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JOURNAL AND CONFERENCE ARTICLES

Journal and conference articles are the primary venue engineers use to disseminate scholarly research. Although no one database provides a master list to all of this literature, each of the following databases indexes a key segment of STEM literature. The top few listed are likely to be of use to any engineering research topic. Others may be of interest for only specific topics. Many of the articles can be accessed electronically, usually by following the FindText link. Items not owned by the library can be ordered through Inter-Library Loan (ILL).

- **Compendex**

One of the best databases of engineering literature. Covers journal and conference literature for all engineering and related disciplines. Notre Dame has access to Compendex via the Engineering Village interface which allows simultaneous searching with INSPEC.

- **Inspec**

The primary focus of this database is physics, electrical engineering, and computer science, but covers to some degree all areas of engineering. Can be searched simultaneously with Compendex.

- **Web of Science**

Accesses multidisciplinary databases of bibliographic information gathered from thousands of scholarly journals. The databases are indexed so you can search for specific articles by subject, author, journal, and/or author address. Because the information stored about each article includes the article's cited reference list (often called its bibliography), you can also search the databases for articles that cite a known author or work.

- **PubMed**

A free search engine with FindText access to ND's electronic journals. Searches MEDLINE, the National Library of Medicine's database of citations/abstracts in the fields of medicine, plus additional selected life sciences journals not in MEDLINE.

- **SciFinder Web**

Provides access to several Chemical Abstracts Service



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databases, including Chemical Abstracts, Registry, CASREACT, CHEMLIST, and CHEMCAT. Search by topic, author, CAS Registry Numbers, patent number, CAS abstract number, chemical name, chemical structure, and formula. Usage info: Licensed for six simultaneous users.

- **IEEE Xplore**

Provides full-text access to the complete backfiles of IEEE transactions, IEEE and IEE/IET journals, magazines, and conference proceedings, and all current IEEE standards; brings additional search and access features to IEEE/IET electronic library users.

- **Engineering Research Database**

Provides indexing and abstracts for international serial and non-serial literature pertaining to civil, earthquake, environmental, mechanical, and transportation engineering. Consists of database subfiles that may be searched separately or simultaneously.

- **ScienceDirect (Online)**

ScienceDirect is a full-text scientific database offering journal articles and book chapters from almost 2,200 active journals and more than 26,000 books published by Elsevier.



- **SPIE Digital Library Proceedings**

Cross searchable, full-text database of papers on optics and photonics from SPIE journals and proceedings, as well as SPIE eBook titles.

- **ASCE Civil Engineering Database**

Provides full-text access to the journals published by the American Society of Civil Engineers.

- **American Geophysical Union**

AGU Digital Library is a comprehensive collection of more than 100 years of earth and space science research. The library contains articles from journals dating back to 1896.

- **INIS Database**

The International Nuclear Information System database hosts one of the world's largest collections of published information on the peaceful uses of nuclear science and technology. It offers online access to a unique collection of non-conventional literature. INIS is operated by the IAEA in collaboration with over

Information is operated by the information center with over 150 members.

TIPS FOR READING A SCHOLARLY ARTICLE

Understanding how scholarly articles are organized helps make it easier to understand them. Here are some **tips for reading scientific articles**:

- Michael Fosmire of Purdue University created a helpful tutorial on "**How to Read a Scientific Paper.**"
- Mary Purugganan and Jan Hewitt of Rice University created a handout on "**How to Read a Scientific Article**" as part of the Cain Project in Engineering and Professional Communication.



BOOKS

Engineers use **books** in various ways. Handbooks and encyclopedias provide background information but are also tools to find equations, material properties, and other valuable pieces of information needed by engineers to succeed. Books are especially important in a college setting. Alternative textbooks can provide another perspective for students struggling to learn a new principle. Other books can provide overviews to aid in learning. Search in the ND Catalog for the books owned by the library, even the ebooks. Note that some books on engineering topics may be located in the main library or the Chemistry/Physics Library.

- **Knovel** [↗](#)

Collection of cross-searchable e-books on engineering topics drawn from dozens of technical publishers and professional societies. Includes professional handbooks and analytical tools.

- **Hesburgh Libraries Online Catalog (ND Catalog)**

ND Catalog lets you search the holdings of the Hesburgh Libraries, Kresge Law, and Holy Cross libraries' catalogs separately or together. It includes content from the University Archives, the Center for Research Libraries, and working papers from the Institute for Latino Studies.

- **SPIE eBooks** [↗](#)

Access to eBooks on optics and photonics. Includes reference books, textbooks, handbooks, tutorial texts, and field guides.

- **Springer eBook collection: Computer Science**

Provides a list of titles in the collection with links to full text.

- **Leisure Reading in Science and Technology**

A list of general interest STEM books, which have been recently purchased to the ND libraries.

- **Kirk-Othmer encyclopedia of chemical technology** [↗](#)

- **WorldCat** [↗](#)

A worldwide union catalog created and maintained collectively by more than 9,000 OCLC member institutions. With millions of



online records built from the bibliographic and ownership information of contributing libraries, it is the largest and most comprehensive database of its kind.



GOVERNMENT INFORMATION

Government sponsored research is critical for the advancement of science and technology. Engineers use technical reports in a manner similar to journal articles. Patents and trademarks are also important to engineers.

- **National Technical Information Service search for products.**



NTIS indexes over 3 million technical reports of government supported research.

- **Science.gov**

Searches over 60 databases and over 2,200 scientific websites to provide users with access to more than 200 million pages of authoritative federal science information including research and development results

- **TRAIL (Technical Report Archive and Image Library)**

Searchable database of U.S. government technical reports issued primarily prior to 1975, from a collaborative project to digitize, archive, and provide persistent and unrestricted access.

- **U.S. Department of Energy**

DOE home includes sections on: - National Security - Energy Sources - Energy Efficiency - Environment - Energy Prices & Trends - Science & Technology - Health - Safety & Security.

- **Google Patents**

Search and read the full text of patents from around the world with Google Patents, and find prior art in our index of non-patent literature.

- **United States Patent and Trademark Office**

Access to issued patents' full-text (since 1976) and full-page image (since 1790) databases.



STANDARDS

Standards are used heavily by engineers. They specify characteristics and properties of certain processes or products which may be required to satisfy contracts or grants or just to make sure your project will interact.

- **ASTM standards and engineering digital library**

"Electronic edition of nearly every ASTM book, paper, or chapter from nearly every piece of work published by ASTM."--ASTM home page. "... covers a broad range of engineering disciplines, including aerospace, biomedical, chemical, civil, environmental, geological, health and safety, industrial, materials science, mechanical, nuclear, petroleum, soil science, and solar engineering."--Home page. Access info: Select "Standards and Engineering Digital Library" then click "Yes, I agree with the License"

- **IEEE standards**

Contains searchable documents authored by the IEEE Standards Association, as well as standards developed in conjunction with or dually approved by other standards organizations. Includes ANSI/IEEE standards, ANSI standards, and AIEE standards. Also includes IEEE draft standards.



THESES AND DISSERTATIONS

These resources will help you find unpublished **theses and dissertations**, which present an author's research and findings as part of their degree candidacy or professional qualification.

Many institutions no longer submit their theses and dissertations to ProQuest. You can usually access theses and dissertations at the institutional repository of the university from which the degree was awarded (e.g. CurateND). These institutional repositories are usually associated with the colleges libraries.

- **ProQuest Digital Dissertations** [↗](#)

Provides information about doctoral dissertations and master's theses, with subject, title, and author access to almost all American dissertations accepted at an accredited institution since 1861. Offers full text for most dissertations (Notre Dame and other) added since 1997. Access info: Access to full text (PDF) of Notre Dame dissertations since 1997, restricted to users with valid Notre Dame NetIDs.



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