

# Library Resources to Support Research and Academic Activities in Mechanical & Aerospace Engineering

## Part I: Finding Books, Journal Articles, and Patents

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### HOW TO FIND BOOKS

To search for books, use the University Libraries Catalog, BISON, which provides information on the location and availability of over three million books and other materials owned by the UB Libraries. To connect to BISON, go to: <http://ublib.buffalo.edu/libraries/e-resources/bison/>

BISON can be searched by *author*, *title*, and *subject*. You can also search BISON by keywords, combining words and phrases. For example, click on **Keyword** and enter the terms:

**robot? and kinematic?**

The word "**and**" in the above keyword search directs the computer to retrieve records that contain *both* of your search terms. The question mark (?) is a truncation, or wildcard, symbol and will pull up records with all forms of the words, i.e., *robot*, *robots*, *robotic*, *robotics*, *kinematic*, *kinematics*.

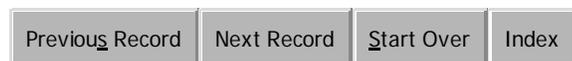
#### UB Libraries Catalog

Search Request: K=ROBOT? AND KINEMATIC?

#### Record Display

Record 1 of 36 Entries Found

Please use these catalog buttons, not the browser back button:



Location:	Call Number:	Status:
SCI/ENGR Book Collection	TJ211.4 .A37 2000	Not checked out

TITLE: Advances in robot kinematics / edited by J. Lenarcic and M.M. Stanisic.  
CONTRIBUTORS: Lenarcic, J. (Jadran)  
Stanisic, M. M.  
PUBLISHED: Dordrecht; Boston: Kluwer Academic, c2000.  
DESCRIPTION: 442 p.; ill.; 24 cm.  
SUBJECTS: Robots--Kinematics.  
NOTES: Includes bibliographical references and index.

The record above tells you the library the item is located in, its call number, and whether or not it is available for you to check out.

## Searching Electronic Books

The UB Libraries subscribe to a number of electronic book databases. These databases provide access to the full text of many engineering handbooks. Handbooks can provide you with an overview of your topic as well as detailed information, in addition to very specific types of information such as properties data and equations.

### Knovel E-Books

<http://ublib.buffalo.edu/libraries/e-resources/knovel.html>

An excellent place to start when researching many engineering topics. Especially good for finding properties data. Knovel provides full-text access to an online collection of over 450 science and engineering books published by a variety of sci-tech publishers. Many of the books are enhanced with features such as interactive tables and graphs. Through Knovel, you can access such classic mechanical engineering handbooks as *Marks' Standard Handbook for Mechanical Engineers* and *The Machinery Handbook*.

**Another good source for properties data is:**

- **CRC Handbook of Chemistry and Physics**

<http://ublib.buffalo.edu/libraries/e-resources/crc.html>

Critically reviewed and referenced data and properties of elements, chemical and biochemical compounds, metals, alloys, ceramics, and other materials.

### ENGnetBASE

<http://ublib.buffalo.edu/libraries/e-resources/ENGnetBASE.html>

Provides access to the full content of over 200 engineering handbooks covering all areas of engineering and applied science, ranging from aerodynamics to transportation engineering. You can browse an alphabetical listing of titles or search the database by keywords and phrases. Valuable for background information as well as for in-depth treatments of engineering research topics.

### Safari Tech Books Online

<http://ublib.buffalo.edu/libraries/e-resources/safari.html>

Provides access to electronic versions of the most current editions for books in the areas of computer programming, including manuals on Visual C++, for example, and computer applications.

## Expanding Your Search for Books Beyond UB

After searching BISON, you can expand your search for books beyond UB by using the database below:

### WorldCat

<http://ublib.buffalo.edu/libraries/e-resources/worldcat.html>

WorldCat is a mega-catalog with 40+ million records for books and other materials owned by over 20,000 libraries.

## Borrowing Books from Other Research Libraries via ILLiad

If UB doesn't own a book you need, we can borrow a copy of the book for you from one of the thousands of research libraries with whom we have reciprocal borrowing arrangements through InterLibrary Loan. To request a book (or other item) through InterLibrary Loan, use **ILLiad** at <http://uilliad.lib.buffalo.edu/illiad/lml/logon.html>.

## HOW TO FIND JOURNAL ARTICLES

The journal literature is the core literature in science and technology, primarily because of its currency. To search for journal articles, use one of the databases listed below, which will provide you with a list of references, or citations, to journal articles (and often to other types of publications, such as conference papers). In addition to providing you with a complete reference (author's name, article title, journal name, volume/issue number, page numbers, and date), many indexes also provide an abstract, or summary, of the article – **and some include full text.**

### **COMPENDEX Plus (Engineering Index)**

<http://ublib.buffalo.edu/libraries/e-resources/compindex.html>

Provides references plus abstracts as well as *selective full text* to journal articles and conference papers in all areas of engineering and applied science. Coverage is for the years 1980-present. To determine if the article you want is available online, click on External Link Resolver.

### **Science Citation Index Expanded on the Web of Science**

<http://ublib.buffalo.edu/libraries/e-resources/sci.html>

Provides citations plus abstracts and *selected full text where available* to journal articles on a wide range of scientific and technical topics. Coverage online is for the years 1973-present. SCI has the unique feature of allowing you to search by cited author or cited reference. Click on the SFX button to see if full-text is available.

**Other Databases** – There are *many* other databases that provide access to journal articles, conference papers, and other materials on topics in mechanical and aerospace engineering. For a listing of these databases, go to: <http://libweb.lib.buffalo.edu/infotree/resourcesbysubject.asp?subject=Mechanical+Engineering>

### **How to Determine if UB Owns a Particular Journal**

To determine if UB owns the journal that contains the article cited in your reference, you need to search BISON, the UB Libraries catalog. In BISON, click on **Title** and then type in the full name of the journal, for example:

*journal of tribology*

You will get a **Title Index screen** listing both the print version (number 1, below) and, if we have an electronic subscription, the online version (number 2, below) of the journal:

JOURNAL OF TRIBOLOGY  
1 <NEW YORK N Y> serial (GL)  
2 JOURNAL OF TRIBOLOGY ONLINE <NEW YORK NY> serial (GL)

The record for the online version of the journal will include a hot-linked URL that will take you to the web page for the journal and the full text of articles published in it **for a specific span of years**. Be sure to check the date of the article you need and match that up with the coverage in the electronic journal. If your article falls outside the specified date range for online coverage, then you will need to use the print journal.

### **Obtaining Copies of Articles in Journals UB Doesn't Own from Other Libraries via ILLiad**

If we don't have the journal in print or online format, we can still arrange to get a copy of an article you need for you from another library through **ILLiad**, our InterLibrary Loan service.

There is no fee for this service. All you need to do is fill out an online request form through ILLiad at <http://uilliad.lib.buffalo.edu/illiad/>.

## **Browsing / Searching Electronic Journals**

The UB Libraries subscribe to the electronic versions of many research journals. Below are listed some of the e-journal packages we have access to:

### **ASME Journals**

<http://ublib.buffalo.edu/libraries/e-resources/asme.html>

Full-text access to journals published by the American Society of Mechanical Engineers that the UB Libraries subscribe to in print. Coverage is for the years 2000-present.

### **Cambridge Journals Online**

<http://ublib.buffalo.edu/libraries/e-resources/cjo.html>

Full-text access to articles from journals published by Cambridge University Press that the UB Libraries subscribe to in print, including *Artificial Intelligence for Engineering Design, Analysis and Manufacturing (AI EDAM)* and *Journal of Fluid Mechanics*. Coverage varies by title.

### **IEEE Xplore**

<http://ublib.buffalo.edu/libraries/e-resources/ieee.html>

Provides full text access to IEEE and IEE publications including journals, transactions, magazines, and conference proceedings as well as IEEE standards. For some titles, coverage goes as far back as the 1950s.

### **SIAM Journals**

<http://ublib.buffalo.edu/libraries/units/sel/e-resources/siam.html>

Full text access to journals published by the Society for Industrial and Applied Mathematics that the UB Libraries subscribe to in print. Coverage is for 1996-present.

### **ScienceDirect**

<http://ublib.buffalo.edu/libraries/e-resources/ScienceDirect.html>

Online access to many of Elsevier Science's journals for the years 1997-present.

### **Wiley InterScience**

<http://ublib.buffalo.edu/libraries/units/sel/e-resources/wiley.html>

Full-text of the 400+ journals published by Wiley, including many in the sciences, for the years 1997-present.

You can search for **other electronic journals** by title via <http://ublib.buffalo.edu/libraries/e-resources/ft.html>

## **HOW TO FIND PATENTS**

Patents are a rich, though often overlooked, source of detailed scientific and technical information.

### **U.S. Patent Databases**

<http://www.uspto.gov/patft/index.html>

Produced by the U.S. Patent & Trademark Office, this publicly accessible website provides free full-text access to U.S. patents and patent applications. The *Issued Patents Database* contains the full text content of U.S. patents back to 1790. Patents from 1976-present can be searched by keyword as well as by patent number,

classification code, inventor's name, assignee's (company's) name, primary examiner's name, and issue and application date, etc. Patents from 1790-1975 can be searched by patent number and by classification code only. The *Patent Applications Database* contains the full text of patent applications from March 15, 2001, to the present. Note: Complete images for patents and patent applications are included in a compressed TIFF format that requires special viewing software.

**Worldwide Patents Full-Text at ESP@CENET**

<http://ep.espacenet.com/>

The European Patent Office has developed a worldwide patent database of over 30 million patents, many with full-text page images, available at no charge. Full bibliographic information (title, abstract, and patent numbers) for patents from 61 countries can be searched as far back as 1984, depending on the country. For 23 countries, you can search on titles and display full-text page images (PDF files) as far back as 1920. European, World, and Japanese patents are included as well as patents from numerous other countries on every continent, including the U.S.

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*In Part II we will learn how to find dissertations, technical reports, and standards, as well as demonstrate some of the features of the bibliographic management software package, EndNote.*