

# CHEM-E0105

## Academic Learning Community

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### Session 3: Information Search in Aalto University

Kyösti Ruuttunen & Kirsi Heino  
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Aalto University  
School of Chemical  
Engineering



# Course News

## Communication skills module now completed! How was it?

- Thanks for the valuable feedback!

## Scientific Article Exercise module is now starting

- Multiple tasks with many deadlines
- The final DL is February 6<sup>th</sup>
- Prof. Riikka Puurunen is responsible of SAE, gives more information shortly

## Major-specific feedback sessions on week 3

- All the students are supposed to attend their major's session
- Detailed schedule here:  
<https://mycourses.aalto.fi/mod/page/view.php?id=600608>



# Today's Programme

**8:30-9:15 Workshop on information search in Aalto (Kyösti & Kirsi)**

**9:15-10:00 Scientific Article Exercise: instructions (Riikka)**

**After the session, a quiz will open (Quiz 3). Everyone is expected to answer this quiz. If you pay attention during this session, the quiz will be very easy to complete!**

**The session will be recorded.**

***Please indicate now if you have a problem with this!***

# Information Search Workshop

1. Go to <https://libguides.aalto.fi/en>
2. Discuss questions in the breakout rooms
3. Share your views and ideas in a Google document: <https://docs.google.com/presentation/d/1Gwyv5zKJpW5S0IVS1KrudlcnYtMYSDKuhHcekpt5YKq/edit?usp=sharing>

Welcome - Resource guides - 1 X  
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# Problem 1

**You want to find information for a course essay on a general topic. How would you proceed? What type of literature would you search for? Which databases would you use and why? Which are the pros and cons of the databases you chose?**

- **Examples of general topics**
  - Chemical structure and reactivity of lignin
  - Recombinant protein production
  - Thermoelectric effect
  - Melamine – structure, manufacture and applications
  - Synthetic polymers in paper and board production
  - Functionalization of materials for biological applications
  - Demand of metals for the fossil-free society

# Answers 1

## Find textbooks

- Electronic books available from many databases, see Libguide: <https://libguides.aalto.fi/c.php?g=410695&p=2798022>

## Review articles are helpful

- Carry out a search in Scopus or Web of Science, refining for review articles

## General information can also be found from theses

- Aaltodoc is the database for Aalto's theses
- Students do not have access to the complete bachelor's theses
- Not all M.Sc. theses are electronically available

# Students' Answers (from Google Document)

Kyösti's comments in Red

**Aalto Finna** → **scientific articles** Not very efficient for this, you can use for finding the databases.

**ScienceDirect** From here you can find only articles from one publisher's (Elsevier) journals

**Scopus** Yes, very good – you will have access to the full articles through sfx links

**Google Scholar** Yes, very good – you can set the sfx links to be shown (see slide 9)

**Google Scholar, Aalto Ebook library** Yes, very good. Textbooks are nice for general information.

**EBSCOHost** Yes, very good for books!

**Web of Science** Yes, very good for articles.

**Sci-Hub** If you use Aalto's services, shadow libraries are unnecessary.

If it is a general topic, i would find a book as a base of information, from google scholar or scopus. I think that this is a very good strategy, although Scopus is not the best database for books.

**Libproxy Aalto**

# Google Scholar will not answer all your needs

## Pros of Google Scholar

Familiar and relatively simple to use, much like Google.

Variety of materials including articles, books, conference proceedings.

Can display links to articles and books held through Aalto University Learning Centre.

See how many times an article has been cited and by whom.

## Cons of Google Scholar

Does not allow users to limit results to peer reviewed or full text materials or by discipline.

Coverage is wide-ranging but not comprehensive and high scholarly quality is not guaranteed.

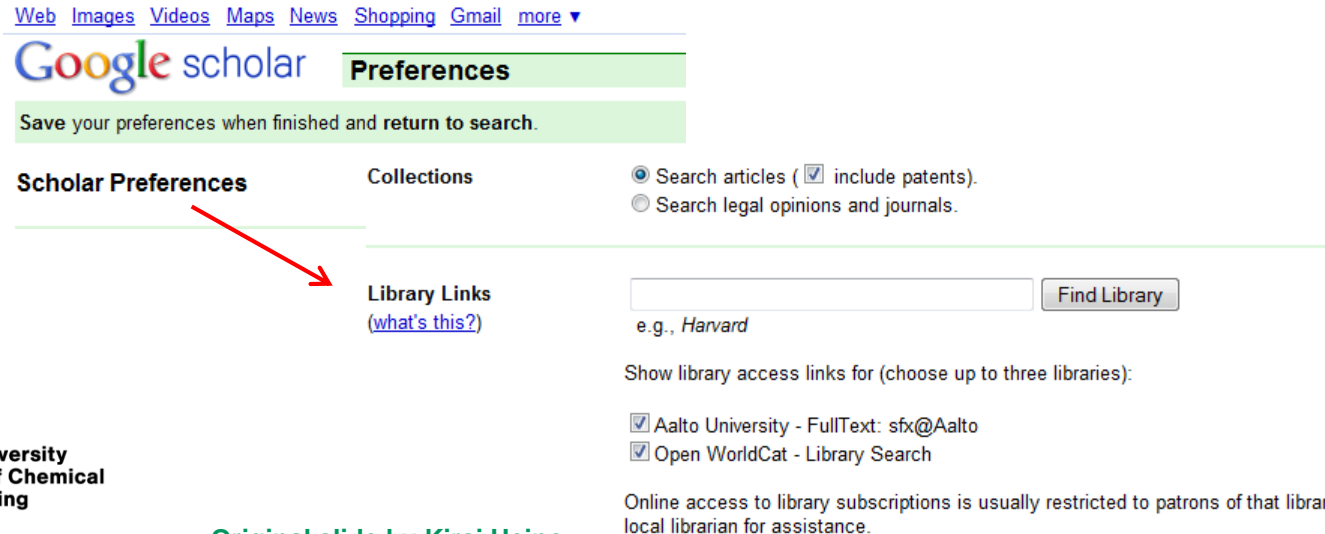
Weeding through results not held at Aalto is time-consuming.

Citation information is not as reliable as Scopus or Web of Science information.



# Google Scholar

You can set Google Scholar to read SFX links also from your own computer: <http://scholar.google.com/> - Scholar Preferences -> Library Links -> "Aalto University - FullText: sfx@Aalto" (search with 'Aalto')



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Google scholar **Preferences**

Save your preferences when finished and return to search.

**Scholar Preferences** Collections

- Search articles (  include patents).
- Search legal opinions and journals.

**Library Links** (what's this?)

e.g., *Harvard*

Show library access links for (choose up to three libraries):

- Aalto University - FullText: sfx@Aalto
- Open WorldCat - Library Search

Online access to library subscriptions is usually restricted to patrons of that library local librarian for assistance.

# Problem 2

**You find a name for a chemical compound and would like to acquire more information on it (e.g. exact chemical structure, ways to synthesize the compound, melting point/boiling point/solubility/other properties). Which tools would you use for the information search?**

# Answers 2

## Helpful databases

- Reaxys: information on compounds can be searched by inserting the structure, CAS number *etc.*
- Knovel database also provides easily accessible information of chemical compounds

## Chemical's safety data sheet

- Can be found from the supplier's web pages

***Wikipedia is also an option, but it cannot be cited!***

# Students' Answers (from Google Document) *Kyösti's comments in Red*

**Scifinder** *Very good database but unfortunately not provided by Aalto any more.*

**Chemhub** *This seems to be a commercial service, not provided by Aalto Learning Centre.*

**NIST** *This seems to be a US government service, not provided by Aalto Learning Centre.*

**Sigma Aldrich** *This seems to be a commercial service, not provided by Aalto Learning Centre.*

**Knovel databases** *Yes, very good service, which is available through Aalto Learning Centre.*

**Just google** *Yes, this works! However if you want to cite a publication, be sure to find a reliable one!*

**Safety data sheet** *Yes, very good!*

**Chemspider** *Yes, very good!*

**Reaxys** *Yes, very good!*

**Pubchem** *Seems to be good but not provided by Aalto Learning Centre.*

**HSC Database** *I am not really familiar with this, does not seem to be provided by Aalto Learning Centre.*

**Knovel and PubChem**

# Problem 3

**You would like to know more about citing; which type of style should you use, which reference management software can be used, how can you save the article PDFs, *etc.* Where can you find this information?**

# Answers 3: Citing

## Consult the CHEM School's Guideline for Written Reports

- These guidelines to be used in SAE

## Otherwise

- *When writing thesis, always ask your supervisor's opinion*
- *Once you have chosen your style, be consistent and pedantic!*
- Journal article: see the journal's web page for instructions to authors
- Conferences usually provide templates or detailed instructions for styles
- See instructions from Libguides

# Answers 3: Reference Management

## RefWorks, an example of a reference management software

- Personal account needed: <https://refworks.proquest.com/>
- Learning Centre provides RefWorks to the students and staff in Aalto
- *Also other software can be used, but in case of technical problems, support may be hard to find...*
- Two versions (old and new) available
- Requires a plug-in for MS Word
- *Can create problems with some versions of Word*
- *According to ProQuest also Google docs can be used*
- Best case: references can be imported with one click
- General information available in [Libguides](#)

# Problem 4

**If you want to find the most recent publications of a certain clearly defined topic, how do you proceed? How can you assess, which of the publications are of high quality?**



# Answers 4

## Original research articles

- Carry out a search in Scopus or Web of Science, refining for recent publications
- No easy ways for quality assessment
  - Number of citations tells something (*i.e.*, how many times the article has been cited by others)
  - Journals are often ranked by their impact factor; also, journal's JUFO ranking is worth checking
  - Watching Riikka's video highly recommended!

# Additional Problem

When writing your thesis, you find that many of the articles you are using as sources cite a very old paper as the original source of a fundamental phenomenon central to your topic. You would like to read this “classic” article. How do you search for it?

- **Examples of “classic” publications**
  - Albert Einstein’s so called *Annus Mirabilis* papers
  - Francis Crick’s and James D. Watson’s work on the molecular structure of nucleic acids
  - Isaac Newton, *Philosophiæ Naturalis Principia Mathematica*
  - Marie Curie’s work on radioactivity

# Answers to the Additional Problem

## Wikipedia and/or Google

- A lot of information on the “historic” papers
- However: normally these sources cannot be cited

## Databases

- Carry out a search in e.g., Scopus or Web of Science, then access the journal’s pages through SFX link
- If the material is not available electronically, it may be found from the National Repository Library in Kuopio (*Varastokirjasto*)
- In complicated cases Kirsi will help you!