehensive lists of relevant sources
- Review/Systematic Review, Meta-Research, Meta-Analysis

➔ *(greywater OR "grey water") AND (review OR meta-analysis OR meta-research)*
➔ *Use a filter (available e.g., in Scopus, Web of Science, Google Scholar, Semantic Scholar)*



CIVIL ENGINEERING AND ENVIRONMENTAL SYSTEMS, 2016
VOL. 33, NO. 1, 35–54
http://dx.doi.org/10.1080/10286608.2015.1124868

Taylor & Francis
Taylor & Francis Group

Grey water in buildings: a mini-review of guidelines, technologies and case studies

Sabino De Gisi[a], Patrizia Casella[b], Michele Notarnicola[a] and Roberto Farina[c]

[a]Department of Civil, Environmental, Land, Building Engineering and Chemistry (DICATECh), Technical University of Bari, Via Amendola 126/b, Bari (BA), Italy; [b]ENEA, Department for Sustainability of Production and Territorial Systems, "Environmental biogeochemistry" Lab., Piazzale Enrico Fermi, 1, 80055 Portici (NA), Italy; [c]ENEA, Department for Sustainability of Production and Territorial Systems, "Water, waste and raw materials integrated management technologies" Lab., Via Martiri di Monte Sole, 4, 40129 Bologna (BO), Italy

ABSTRACT
The aim of the work is to describe the state-of-the-art on the reuse of grey water at building level taking into account (i) the grey water characteristics and amounts produced, (ii) the recycling guidelines, (iii) the treatment systems and reuse technologies, also considering the removal of micro-pollutants as xenobiotic organic compounds, and (iv) an overview of case studies for developed countries. The mini-review highlights how the existing technologies allow the safe reuse of grey water. Attention must be given to the removal of micro-pollutants especially when the discharge takes place in surface water. With reference to 12 case studies of buildings which adopt non-conventional technologies with the aim to optimise energy

ARTICLE HISTORY
Received 3 April 2015
Accepted 7 October 2015

KEYWORDS
Buildings; grey water; reuse; treatment technologies

DE GISI, Sabino et al. Grey water in buildings: a mini-review of guidelines, technologies and case studies. *Civil engineering and environmental systems*. 2016, vol. 33, no. 1, pp. 35–54 [cit. 2022-10-10]. Available: https://doi.org/10.1080/10286608.2015.1124868

Seminal Articles

- **Core articles** for specific fields, usually providing some groundbreaking information
- Can usually be identified by the high number of citations
- Via **citation databases** (reliable journals and proceedings)

➔ *("waste water" OR "grey water") sorted via number of citations in Web of Science or Scopus*

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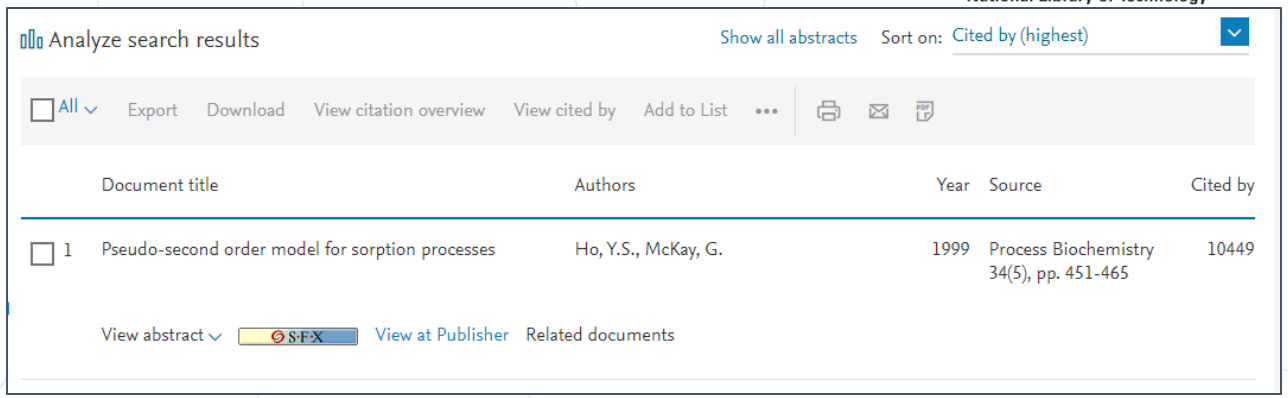
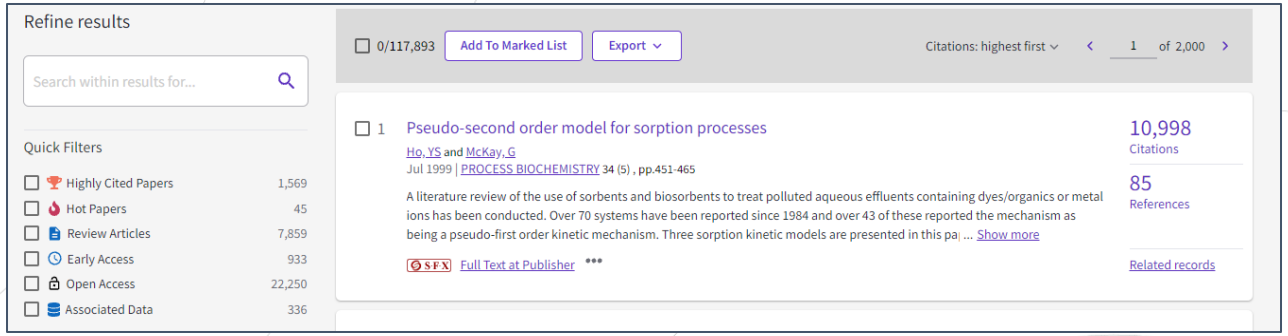
Scopus (@ NTK)



Web of Science (@ NTK)



➔ Learn more about Citation Databases on our website

Chaudhuri, L. (n.d.). Seminal Works. EdD Executive Leadership https://resources.library.lemoyne.edu/guides/EdD/Systematic-Review/Seminal-Works

Seminal Articles (2)

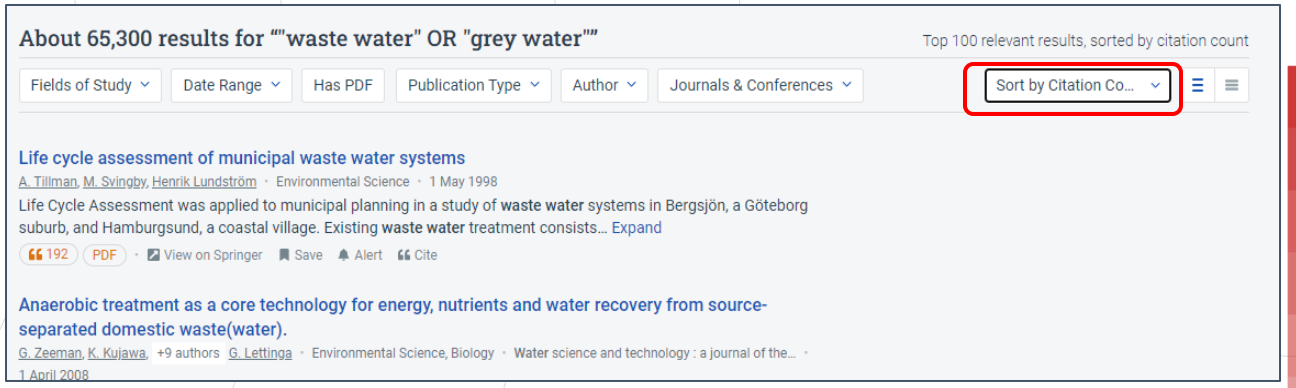
Other **search engines for academic resources** that enable sorting results by number of citations:

- Semantic Scholar (a free search engine developed by the Allen Institute for AI)
- Dimensions (a commercial scholarly search platform, the free version includes searching in publications and datasets only)

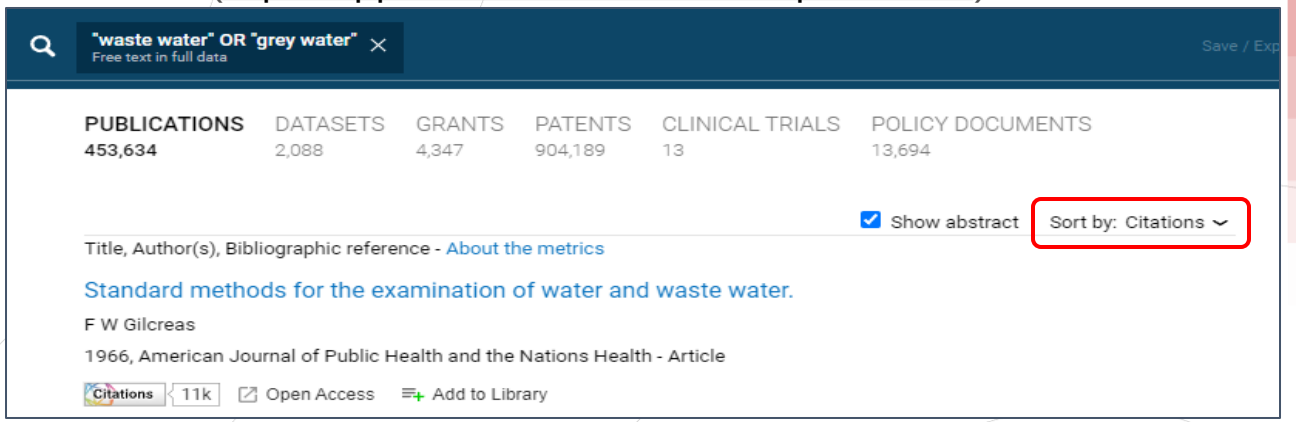
Consider:

- Number of citations vs. time
- Difference: citation count in different tools (different set of content for analysis)

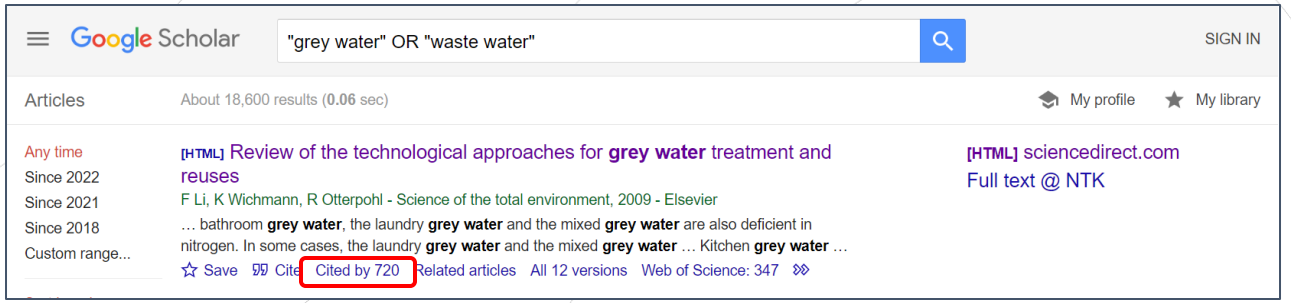
Semantic Scholar (https://www.semanticscholar.org/)



Dimensions (https://app.dimensions.ai/discover/publication)



Google Scholar – number of citation, but does not enable sorting



How Do You Stay Aware of Recent Research Trends?

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A. Automatic alerts (email, RSS feeds) from a database or search engine (e.g., Google Scholar)

B. Via social media (ResearchGate, Twitter, and so on)

C. Checking a particular journal or website on a regular basis

D. Receiving a newsletter from an institution or website

E. Other (chat)

The Most Up-to-date, State-of-the-art Search

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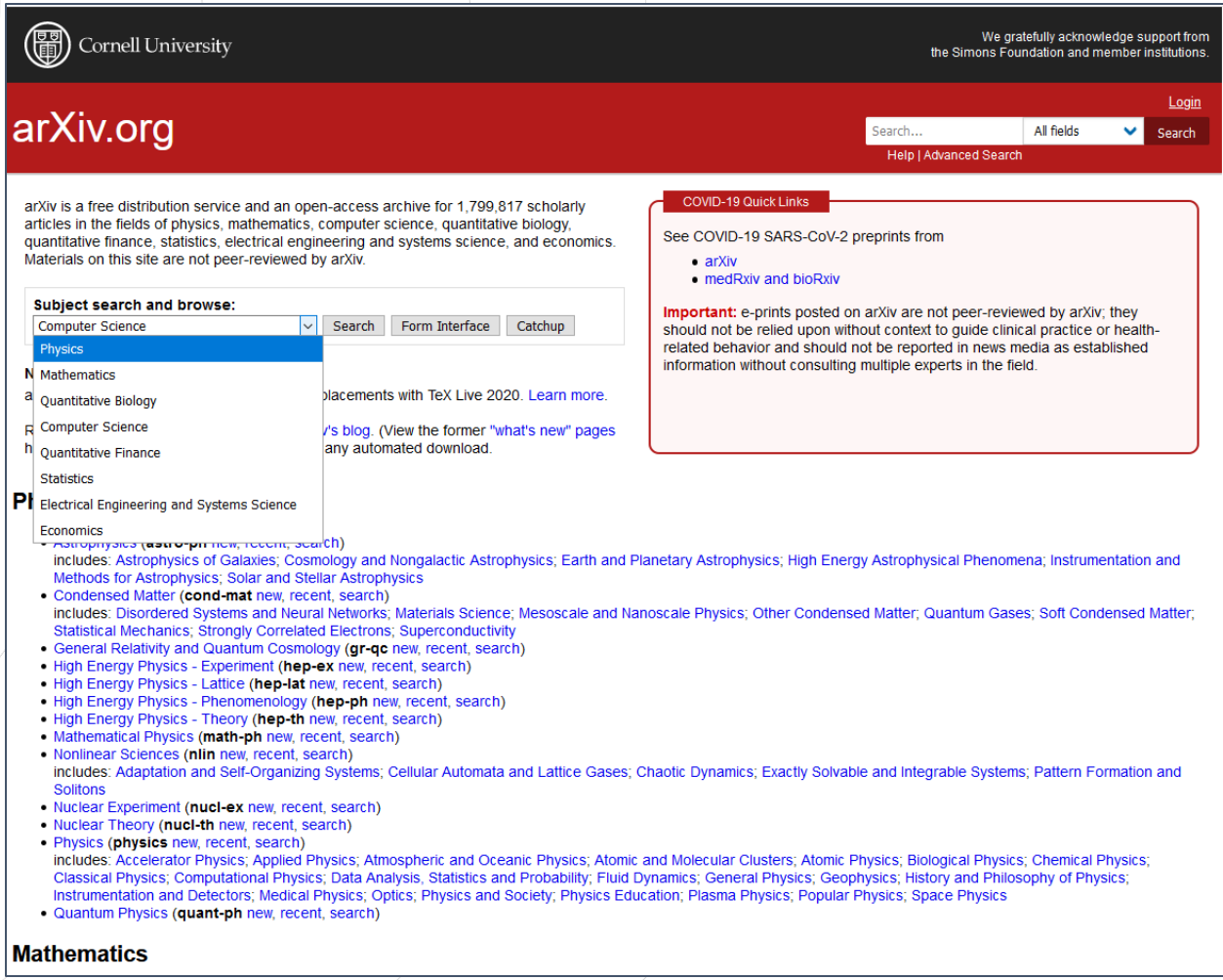
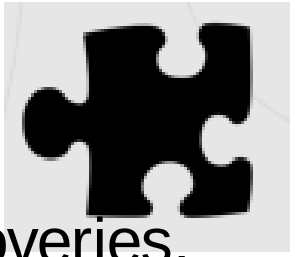
- Follow key scholars and institutions in your research field
- Preprint servers (arXiv, bioRxiv, others): articles published before peer review
- Conference papers, conference proceeding books
- Informal exploration of early-stage ideas: blogs, social networks, lectures



https://arxiv.org/

5. READING & ORGANIZING SOURCES

Reading: Smart, Careful, Mindful



- Essential part of keeping up-to-date with current research (new discoveries, leading authors, context of one‘s own research)
- Prerequisites for writing (writing habits in the field, argumentation, citing)

TIPS

- Be smart and picky; focus on abstract, conclusion, and specific issues before deciding to read the whole paper carefully
- Make notes from the very beginning; it will save your time later
- Managing sources: create your own system to organize materials and thoughts, be systematic

Managing Sources – Tips & Tricks

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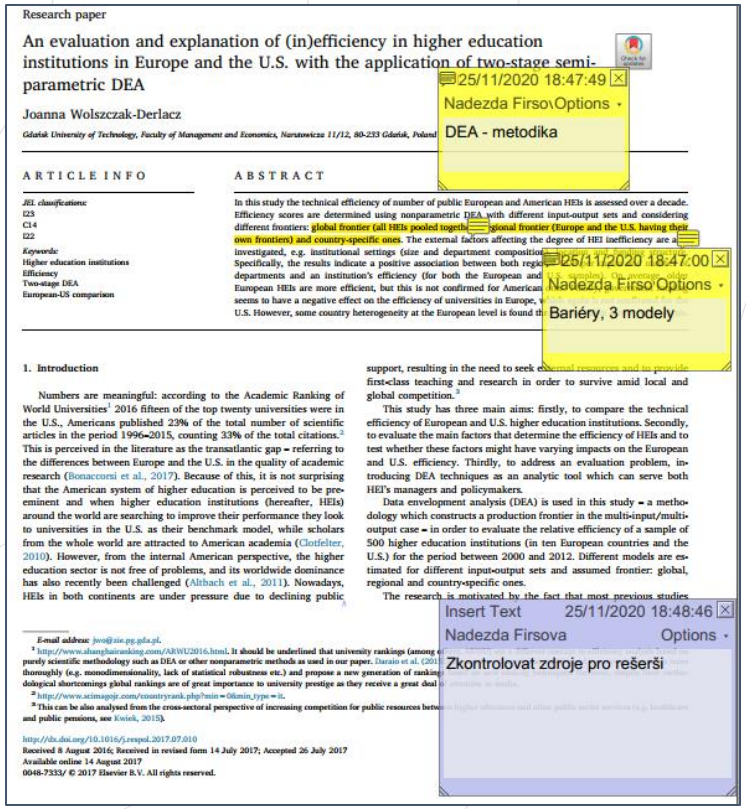
- Notes (electronic vs. written): important information, relationship to your work (methodology, contradictory or confirmatory conclusions, and so on)
- Folders, tags, or ranking system to differentiate between documents
- Citation management tools



Example of electronic notes

Example of written notes

Citation Management Tools

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- Download and manage citations
- Create personal library
- Insert tags and notes
- Collaboration
- Generation of reference list
- Integrate with word processing software tools for easy insertion of citations into documents

Zotero

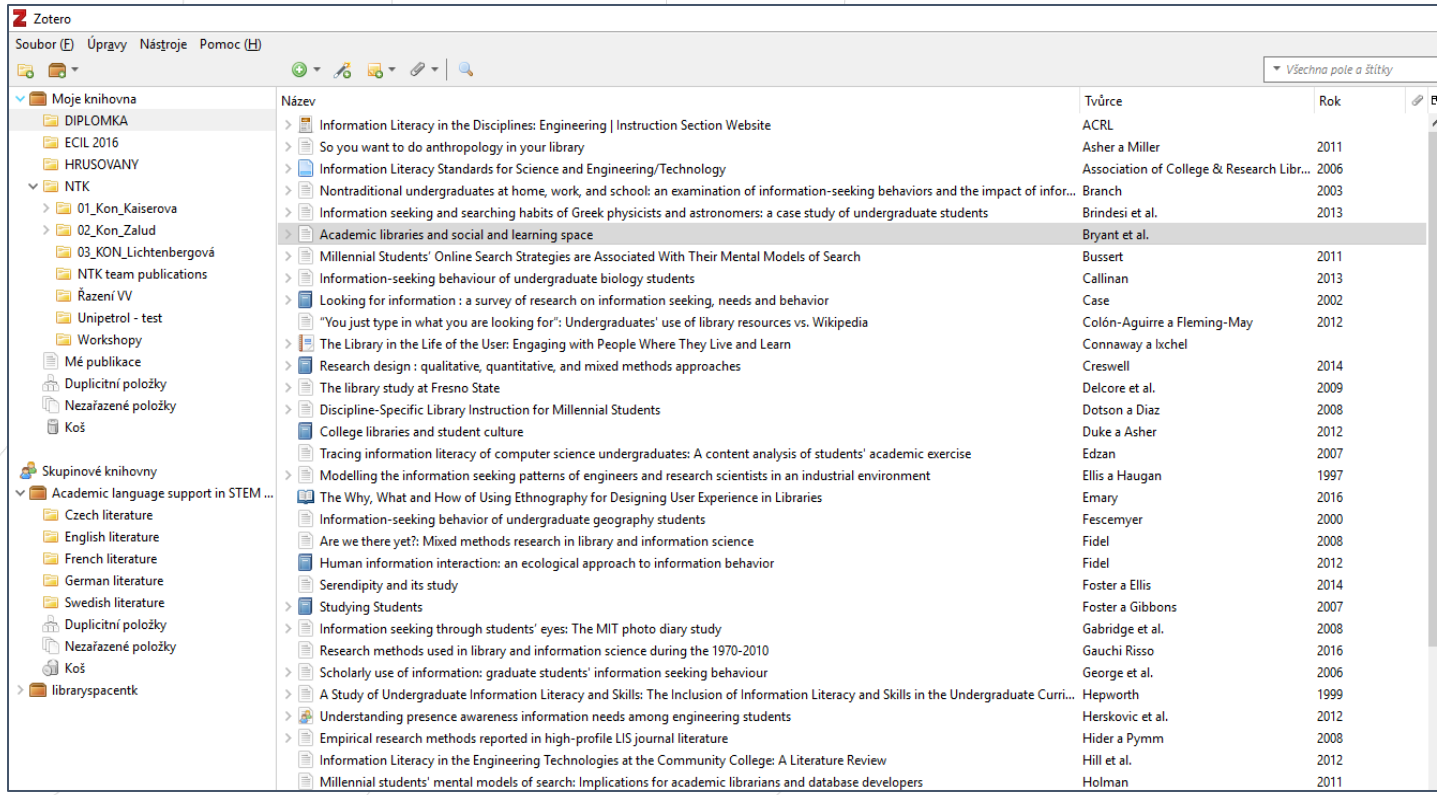
CitacePRO

Mendeley

Citavi

JabRef (integrated with LaTeX)

EndNote (subscription for UCT students)



Use them, but don't trust them absolutely!

6. PUBLISHING AND PRESENTING RESEARCH OUTPUTS

Have You Ever Published in a Scientific Journal or Conference Proceedings?

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A. Yes, as the first author

B. Yes, as a co-author

C. Not at all

Searching High-quality Journals and Conferences

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- Ask your mentor and/or peers
- Use citation and analytical databases to identify reliable journals and conferences:

  Web of Science, Scopus, Inspec Analytics
- Try recommender services such as Elsevier JournalFinder, WoS Manuscript Matcher
- Review the quality & reputation (journal metrics, editorial board, conference organizers, mentor recommendations), peer-review process and author services provided; read tips about avoiding predatory and questionable conferences
- Consider relevance of the conference to your field as well as its intended audience
- Open Access, Open Data
- Article processing charge (APC) and other costs and benefits
- Learn whether you can submit the same content to multiple journals or conferences at the same time (or not)

Searching High-quality Journals and Conferences

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Eaton, S.E. (2018). Avoiding predatory journals and questionable conferences: A resource guide. *University of Calgary*. https://files.eric.ed.gov/fulltext/ED579189.pdf

Palmer, J. C. (2016). Navigating your first academic conference. *Psychological Science Agenda*. https://www.apa.org/science/about/psa/2016/10/academic-conference

Northcentral University Library (2021). *Research Process: Scholarly Publication.* https://ncu.libguides.com/researchprocess/scholarlypublication

Berkeley Library. (n.d.) *Scholarly Publishing.* https://www.lib.berkeley.edu/scholarly-communication/publishing

UNC University Libraries. (2021). Measure Your Research Impact: Where to Publish. https://guides.lib.unc.edu/measure-impact/publish

Summary

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- Activate **Library links on Google Scholar**
- Always make sure you are logged into the library web for **off-campus access to full-text articles**
- Contact your librarian for materials that are hard-to-find
- Make notes and create your own system to organize materials from the very beginning of a project
- Use citation managers, but don’t trust them absolutely
- Critically consider journals and conferences and be aware of the publishing and conference submission process

Get Assistance

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1) Schedule a consultation

- Please don't be shy; our team includes doctoral students who know, the issues you face
- LaTeX support, Bibliometric services

2) Attend a webinar

3) Explore by yourself

- STEMskiller: comprehensive skills set map for early career researchers
- Tutorials: NTK instructional materials and recordings, further resources
- Subject guides

Contacts

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Thank you

Questions?