

**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

# 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.
  - Referex – Engineering reference collection. Handbooks, monographs

- **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>
  - 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

Questions?



# Finding Patents

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We the People of the United States, in order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common Defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

## Article 1.

Section 1. All legislative Powers herein granted, shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

Section 2. The House of Representatives shall be composed of Members chosen every second Year by the People of the several States, and the Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.

No Person shall be a Representative who shall not have attained to the Age of twenty five Years, and been seven Years a Citizen of the United States, and who shall not, when elected, be an Inhabitant of that State in which he shall be chosen.

Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and including Indians not taxed, three fifths of all other Persons. The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and in every subsequent Year in the Year of the said Enumeration.

## 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; ...

... to do Business, but a smaller Number may adjourn from day to day, and may be authorized to fill the Absences of absent Members, in such Manner, and under such Qualifications, as each House may provide.

Each House may determine the Rules of its Proceedings, punish its Members for disorderly Behaviour, and, with the Concurrence of two thirds, expel a Member.

Each House shall keep a Journal of its Proceedings, and from time to time, publish the same, accepting such Parts as may in their Judgment require Secrecy, and the Yeas and Nays of the Members of either House on any Question shall, in the Journal, be entered on the Journal.

Neither House, during the Session of Congress, shall, without the Consent of the other, adjourn for more than three Days, nor to any other Place than that in which the two Houses shall be sitting.

Section 6. The Senate and Representatives shall receive a Compensation for their Services, to be ascertained by Law, and paid out of the Treasury of the United States. They shall in all Cases, except Treason, Felony, and Breach of the Peace, be privileged from Arrest during their Attendance at the Session of their respective Houses, and in going to and returning from the same; and for any Speech or Debate in either House, they shall not be questioned in any other Place.

No Senator or Representative shall, during the Term for which he was elected, be appointed to any civil Office under the Authority of the United States, which shall have been created, or the Emoluments whereof shall have been increased during such Term; and no Person holding any Office under the United States, shall be a Member of either House during his Continuance in Office.

Section 7. All Bills for raising Revenue shall originate in the House of Representatives; but the Senate may propose or concur with Amendments as on other Bills.

Every Bill which shall have passed by the Yeas and Nays of a majority of both Houses, shall, before it becomes Law, be presented to the President of the United States; and if he approve, he shall sign it, and thereupon it shall become Law, unless he shall have returned it with his Objections to either House of Congress, in which Case it shall be the Duty of that House to take up the Bill again, and by a two thirds Majority to pass it over his Objections; and in such Case it shall be the Duty of the President to sign it.

# Prior Art

## NON-PATENT CITATIONS

### Reference

- 1 Antoni et al., "Pushing the limits for Thiol-Ene and CuAAC Reactions: Synthesis of a 6th Generation Dendrimer in a single day," *Macromolecules* 2010, 43, 6625-6631.
- 2 Dondoni, "The Emergence of Thiol-Ene Coupling as a Click Process for Materials and Bioorganic Chemistry," *A. Angew. Chem. Int. Ed.* 2008, 47, 8995-8997.
- 3 Fleming et al., "Triazole Cycloaddition as a General Route for Functionalization of Au Nanoparticles," *Chem. Mater.*, vol. 18, 2006, pp. 2327-2334.
- 4 Himo et al., "Copper(I)-Catalyzed synthesis of azoles. DFT study predicts unprecedented reactivity and intermediates," *J. Am. Chem. Soc.*, vol. 127, 2005, pp. 210-216.
- 5 Huisgen, "Kinetics and Mechanism of 1,3-Dipolar Cycloadditions," *Angew. Chem. Int. Ed.*, vol. 2, No. 11, 1963, pp. 633-645.
- 6 Kolb et al, "Click Chemistry: Diverse Chemical Function from a Few Good Reactions," *Angew. Chem. Int. Ed.* 2001, 40, 2005-2021.
- 7 Lancaster et al., "Photopatterned "Click" Functional Polymer Surfaces," *Polymer Preprints* 2010, 51(1), 66-67.
- 8 Lewis et al., "Click Chemistry in Situ: Acetylcholinesterase as a reaction vessel for the selective assembly of a femtomolar inhibitor from an array of building blocks," *Angew. Chem. Int. Ed.*, vol. 41, No. 6, 2002, pp. 1053-1057.
- 9 Li et al., "Functionalization of Single-walled Carbon nanotubes with well-defined polystyrene by "click" coupling," *J. Am. Chem. Soc.*, vol. 127, 2005, pp. 14518-14524.
- 10 Moses, J. E. and Moorhouse, A. D., "The Growing Applications of Click Chemistry," *Chem. Soc. Rev* 2007, 1249-1262.
- 11 Noodleman et al., "Quantum Chemical Studies of Intermediates and Reaction pathways in selected enzymes and catalytic synthetic systems," *Chem. Rev.*, vol. 104, 2004, pp. 459-508.
- 12 Punna et al., "Head-to-tail Peptide cyclodimerization by copper-catalyzed azide-alkyne cycloaddition," *Angew. Chem. Int. Ed.*, vol. 44, 2005, pp. 2215-2220.
- 13 Rodionov et al., Mechanism of the ligand-free Cu<sup>1</sup>-catalyzed Azide-Alkyne Cycloaddition Reaction,' *Angew. Chem. Int. Ed.*, vol. 44, 2005, pp. 2210-2215.
- 14 Rostovtsev, V. V., Green, L. G., Fokin, V. V., Sharpless, K. B., "A Stepwise Huisgen cycloaddition process: Copper(I)-Catalyzed regioselective "Ligation" of Azides and terminal Alkynes," *Angew. Chem. Int. Ed.* 2002, 41, 2596-2599.
- 15 Sun et al., "Carbohydrate and Protein Immobilization onto Solid Surfaces by Sequential Diels-Alder and Azide-Alkyne Cycloadditions," *Bioconj Chem.*, vol. 17, pp. 52-57 (2006).
- 16 \* Tartaglino et al. Photobinding of [ $\gamma$ -(32)P] ATP gamma-benzophenone to the surface of a polyurethane membrane in the preparation of a beta-particle-emitting balloon catheter. *J Biomed Mater Res.* 1999;48(5):669-74.
- 17 Tomoe, C. W., Christensen, C., Meldal, M., "Peptidotriazoles on Solid Phase: [1,2,3]-Triazoles by Regiospecific Copper(I)-Catalyzed 1,3-Dipolar Cycloadditions of Terminal Alkynes to Azides," *J. Org. Chem.* 2002, 67, 3057-3064.
- 18 \* Zhao et al. Synthesis and characterization of a polymerizable benzophenone derivative and its application in styrenic polymers as UV-stabilizer Original Research Article. *European Polymer Journal*, vol. 43, Issue 10, Oct. 2007, pp. 4541-4551.

\* Cited by examiner

## CLASSIFICATIONS

U.S. Classification 522/39, 522/49, 522/63, 522/33, 522/59, 522/34, 522/46, 522/50, 522/35

International Classification C08F2/46, C08F2/50, C08F2/42

**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**

# Google Patents

**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?

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# **Finding Standards**

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# 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

**Why?**

# When?

## Standards change.



# Where?

## Government

- NIST
- NASA
- ASSIST
- GPO
  
- etc.

## Professional Societies

- IEEE
- W3C
- NISO
- ISO
  
- etc.

<http://library.columbia.edu/locations/engineering.html>

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**QUESTIONS?**