Advanced Searching

- Steps before searching
- Topic search (Web of Science, Scopus, NEBIS)
- Refine & evaluate your results
«Some search in order to find; and some find in order to end the effort of searching.»

(Elazar Benyouëtz)
Example: Sustainable energy in Switzerland

→ effective literature search
Before searching – analyse your topic

- **How extensive should your search be?**
  Do you need everything about your topic or simply the documents providing an overview?
  *Tip: combine your search terms with «overview», «introduction», «survey», «review», ...*

- **Which material do you need?**
  Books, PhD theses, articles, ....
  ➔ different document types often require diverse search tools.

- **Which time period should be covered?**
  Since when could there be publications on the topic?
  Which period is covered by the search tools?
Before searching – analyse your topic

- **Orientation / definition of the terms**
  - Reference works (encyclopaedias, dictionaries, etc.)
  - Manuals
  - Wikipedia
  - Maybe some key papers/books you already have

- **Comprehensive searches with current issues**
  - Articles, conference proceedings, reports
  - Books
  - Standards, guidelines and patents (depending on the research topic; advanced level)

- **Historical searches**
  - Bibliographies
  - Card index
  - Archives
Before searching – analyse your topic

Analysis of the central terms of the topic → core concepts

How to find the search terms:
• Find synonyms, beware of homonyms
• Define super- and subordinate terms
• Check related terms
• Translate the search terms (if necessary)
  Tip: Use online-dictionaries (LEO etc.) as well as other relevant reference works
• Spelling BE and AE

Note:
• Previous or other spellings
• Meaningful concepts
• Write out abbreviations
• Include singular and plural forms by means of truncation

→ Bring the search terms in a meaningful order, using a table.
Word list for «Sustainable energy in Switzerland»

<table>
<thead>
<tr>
<th>Sustainable, renewable, regenerative</th>
<th>Energy</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>solar, hydropower, wind</td>
<td>Swiss</td>
<td></td>
</tr>
<tr>
<td>biomass, wood, coal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sustainable</th>
<th>Energy</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>sustainability</td>
<td>energy resources</td>
<td></td>
</tr>
<tr>
<td>renewal</td>
<td>energy sources</td>
<td></td>
</tr>
<tr>
<td>regeneration</td>
<td>energy supply</td>
<td></td>
</tr>
<tr>
<td>power (plant)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Truncation, placeholder and wildcards

Electronic search tools seek character strings, not meanings.

→ Problematic if there are various spellings (e.g. color, colour)
→ Grammatical endings aren’t taken into account

Placeholder and wildcards facilitate the search:

? Replaces exactly one sign
→ author search: Ma?er, finds Maier and Mayer

* can represent zero or more trailing, leading or enclosed characters
→ econom* finds: economy, economist, economic, economically

Note: Too much truncation might lead to wrong hits.
Note: Check, which symbols you can use in which database.
Phrase search

Search for documents with words in an exact sequence (phrase)

→ **Phrase search**: in “quotation marks”

**Example**: Scopus search for **energy transition**: 237,142 hits

Gets results on the topic of **energy transition** but also finds documents where both **energy AND transition** occur anywhere but aren’t necessarily related:

"energy transition“ 2,902 hits, exact sequence

**Tip**: Also works with Web of Science, NEBIS, Google and many more
## Truncated word list for «Sustainable energy in Switzerland»

<table>
<thead>
<tr>
<th>Sustainable</th>
<th>Energy</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>sustainab*</td>
<td>energ*</td>
<td>Switzerland</td>
</tr>
<tr>
<td>renew*</td>
<td>power</td>
<td>Swiss</td>
</tr>
<tr>
<td>regenerat*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exercise - Advanced Searching (Part a)

Fossil fuelled ships in the marine environment

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>“marine environment”</td>
<td>“fossil fuel*”</td>
<td>ship*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete the table accordingly (see sheet Exercise - Adv. Searching a)
Boolean operators (logical operators from set theory)

**OR** any one of the search terms must occur to be retrieved. Hits contain at least one of the terms.

→ Number of results increases

**AND** all search terms must occur to be retrieved. Hits contain both search terms.

→ Number of results decreases

**NOT** excludes records that contain a given search term after the NOT-operator.

→ Number of results decreases
Boolean operators

(sustainab* OR renew* OR regenerat*)
AND
(energ* OR power)
AND
(Swiss OR Switzerland)
Search in Web of Science
apps.webofknowledge.com

sustainab*
renew*
regenerat*
Search in Web of Science

Sort order of the hits: e.g. year, number of citations

To filter the hits (left menu bar): e.g. year, subject, document type etc.
Alerts - keep you up to date

- Creating search alerts
- Creating citation alerts
Search in Scopus: (sustainab* OR renew* OR regenerat*) AND (energ* OR power) AND (Switzerland OR Swiss)

www.scopus.com
Search in Scopus

Diagnostics of current developments in the field of building Airtightness
(Konferencepris)

Kraus, M.; Kuběnková, D.
VŠB-Technical University of Ostrava, Ludvíka Poděbradů 1875/17, 708 33 Ostrava, Czech Republic

Abstract

One of the basic principles of energy efficient buildings in accordance with sustainable development is perfectly airtight building envelope. Oversized heat loss through the building envelope leakage adversely affects the energy balance of buildings. The paper provides diagnosis of the recent developments in airtightness of buildings using qualitative methods. The aim of this paper is to draw conclusions, dependencies, definitions of weak and strong points of the process, their causes and consequences. © (2014) Trans Tech Publications, Switzerland.

Author keywords

Air permeability; Airtightness; Energy performance; Sustainability; SWOT

© (2014) Trans Tech Publications, Switzerland
Search in Scopus

Limit to the Keyword “Switzerland”
Advanced search

Enter query string:
TITLE-ABS-KEY(sustainab* OR renew* OR regenerat*) AND (energ* OR power) AND (TITLE(Swiss OR Switzerland) OR KEY(Swiss OR Switzerland))

Advanced Search

TITLE-ABS-KEY(…)
AND (TITLE(Swiss OR Switzerland) OR KEY(Swiss OR Switzerland))

… more flexible with Scopus’ Advanced Search

310 document results
... even more so using Scopus’ “AND NOT” operator

TITLE-ABS-KEY(...) AND NOT (ABS(*© PRE/10 Switzerland))
Search in Scopus

To sort the hits:
- eg date, cited by, relevance

To filter the hits:
- limit to eg year, author, subject, keywords
# Web of Science vs Scopus

<table>
<thead>
<tr>
<th></th>
<th><strong>Web of Science</strong></th>
<th><strong>Scopus</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subject areas</strong></td>
<td>multidisciplinary</td>
<td>multidisciplinary</td>
</tr>
<tr>
<td><strong>Contents – Journals</strong></td>
<td>&gt; 18,000 journals (via WoS Core Collection)</td>
<td>&gt; 22,700 journals (&gt; 3,400 full open access); better coverage of recent journals</td>
</tr>
<tr>
<td><strong>Contents – Books</strong></td>
<td>&gt; 80,000 books (via WoS Core Collection)</td>
<td>&gt; 138,000 non-serial books, &gt; 558 book series</td>
</tr>
<tr>
<td><strong>Contents – Conferences</strong></td>
<td>&gt; 8.2 Mio records (via WoS Core Collection)</td>
<td>&gt; 7.7 Mio records</td>
</tr>
<tr>
<td><strong>Contents – Patents</strong></td>
<td>&gt; 59 Mio records (via Derwent Innovations Index)</td>
<td>&gt; 28 Mio records from 5 patent offices</td>
</tr>
<tr>
<td><strong>Volume of data</strong></td>
<td>&gt; 90 Mio records (WoS Core Collection)</td>
<td>&gt; 60 Mio records</td>
</tr>
<tr>
<td><strong>Cited References</strong></td>
<td>from 1900</td>
<td>from 1970 (ongoing project)</td>
</tr>
<tr>
<td><strong>Updates</strong></td>
<td>weekly</td>
<td>daily</td>
</tr>
<tr>
<td><strong>Period covered</strong></td>
<td>from 1900</td>
<td>from 1823</td>
</tr>
<tr>
<td><strong>Coverage</strong></td>
<td>global, with Anglo-American focus</td>
<td>global, with European focus</td>
</tr>
<tr>
<td><strong>Identification of authors and institutions</strong></td>
<td>ResearcherID (authors must register)</td>
<td>author ID (assigned automatically), affiliation identifier</td>
</tr>
<tr>
<td><strong>Functions</strong></td>
<td>alert service</td>
<td>alert service</td>
</tr>
<tr>
<td></td>
<td>related records (based on shared references)</td>
<td>related records (based on either shared references, authors or keywords)</td>
</tr>
<tr>
<td><strong>Literature management</strong></td>
<td>EndNote, BibTeX, others</td>
<td>Mendeley, BibTeX, RIS (Endnote)</td>
</tr>
<tr>
<td><strong>Special features</strong></td>
<td>Optional (licensed) access to: Research evaluation tools &quot;Journal Citation Reports&quot; &amp; &quot;Essential Science Indicators&quot; and databases such as BIOSIS, Inspec, MEDLINE.</td>
<td>&quot;Articles-in-Press&quot; from more than 5,000 journals Medline data included. UTF-8 encoding, to display umlauts and special characters.</td>
</tr>
</tbody>
</table>
Search in NEBIS (http://recherche.nebis.ch)
Search in NEBIS

- Sort order of the hits, e.g. relevance, date-newest
- To refine the hits, e.g. year, library, language
Search in English – results in French?
Search in Lib4RI’s E-Book Catalogue (www.lib4ri.ch/e-book-catalogue.html)
Evaluation of the results

Too few results

- Search for possible sources of error (Typing errors, wildcards, …)
- View the relevant hits → restart the search with other synonyms
- Widen the subject
- Verify the search instruments

Too many results

- Narrow the search by: number of citations, publication year, reviews
- Narrow the subject
- Exclude non relevant hits (NOT, Filter)
- Verify the search instruments
Introduction to Lib4RI Resources and Services

... in your documentation

and more on the web: www.lib4ri.ch > Services > Lib4RI-Info
Thanks for your interest, stay curious!

…and continue with Exercise - Advanced Searching (Part b)