**Science & Engineering Library Homepage**

 library.columbia.edu/locations/science-engineering.html

Finding Articles

**Article databases and indexes** – full text content, citations and abstracts

* Engineering Village
* Web of Science
* CLIO & Library’s Website

**If we don’t own it** – ILL (Interlibrary Loan)

**Search tips: unknown item searching**

* Brainstorm some search terms - start broadly and gradually refine results
	+ Look at controlled vocabularies, indexed keywords in other articles
	+ Start off searching in topic, keyword and title fields
* Use AND, OR and NOT to combine and build more powerful searches
	+ Usually can be used in search boxes, or as drop down menu options
	+ You can also use SAME to find two words/phrases appearing in the same sentence
* Use “quotation marks” for exact phrases
* Use \* to find plurals and variants (\*celeration will find acceleration and deceleration; child\* will find children, childhood). Very useful for author searching when used w/ first initial.
* Citation chasing – use the bibliographies of useful articles you find to find other articles and authors to search
* Cited by – most databases will now give you information on articles that cite the article you are looking at. This is very useful not only in finding other relevant research, but also in gauging how influential that work has been in the field.

Finding Patents

**Patents, Standards, and Reports**

 library.columbia.edu/subject-guides/engineering/patents.html

**Google Patent Search**

 www.google.com/patents?hl=en

**Espacenet**

 worldwide.espacenet.com/advancedSearch?locale=en\_EP/

**Derwent Innovations Index**

 www.columbia.edu/cgi-bin/cul/resolve?AUL4112

**Search tips: basic strategy**

Step 1: Keyword search in Patent Index

Step 2: Identify important classifications

Step 3: Search granted patents and/or patent applications

Step 4: Review documents

Step 5: Check cited and citing references

Step 6: Repeat from Step 3.

Finding Standards

**What?**

A standard is a document that provides requirements, specifications, guidelines, or characteristics that can be used consistently to ensure that materials, products, processes, and services are fit for their purpose.

**Why?**

|  |  |
| --- | --- |
| * Understanding
* Guidance
* Reliability
* Safety
 | * Quality
* Trust
* Interoperability
 |

**When?**

The important thing to remember is that standards change. Make sure you pay attention to when the standard was created and if it has been updated. For research purposes, you may be interested in historical standards.

**Where?**

* IEEE – Institute of Electrical and Electronics Engineers

 www.columbia.edu/cgi-bin/cul/resolve?AQN4436

* NISO – National Information Standards Organization

www.columbia.edu/cgi-bin/cul/resolve?clio5459659

* W3C – World Wide Web Consortium

www.w3.org/standards/

**Who?**

Ellie Ransom – ehr2125@columbia.edu

Jeffrey Lancaster – jeffrey.lancaster@columbia.edu

Jim Crocamo – jc2120@columbia.edu

For more information on *Patents, Technical Reports, and Standards*:

library.columbia.edu/subject-guides/engineering/patents.html