

Getting the Most out of the Library CPIMA 2007

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Outline

- Surfing the Web
- Understanding the Scientific Literature and the Flow of Information
- Developing Search Strategies
- Managing and Formatting References
- Using Books, Journals, and Databases

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Surfing the Web

- Search Engines
- "Invisible Web"
- Subject Directories
- Content Evaluation

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Types of Web Search Engines

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General | All-in-One |
| <ul style="list-style-type: none">• Google<ul style="list-style-type: none">• http://www.google.com• Google Scholar<ul style="list-style-type: none">• http://scholar.google.com | <ul style="list-style-type: none">• ChemID Plus<ul style="list-style-type: none">• http://chem.sis.nlm.nih.gov/chemidplus/• Entrez, Life Sciences Search Engine<ul style="list-style-type: none">• http://www.ncbi.nlm.nih.gov/gquery/gquery.fcgi |
| Specialized | Metasearch |
| <ul style="list-style-type: none">• ACS Journals Full-Text<ul style="list-style-type: none">• http://pubs.acs.org• Knovel eHandbooks<ul style="list-style-type: none">• http://www.knovel.com• National Science Digital Library<ul style="list-style-type: none">• http://www.nsd.gov/• Scirus<ul style="list-style-type: none">• http://www.scirus.com | <ul style="list-style-type: none">• HighWire Press Plus PubMed<ul style="list-style-type: none">• http://highwire.stanford.edu/cgi/search• SearchPlus at LANL<ul style="list-style-type: none">• http://search.lanl.gov/ssplus/jsp/AdvanceSearch.jsp• FlashPoint<ul style="list-style-type: none">• http://flashpoint.lanl.gov/ |

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The "Invisible Web"

- The Invisible Web is made up of thousands of databases and searchable sources that contain highly targeted and valuable information, and whose content is not seen (indexed) by traditional search engines. Examples include:
 - News sites updated frequently
 - Subscriber only access
 - Free but registration required
 - Interactive pages created dynamically

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Subject Directories

- Merits of using a directory instead of a search engine include:
 - Quick access to a manageable number of pre-selected resources.
 - An easily understood arrangement for browsing.
 - Annotations and ratings.
 - Independent specialized referral.
- Example:
 - Swain Subject Guides
 - <http://library.stanford.edu/depts/swain/help/subjectguides/index.html>

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Checklist for Internet Quality

- Fitness for purpose – site serves intended purpose
- Content – unique, relevant
- Authority/Credibility – author identified, opinions or facts, sources cited, errors and quality control
- Timeliness/Currency – maintained, no dead links
- Navigation – clear logical structure
- Ease of Access – site busy, unavailable
- Design/Style – readable, use of graphics, ADA
- Performance – response time, browser compatibility
- Source for checklist: Annette Skov. Internet Quality: Separating the Wheat from the Chaff. Database Aug/Sept, 1998, p. 40.

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Academic Research Process



Summary from Amazonia Services received by GB in email, 1/13/06

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The Scientific Literature

- Flow of Scientific Information
- About Finding Books
- About STM Journals
- About STM Databases

STM = Science, Technology, & Medicine

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Flow of Scientific Information

(Source: <http://www.indiana.edu/~cheminfo/acs800/structs.html>)



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Search Strategy Checklist

- Get overview of topic by consulting books, encyclopedias & review articles
- Identify search terms and select sources to search
- Choose what indexes to search, proximity of search terms to one another, and what terms to "stem"
- Do sample search, entering terms in priority order.
- Display full record of relevant articles to identify additional search terms

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Refining a Search Strategy

- To broaden search:
 - Only use 1-2 concepts
 - Stem all terms
 - Use acronyms, synonyms & related terms
 - Allow terms to be anywhere in the same record
 - View cited/citing references
 - Search full-text instead of citation databases
- To narrow search:
 - Use 3-4 concepts
 - Don't stem terms or don't make stems too short
 - Have close proximity between terms
 - Restrict keywords to title field
 - Limit by language, doc type, pub year

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Managing & Formatting References

- RefWorks (<http://www.refworks.com/refworks/>)
 - Stanford Libraries have site license.
 - Use is free for all Stanford students, faculty, and staff.
 - Web based product that you can use to
 - Store your bibliographic references.
 - Use Write-N-Cite with Word to put footnotes into a manuscript.
 - Select an output "style" to format your references.
 - For more information, please see:
<http://library.stanford.edu/depts/serg/services/instruction/bibsoftware/index.html>

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Socrates, Stanford's Library Catalog

- <http://socrates.stanford.edu>
 - Contains cataloging information for **print** books, journal titles, theses, conference proceedings, technical reports, etc. acquired by the Stanford Libraries
 - Contains cataloging information for **electronic** journals and **some** eBooks, conference proceedings, and technical reports acquired by the Stanford Libraries
 - Does NOT contain article level information published in journals

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Socrates - Tips for Searching Journal Titles

- Need full journal title for searching Socrates. To get full title from abbreviated title, use these web services:
 - *All that JAS: Journal Abbreviation Sources*
 - <http://www.public.iastate.edu/~CYBERSTACKS/JAS.htm>
- Browse rather than search by periodical title

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Socrates - Tips for Searching Titles and Subjects

- Searching Title identifies items that have your term in the title of a book, journal or conference proceeding.
- Use a database instead of Socrates to search titles of papers that were published in journals.
- Focused Search: Search "ideal" term as title word and view full record to see official subject terms.
- Broad Search: Search "Everything" to find your term in anywhere in the library catalog record (e.g. table of contents or notes)

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About STM Journals

- Magazines, trade and scholarly journals
- Publishers:
 - Professional societies
 - Non-Profit Organizations
 - Commercial publishers
 - Educational institutions
 - Government
- Formats: print & electronic
- Peer-reviewed vs. non-peer reviewed
- Types of articles:
 - Research articles
 - Rapid communications
 - Review articles
- Access:
 - Off-campus access instructions <http://library.stanford.edu/approxy/index.html>
 - Nearly all databases and Socrates have links for potentially viewing full-text articles.
- Quality:
 - JCR: Journal Citation Reports (ranks prestige or "Impact Factor" of journals) <http://portal.isiknowledge.com>
- Science-Technology-Medicine journals are usually expensive
 - Open access
 - Author's personal web pages

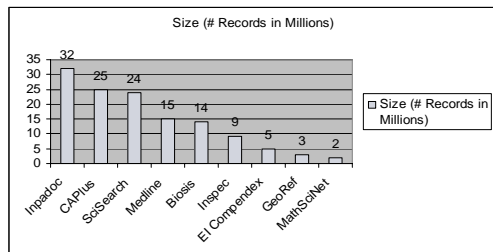
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About STM Databases

- Types of databases:
 - Bibliographic
 - Citation
 - Structure
 - Reaction
 - Numeric
- Key Databases:
 - Web of Science (or SciSearch)
 - SearchPlus (SciSearch, Biosis, Engineering Index, & Inspec)
 - SciFinder Scholar
 - Derwent Innovations Index

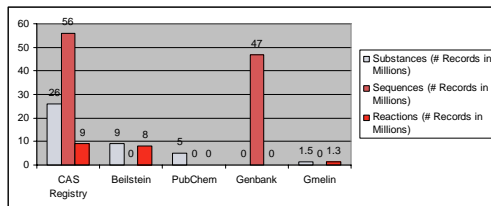
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Major STM Databases



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Selected Databases for Substances, Sequences & Reactions



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Web of Science

- “Core” Journals Only
 - Cover 1900-, updated weekly
 - 6,000 journals covering sciences, medicine, and engineering
 - Cover to cover indexing of issues
 - Unique feature is ability to see who has cited a paper
- Web interface
 - <http://www.isiknowledge.com>
 - Unlimited number of simultaneous users
 - Includes link to full-text articles and Socrates

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SearchPlus via LANL & FlashPoint

- SearchPlus
 - <http://search.lanl.gov/ssplus/jsp/AdvancedSearch.jsp>
 - Arts & Humanities (1975+)
 - Social Science (1973+)
 - SciSearch (1900+)
 - BIOSIS (1969+)
 - Engineering Index (1884+)
 - INSPEC (1898+)
- FlashPoint <http://flashpoint.lanl.gov/>
 - SearchPlus
 - PubMed
 - MathSciNet

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SciSearch via LANL

- “Core” Journals Only
 - Cover 1900-, updated weekly
 - 6,000 journals covering sciences, medicine, and engineering
 - Cover to cover indexing of issues
 - Unique feature is ability to see who has cited a paper
 - More information and link to an online tutorial: <http://library.stanford.edu/catdb/help/scisrch.shtml>
- Web interface
 - <http://search.lanl.gov/ssplus/jsp/advsearch.jsp?collection=sci>
 - SFX link to Socrates and full-text articles

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SciSearch via LANL – Search Tips

- Terms automatically stemmed (variant endings searched)
- Two adjacent terms are searched as a phrase
- Use AND between terms – terms may be anywhere in record
- Use <near/#> to have terms being searched closer together
 - Ex: <near/5> terms must be within 5 words of one another
- Options for focusing results:
 - Search terms only in the title
 - Limit results to Document type = review
 - Specify Category (e.g. Chemistry, Analytical) to limit subject areas of journals searched
 - Limit by publication year
 - Sort results by Times Cited to find most cited papers

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Chemistry Databases are Large and Complex

- Chemistry databases are the largest ones of all the subject areas
- Types of searches: bibliographic, cited/citing references, structure, reaction, sequence, and numeric.
- Key document types: journals, patents, conferences, dissertations, monographs and reference works.
- Client-server technology used as web isn't robust enough yet.

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Chemistry Databases are Large and Complex

- Handbooks such as Beilstein and Gmelin, have up to 350 and 800 fields respectively, for a substance.
- Data entry based on a myriad of rules and formats
 - Nomenclature Rules
 - MFs: Hill System Order and Case Sensitivity
 - Numeric ranges vs CAS Registry Numbers

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SciFinder Scholar

- Most comprehensive database for the chemistry and chemical engineering literature.
- Updated daily, covers 1907 to present (600 records before 1907).
- Includes over 23 million articles, 25 million compounds, 53 million sequences, and 9.7 million reactions.
- 9,500 serials plus patents, dissertations, technical reports, books, conferences. Only database that covers all types of documents.
- Also includes Medline database (1958-present).
- Contains cited/citing references from 1999-present. Also contains full-text links to articles.
- Client software for searching Chemical Abstracts Online.
- <http://library.stanford.edu/depts/swain/scifinder.htm>
- User-friendly yet powerful search software.
- Download and use on campus or at Swain.
- Restricted to current Stanford students, faculty, and staff.
- Limits on number of references you can download.
- Remote Access to SFS:
 - <http://cdserver.stanford.edu>

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SciFinder - Learning Resources

- SciFinder How to Guides
<http://www.cas.org/support/scifi/howto/index.html>
- CAplus Core Journal Coverage List
<http://www.cas.org/expertise/cascontent/caplus/corejournals.html>
- The Sections of Chemical Abstracts
<http://www.cas.org/products/print/ca/casections.html>
- CAS eSeminars
<http://www.cas.org/support/academic/sf/eseminarlisting.html>
- SciFinder Search Strategies
<http://www.cas.org/support/scifi/strategies/index.html> Includes small molecule, synthetic chemistry, and polymer chemistry.

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Derwent Innovations Index

- <http://portal.isiknowledge.com/portal.cqi?DestApp=DIIDW&Func=Frame>
- This unique merged data set, comprising 14.3 million inventions from 41 worldwide patent-issuing authorities, is accessed through an intuitive web interface. You can browse easily between patent records without using a complicated search language, and explore related ideas using citation links.
- Recorded Training
<http://scientific.thomson.com/support/recorded-training/dii/>

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New Resources - Trial Access Through 6/30/07

- Access MRS Materials Gateway Resource Center and Online Proceedings Library here: <http://www.mrs.org>

Proceedings are searchable by author name, paper title, volume number and keyword. The collection also includes 141 proceedings volumes (over 2500 papers) that were never published in print format and are available only online.

- KnowItAllU: <http://www.knowitallanyware.com>

KnowItAll U is an exciting new resource enabling campus-wide access to over 1.2 million spectra—the world's largest collection—with data for NMR, IR, UV-Vis, and Raman spectroscopy as well as mass spectrometry. In addition, KnowItAll U includes Bio-Rad's award-winning spectroscopy, cheminformatics, and chemometrics software.

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