Finding Articles
Finding Patents
Finding Standards
Finding Articles

What do you have access to as a Columbia student?

- Article databases and indexes – full text content, citations and abstracts
- Columbia’s licensed e-journal collections
- Columbia’s print journal collections
  - Offsite collections @ ReCap
- If we don’t own it- ILL
Peer reviewed / scholarly journals

• Articles published in these journals have undergone the process of peer review- a team of experts in the field have critically assessed the article and deemed the scholarship to be solid. It is a kind of seal of approval.

• How can you tell?
  – Check publisher’s website – “About this journal” or “Instructions for authors”
  – Search only in peer reviewed indexes – like Science Citation Index in Web of Science
  – Check Ulrichsweb serials directory (uses term “refereed”)
What is a periodical index?

• Indexes “pull out” subject/author/title information from all of the articles published in a particular set of periodicals.

• Indexes are used as finding tools to match your research interests with related articles published in the scholarly literature. You input search terms and are given a list of citations that may be relevant.

• Know what an index or database is indexing. Ask
  – What periodicals/journals?
  – What subjects?
  – What years?
  – Just citation info, or abstracts too? Full text?
  – Keywords and controlled vocabularies – very useful
Databases

• **Engineering Village 2** - Search Compendex, INSPEC and the Referex handbook collection simultaneously.

  – Compendex- Citations and abstracts for articles in engineering and technology periodicals, conference papers and reports.

  – INSPEC- Covers journal articles and conference proceedings in physics, astronomy, electrical & electronics engineering, computer sciences.

• **Web of Science**
  
  – Web of Science consists of seven databases containing information gathered from thousands of scholarly journals, books, book series, reports, conferences, and more
  
  – Has content dating back to 1900
CLIO / Lweb

• Columbia Library Information Online –
  http://library.columbia.edu
  – Search our catalog (print and e-resources)
  – Search for databases
  – Article search – results include things we may not own. Try ILL for these items
  – Academic Commons – Columbia’s institutional repository
  – E-journals and e-books (collections and individual titles)
  – Lweb (all of CU Libraries websites content)
Lweb

- [http://library.columbia.edu/locations/engineering.html](http://library.columbia.edu/locations/engineering.html)
  - Subject centered collection of resources
    - Broken down by department, subject, type of resource, sometimes even by individual class study guides
    - Includes subject guides for:
      - Applied Physics & Applied Mathematics
      - Biomedical Engineering
      - Chemical Engineering
      - Civil Engineering
      - Computer Science
      - Earth & Environmental Engineering
      - Electrical Engineering
      - Industrial Engineering & Operations Research
      - Mechanical Engineering
Lweb

• Resource type
  – Guides to searching
    • Journals
    • Databases
    • Patents
    • Standards
    • Technical reports
    • Handbooks and reference works
    • Funding
Finding Patents

Jeffrey Lancaster, Ph.D.
Emerging Technologies Coordinator
Columbia University Libraries

jeffrey.lancaster@columbia.edu
@j_lancaster
Article 1, Section 8:
The Congress shall have Power ... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries; ...
Prior Art
### NON-PATENT CITATIONS

<table>
<thead>
<tr>
<th>Reference</th>
<th>Author(s)</th>
<th>Title</th>
<th>Journal/Volume/Year</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Tomoe, C. W., Christensen, C., Meldal, M.</td>
<td>&quot;Peptidotriazoles on Solid Phase: [1,2,3]-Triazoles by Regiospecific Copper(I)-Catalyzed 1,3-Dipolar Cycloadditions of Terminal Alkynes to Azides,&quot;</td>
<td>J. Org. Chem. 2002, 67, 3057-3064.</td>
<td></td>
</tr>
</tbody>
</table>

* Cited by examiner

### CLASSIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>International Classification</td>
<td>C08F2/46, C08F2/50, C08F2/42</td>
</tr>
</tbody>
</table>
See if you can find a patent from before you were born for that arm thing that keeps a door open.
USPTO:
United States Patent & Trademark Office

EPO:
European Patent Office

WIPO:
World Intellectual Property Organization
Espacenet: European Patent Office
Derwent Innovations Index
Classification Codes

A – Polymers and Plastics
B – Pharmaceuticals
C – Agricultural Chemicals
D – Food, Detergents, Water Treatment and Biotechnology
E – General Chemicals
F – Textiles and Paper-Making
G – Printing, Coating, Photographic
H – Petroleum
J – Chemical Engineering
K – Nucleonics, Explosives and Protection
L – Refractories, Ceramics, Cement and Electro(in)organics
M – Metallurgy
N – Catalysts
Classification Codes

P – General
P1 – Agriculture, Food, Tobacco (A01 excluding N, A24)
P2 – Personal, Domestic (A41-A47)
P3 – Health, Amusement (A61-A63, excluding A61K)
P4 – Separating, Mixing (B02-B09)
P5 – Shaping Metal (B21-B23)
P6 – Shaping Non-metal (B24-B28)
P7 – Pressing, Printing (B30- B32, B41-B44)
P8 – Optics, Photography; General (G02, G03, G09, G10)
Classification Codes

Q – Mechanical
Q1 – Vehicles in General (B60)
Q2 – Special Vehicles (B61-B64)
Q3 – Conveying, Packaging, Storing (B65-B68)
Q4 – Buildings, Construction (E)
Q5 – Engines, Pumps (F01-F15)
Q6 – Engineering Elements (F16-17)
Q7 – Lighting, Heating (F21-F28, F41-F42)
Classification Codes

S – Instrumentation, Measuring and Testing
T – Computing and Control
U – Semiconductors and Electronic Circuitry
V – Electronic Components
W – Communications
X – Electric Power Engineering
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.
Questions?

Jeffrey Lancaster, Ph.D.
Emerging Technologies Coordinator
Columbia University Libraries

jeffrey.lancaster@columbia.edu
@j_lancaster
Finding Standards

Ellie Ransom
ehr2125@columbia.edu
Research Services Coordinator
Science and Engineering Libraries
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.
Understanding
Guidance
Reliability
Safety
Quality
Trust
Interoperability

Why?
When?

Standards change.
### Where?

<table>
<thead>
<tr>
<th>Government</th>
<th>Professional Societies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• NIST</td>
<td>• IEEE</td>
</tr>
<tr>
<td>• NASA</td>
<td>• W3C</td>
</tr>
<tr>
<td>• ASSIST</td>
<td>• NISO</td>
</tr>
<tr>
<td>• GPO</td>
<td>• ISO</td>
</tr>
<tr>
<td>• etc.</td>
<td>• etc.</td>
</tr>
</tbody>
</table>

http://library.columbia.edu/locations/engineering.html
Who?

Ellie Ransom ehr2125@columbia.edu
Jeffrey Lancaster jeffrey.lancaster@columbia.edu
Jim Crocamo jc2120@columbia.edu

http://library.columbia.edu/locations/engineering/patents.html
QUESTIONS?