



RESEARCH PROCESS TIPS

A review of key tips for getting started on your research assignment. Refer to the Research 101 Tutorial and videos for more explanation. lib.calpoly.edu/research-101

USE THE BEST DATABASES FOR YOUR TOPIC

Step 1: Start with OneSearch

- Search with Keywords
- Filter (refine results)

Step 2: Try Subject Databases

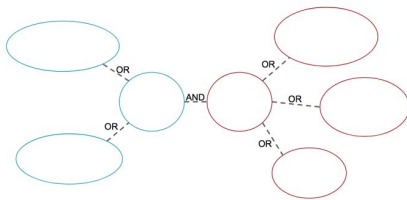
Databases – Browse by Subject: what subjects would apply to your topic?

Engineering/Science topics:

- Engineering Village (Compendex)
- IEEE
- INSPEC

GENERATE KEYWORDS ABOUT YOUR TOPIC

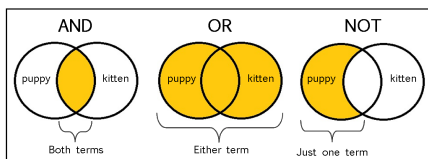
Use a concept map to brainstorm synonyms, broader terms, narrower terms, and related terms. Skim and read articles on your topic to expand your terms.



SEARCH USING **KEYWORDS**, **BOOLEAN OPERATORS**, AND **FILTERS**

Use keywords in library databases instead of sentences and questions. Use quotation marks for phrases.

Combine keywords effectively with Boolean Operators (AND, OR, NOT)



Use Filters to refine your results by subject terms/topics, date, type of publication, language, peer-reviewed, etc.

IDENTIFY CREDIBLE AND RELEVANT SOURCES

Apply the **RADAR Framework** to evaluate information sources for credibility and relevance. (See separate handout.)

- Learn to distinguish types of sources: e.g., substantive news, trade publications, scholarly journal articles, conference proceedings, etc. (see other side)

TYPES OF SOURCES

TRADE PUBLICATIONS

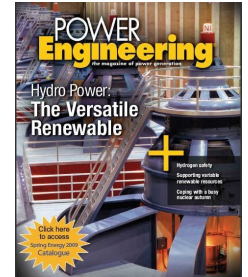
Purpose: Inform professionals of current trends and news in fields related specifically to their business or industry area. Sell field-specific products.

Authorship: Often, but not always, specialists or practitioners in the fields about which they write.

Accuracy: Editors working for the trade publication review the articles. These editors are more likely to know about the topic the article is about than a magazine or newspaper editor would, but they still are not experts on it.

Look for:

- Colorful, glossy images covers often featuring an “industrial” or trade-specific setting.
- Includes field-specific terminology.
- Includes industry-related advertising.
- Varied article length (e.g. short news blurbs, longer “feature” articles).
- May or may not cite information sources or include reference lists.



SCHOLARLY PEER REVIEWED JOURNALS

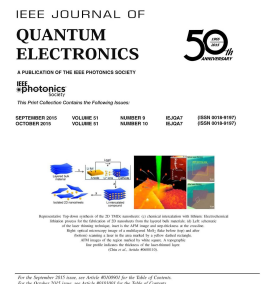
Purpose: Inform other scholars and students in higher education of new research and findings (research articles), reviews of research (review articles), and reviews of scholarly books (book reviews).

Authorship: Experts in their fields: researchers conducting original research, practitioners, professors and scholars. Scholarly/Academic Journals are produced and published by university presses and scholarly groups.

Accuracy: Many, but not all, scholarly articles are peer reviewed, a process where experts review the article before it is published.

Look for:

- long, in-depth articles
- data and evidence, e.g. tables, charts, graphs, images (but no advertisements)
- specialized or discipline-specific language and jargon
- reference lists and in-text citations
- abstract or summary
- author affiliations
- peer review information: dates of article submission and acceptance (provided in some journals)



IEEE

CONFERENCE PROCEEDINGS

Purpose: Inform the scientific/engineering world about a new technology faster than a peer-reviewed or journal article could.

Authorship: Written by the experts in the field that did the research.

Accuracy: Organized by an editorial team. The amount of scrutiny applied to these proceedings varies with the conference; some are read and either accepted or rejected right then, while others go through more vigorous scrutiny via peer-review or some other system before they are released.

Look for:

- Conference Proceedings are collections of research papers presented at research conferences.
- Are not official peer reviewed journal articles at this stage of their life, but may soon become that.
- Refers to original sources of information through footnotes and/or bibliography.
- Uses very field-specific terminology.
- Often includes graphs and charts to help explain its findings.

