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# SELECTIVE GUIDE TO LITERATURE ON INDUSTRIAL ERGONOMICS

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In both Europe and the United States the use of principles to improve efficiency in the workplace began around the turn of the twentieth century. During World War I an interest in the relationship between humans and their work environment arose, but it was only in 1949 when the term *ergonomics* was first adopted. Thus, ergonomics is a relatively new technological field.

The term *human factors* is used interchangeably with ergonomics. In fact human factors engineers and ergonomists perform the same kind of work and use the same information. Ergonomics was adopted in England and its origin is related to the work done in factories, human factors was adopted in the United States and initially was more related to the efforts made by the military. (1)

**Industrial Engineering Terminology**, (revised edition, 1991) defines ergonomics as: "The application of a body of knowledge (life sciences, physical science, engineering, etc.) dealing with the interactions between man and the total working environment, such as atmosphere, heat, light and sound, as well as all tools and equipment of the workplace." It is indeed a highly interdisciplinary field. It can be said that ergonomics is used in any field where there are interactions between humans, humans and the environment, humans and tools, and humans and machines.

This literature guide is about industrial ergonomics; the emphasis is on the ergonomic principles, methodologies, and technologies used to make industrial operations more efficient, productive, and safe.

The purpose of this guide is to identify library resources which help students, researchers, practicing engineers, technical personnel and information professionals seeking information about industrial ergonomics. The guide lists printed and electronic reference works, including conference proceedings and major periodicals. It also identifies Internet resources of recognized quality.

1. Gavriel Salvendy, ed., Handbook of Human Factors, (New York: John Wiley, 1987).

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This section contains a listing of some basic bibliographic reference sources important for finding information on this topic. It also includes more specialized bibliographies covering some of the aspects of industrial ergonomics. The variety of entries listed in this section - books, journal articles, and documents - demonstrates how diversified and scattered the resources for industrial ergonomics are. Some Web sites also have pages of extensive bibliographies. These sites are identified in the Internet Resources section of this guide.

Chen, Ching-chin. Scientific and Technical Information Sources. 2nd ed. Cambridge, MA: MIT Press, 1987.

This is a major compilation of scientific and technical sources. It is divided into 23 chapters by types of sources, with each chapter further subdivided into several subject areas such as electrical and electronics engineering, computer technology, industrial engineering, etc.

Brian, Thomas J. The World Wide Web for Scientists & Engineers: A Complete Reference for Navigating, Researching & Publishing Online. London: INSPEC, IEE, 1999.

This book contains a webliography of over 160 pages, Web sites are divided into 22 major technology fields. In addition, it has extensive information about how scientists and engineers can use the Internet.

Green J. R., H. C. Self, and T. S. Ellifritt, eds. **50 Years of Human Engineering: History and Cumulative Bibliography of the Fitts Human Engineering Division**. Wright-Patterson Air Force Base, OH: Crew Systems Directorate, Armstrong Laboratory, Air Force Materiel Command, 1995.

A 290 page report about the research and development activities of the Fitts Human Engineering Division from 1945 to 1994. It is organized around an extensive bibliography covering among other subjects human factors, ergonomics, control systems, display systems, work stations, visual perception, design criteria, and control panels.

Human Factors and Ergonomics Society. **Industrial Ergonomics Bibliography**. Santa Monica, CA: The Society, 1992.

A concise annotated bibliography with 68 references. It covers some of the basic resources in the field.

Hurt, Charlie Deuel. **Information Sources in Science and Technology**. 3rd ed. Englewood, CO: Libraries Unlimited, Inc., 1998.

A multidisciplinary guide covering in 21 chapters the biological sciences, the physical sciences, mathematics, engineering, and health and veterinary sciences.

International Occupational Safety and Health Information Centre. 1998. **Bibliography: Ergonomics**. Safety and Health at Work. ILO-CIS Bulletin, 12, no. 6:291-328.

A bibliography dealing with ergonomic factors of industrial safety, occupational safety prevention and control, and environmental concerns in the work place.

Malinowsky, H. Robert. **Reference Sources in Science, Engineering, Medicine, and Agriculture**, Phoenix, AZ: Oryx, 1994.

This is a basic bibliography of reference sources in these fields. Over 2,400 citations with descriptive annotations are included.

Mildren, K., and P. Hicks, eds. **Information Sources in Engineering**. 3rd ed. New Providence, NJ: Bowker-Saur, 1996.

Contains extensive coverage of the engineering and technical literature written by experts in each field. The third edition, in addition to information about specific subject areas, also has chapters covering reports, standards, patents, journals, and conference, as well as, abstracting and indexing services and electronic resources.

Pelsma, Kimberlie, Henry M. Rylko, and Kate McGee, eds. **Ergonomics Sourcebook: A Guide to Human Factors Information**. Lawrence, KS: Report Store, 1987.

It includes information about professional associations, online databases, research centers, consultant organizations, important journals and reference sources. It is probably the most comprehensive source for ergonomics information but has not been updated since 1987.

Schenk, Margaret T., and James K. Webster. **What Every Engineer Should Know About Engineering Information Resources**. New York: Marcel Dekker, 1984.

This book contains most of the basic information sources practicing engineers would need for their jobs. It is divided into 25 chapters covering areas such as standards and specifications, patents, periodicals, and technical reports.

Woods, D. D., L. Johannesen, and S. S. Potter. 1991. "Human Interaction with Intelligent Systems: An Overview and Bibliography." *SIGART Bulletin* 2, no. 5 (1991): 39-50.

This bibliography is divided into four major areas: Empirical Studies, Theoretical Perspectives, System Building, and Reviews and Workshops. Each section is divided into several subtopics. An overview of the field of human interaction with intelligent systems and introductions to each section provide helpful guidance.

Indexes and abstracts are the tools for locating not only journal articles, but also technical reports, conference proceedings, etc., by subject and/or author. At least one such index or abstract has been developed for each major scientific or technical field. Indexes list the subjects covered in a selected group of publications and supply the information necessary to retrieve the articles. Abstracts also include summaries for each article covered. Following is a list of Indexes/Abstracts specific to the field of industrial ergonomics, as well as some publications with a much broader scope, in which the ergonomics literature is covered in some depth. Most of these Indexes and Abstracts are available as electronic databases with Web access.

Availability of an electronic version, either on-line, CD-ROM, diskette, or tape-load, is indicated by an asterisk (\*). For specific format information the database directories in the Appendix may be consulted.

Aerospace Database. Washington, DC: American Institute of Aeronautics and Astronautics, 1986 - .

Online Vendors: Cambridge Scientific Abstracts (CSA), DIALOG, SilverPlatter Information, STN International.

Also available in CD-ROM, Diskette and Magnetic Tape.

This database corresponds to the *International Aerospace Abstracts* (IAA), and the *Scientific, and Technical Aerospace Reports* (STAR). See their citations below.

\* Applied Mechanics Reviews. New York: The American Society of Mechanical Engineers, bimonthly, 1948 - .

Internet: AMR Online Database, 1989 - .

Internet Vendor: American Society of Mechanical Engineers (ASME).

Contains over 1,900 abstracts in mechanics and related fields from over 500 international research journals monthly. In addition, it features review articles and book reviews.

\* Applied Science & Technology Index. New York: H.W. Wilson, 1958 - .

Online: Wilson Applied Science & Technology Abstracts.

Online Vendors: DIALOG, EBSCOHost, OCLC EPIP, Ovid Technologies, ProQuest, SilverPlatter

Information, WilsonWeb.

Also available in CD-ROM and Magnetic Tape.

Abstracts of over 400 scientific and technical titles are made available, including trade and professional journals and technical societies publications.

Ei Compendex Plus. New York: Engineering Information, Inc., 1970 - . See Engineering Index.

\* Current Contents: Engineering, Computing and Technology. Philadelphia: Institute for Scientific Information, weekly, 1995 - .

Previous title: Current Contents: Engineering, Technology and Applied Sciences, 1970-1994.

Online: Current Contents Search: Engineering, Computing and Technology.

Online Vendors: DataStar, DIALOG, Institute for Scientific Information (ISI), Ovid Technologies,

SilverPlatter Information.

Also available in CD-ROM, Diskette, and Magnetic Tape.

This is a table of content service. It provides bibliographic citations from over 1,000 leading engineering and technical journals.

\* Dissertation Abstracts International. Ann Arbor, MI: University Microfilms International, monthly, 1938 - .

Online: Dissertation Abstracts Online.

Online Vendors: CompuServe Information Service, DataStar, DIALOG, OCLC EPIC, OCLC FirstSearch

Catalog, Ovid Technologies, STN International. Also available in CD-ROM and Magnetic Tape.

Covers dissertations mainly from the United States and Canada. Section B: Physical Sciences and

the ergonomics field.

\* **Ergonomics Abstracts**. London: Printed and published for the Ergonomics Information Analysis Centre, Dept. of Engineering Production, University of Birmingham by Taylor & Francis, quarterly, 1969 - .

Engineering (1969 - ) has abstracts of dissertations in many areas of engineering and technology related to

Online: *Ergonomics Abstracts*. Internet Vendor: CatchWord.

The most comprehensive index for ergonomics studies. It provides worldwide coverage of the literature of human factors as related to human-machine systems and the environmental aspects of the work place.

\* Engineering Index. Hoboken, NJ: Engineering Information, Inc., monthly with annual cumulation, 1884 - .

Online: Ei Compendex Plus

Online Vendors: Axiom, CEDOCAR, DtaStar, CompuServe Information Service, DIALOG, FIZ Technik, Info Trac Web, Ovid Technologies, Questel - Orbit, SilverPlatter Information, STN International. Also available in CD-ROM and magnetic tape.

Indexes more than 4,500 journals, reports, books, and conference proceedings covering most fields of engineering and technology. It has good coverage of all areas related to ergonomics in the work place. Over 160,000 citations are included annually. Includes all major ergonomics journals and conference proceedings.

\* Government Reports Announcements and Index. Springfield, VA: National Technical Information Service, semimonthly, 1976 - 1996.

Online: NTIS Database.

Online Vendors: Cambridge Scientific Abstracts (CSA), CEDOCAR, Canada Institute for Scientific and Technical Information (CISTI), CompuServe Information Service, DataStar, DIALOG, European Information Network Services (EINS), Ovid Technologies, Questel - Orbit, STN International, Also available in CD-ROM and Magnetic Tape and Batch Access.

This was the main printed source for U.S. government-sponsored research, development, and technical projects. No longer in print, it is available now through the *NTIS Database*.

Ingenta. Bath, UK: Ingenta, 1998 - .

Online: *Ingenta* 

Online Vendor: Ingenta

This is an online table of content service, it provides access to articles from over 20,000 titles. Some citations include article summaries. It contains a good number of journals in human factors and related areas. There were over eleven million citations as of 8/01/01. This database corresponds in part to the former *Uncover* database.

**INSPEC**. London, UK: Institution of Electrical Engineers (IEE), 1969 - . See Science Abstracts.

\* International Aerospace Abstracts (IAA). Washington, DC: American Institute of Aeronautics and Astronautics, monthly, 1961 - .

Online: International Aerospace Abstracts.

Online Vendor: NASA/RECON.

It provides international coverage of the literature in aeronautics from conference proceedings, journals, and books. About 3,000 citations with abstracts are published monthly. It is also part on the *Aerospace Database*.

\* Mechanical Engineering Abstracts. Bethesda, MD: Cambridge Scientific Abstracts, monthly, 1993 - . Previous titles: ISMEC, Mechanical Engineering Abstracts, 1988- 1992, and ISMEC Bulletin, 1973-1987.

Online: Mechanical Engineering Abstracts.

Online Vendors: Cambridge Scientific Abstracts (CSA), DIALOG, STN International.

Also available in CD-ROM, Magnetic Tape and Batch Access.

Contains abstracts of the worldwide literature on mechanical engineering, engineering management, and production engineering.

NTIS Database. Springfield, VA: National Technical Information Service, updated biweekly, 1964 - . See Government Reports Announcements and Index.

\* Psychological Abstracts. Washington, DC: American Psychological Association, monthly, 1927 - .

Online: PsycINFO.

Online Vendors: Cambridge Scientific Abstracts (CSA), CompuServe Information Service, DataStar, DIALOG, DIMDI, EBSCOHost, Info Trac Web, OCLC EPIC, OCLC FirstSearch Catalog, Ovid Technologies.

Also available in Magnetic Tape.

It is the most comprehensive printed index in psychology and an excellent source for the literature of industrial psychology. It contains summaries of journal articles, and technical reports. Its electronic version PsycINFO provides also information about book chapters, books and selected dissertations

**PsycINFO**. Washington, DC: American Psychological Association, 1967 - . See Psychological Abstracts.

\* Risk Abstracts. Bethesda, MD: Cambridge Scientific Abstracts, quarterly, 1984 - .

Online: Risk Abstracts.

Internet Vendor: Cambridge Scientific Abstracts (CSA).

Also available in CD-ROM and Magnetic Tape.

Its emphasis is on the literature of industrial, technological, and environmental risks. It provides about 10,000 citations a year with abstracts.

\* Science Abstracts. Part B - Electrical and Electronics Abstracts (1967 - ) and Part C - Computer & Control Abstracts (1966 - ). London: Institution of Electrical Engineers, 1898-

Online: INSPEC.

Online Vendors: Axiom, CEDOCAR, CompuServe Information Service, DataStar, DIALOG, European Information Network Services (EINS), FIZ Technik, OCLC EPIC, OCLC FirstSearch Catalog, Ovid Technologies, ProQuest, Questel - Orbit, Science Direct, SilverPlatter Information, STN International. Also available in CD-ROM and Magnetic Tape and Batch Access.

These two sections contain abstracts of articles about recent technical developments worldwide in all areas of electrical and computer engineering as applied to industrial settings. Over 200,000 citations are published yearly in these two sections of Science Abstracts.

\* Scientific and Technical Aerospace Reports (STAR). Washington, DC: National Aeronautics and Space Administration, biweekly, 1963 -1996.

Online: *STAR*, biweekly, 1996 - . Online Vendor: NASA/RECON.

STAR began as an electronic only journal in 1996; it covers all aspects of aeronautics and space research and development. Citations of reports from NASA, other government agencies, NASA patents, and dissertations are found in STAR. It is also part of the Aerospace Database.

Internet resources are becoming increasingly important in gathering information about engineering and technological topics. The ability of people and organizations to publish their own Web sites has greatly increased the potential for the dissemination of technical information. In addition, the availability, at no cost to the users, of sophisticated search engines and other searching tools can make the use of the Internet more effective. In this open environment however, it is difficult to determine the quality of the sources. In this section, a very selective list of Web sites pertaining to industrial ergonomics and related fields is presented. It is not intended to be a comprehensive list but rather to provide examples of Web sites with quality information.

## **American Society for Biomechanics**

http://asb-biomech.org/

The American Society of Biomechanics (ASB) brings together scientists, institutions, and organizations dedicated to the study of the structure and function of biological systems through the use of mechanical methods. This site provides information about conferences, and educational programs. The society newsletter is also available.

# **Anthropometry Resource Center The Association of Canadian Ergonomists**

http://www.ace-ergocanada.ca/

The Association of Canadian Ergonomists (ACE) was formerly the Human Factors Association of Canada. This site provides information about activities in the field of industrial ergonomics in Canada and also provides some important international links.

# **Center for Human Modeling and Simulation**

http://www.cis.upenn.edu/~hms/home.html

This site presents news and information about current research, and publications done at the Center. Full-text research documents are available. The Center conducts research in several fields of synthetic humans, including computational anthropometry and behavior-based animation of human movement.

#### **Center for Office Technology**

http://www.cot.org/

COT is a professional organization dedicated to improving the office working environment and promoting safety and health issues associated with computers and office technology. This specialized site provides links to several resources related to office ergonomics.

## Ei Engineering Village 2 - Website Abstracts

http://www.ei.org/engineeringvillage2

This is a product of Engineering Information Inc. with access by subscription only. The *Website Abstracts* section of the Ei Engineering Village 2 is a database where subscribers can find information about thousands of Web sites related to engineering and technical fields. These Web sites are indexed in several categories and each one is given an evaluative summary. Sites listed in the Village are selected by information professionals. The Ei Village is also a gateway for other Ei databases.

#### **Ergonomics Information Analysis Centre**

http://www.bham.ac.uk/ManMechEng/IEG/eiac/

EIAC provides a comprehensive information service in the field of ergonomics and human factors based on its unique collection. The Centre is the originator of the journal *Ergonomics Abstracts* which is the major indexing and abstracting publication in the field. The site provides important links to ergonomics resources.

### **The Ergonomics Society**

http://www.ergonomics.org.uk/

Founded in 1949 this is one of the established professional organizations in the world of ergonomics. The Society offers a great deal of information about ergonomics as a profession, educational programs, meetings, publications, resources, and employment opportunities. The Society publishes and collaborates with other organizations on leading publications in the field.

## **European Association for Cognitive Ergonomics**

http://www.cs.vu.nl/~eace/index.html

The European Association for Cognitive Ergonomics (EACE), emphasizes the applications of cognitive sciences in the field of technical information processing system developments. The Association sponsors two congresses; abstracts of papers from previous congresses are available at this site.

#### **ErgoWeb**

http://ergoweb.com

This company site features ergonomics resources, news, and products and services. It contains a bibliography of more that 3,000 citations, mainly from articles in journals. Case studies and other reference sources are available.

#### **HCI Group Online**

http://www.dcs.napier.ac.uk/rsg/home.html

This site from Napier University in England offers a number of links to publication resources, projects, meetings, education programs, and newsgroups on human factors and human-computer interaction.

#### **HCI Sites**

http://www.hcibib.org/hci-sites/

The Human-Computer Interaction (HCI) Sites page contains the HCI Bibliography, a free-access online database on Human-Computer Interaction containing over 20,000 citations. It is maintained by Gary Perlman and was formerly called HCI Launch Pad. HCI links are under "HCI Sites Links" which is a section divided into fourteen categories giving access to several hundred related sites.

### **Human Factors and Ergonomics Society**

http://www.hfes.org/

HFES is the major professional organization in the field of human factors and ergonomics in the United States. The Society promotes the discovery and exchange of knowledge about the design of systems and devices, and about the assignment of appropriate functions for humans and machines. This site provides information on the Society's programs and publications.

## Institute for Ergonomics and Man-Machine Systems

http://www.zmms.tu-berlin.de/

This is the site for the Center of Human-Machine-Systems (ZMMS) at the Technical University, Berlin. ZMMS emphasizes systems analysis and evaluation, product development, transfer of know-how, and safety management. The Center's publications are available on this site.

## **Institute for Perception Research**

http://www.ipo.tue.nl/ipo/

The IPO is an international, multidisciplinary scientific research center on user-system interaction. Its focus is on the development and design of user-friendly interfaces for products, services, and systems in multimedia environments. In addition to general information about IPO, the Institute's site provides information about education, research and meetings.

## **International Ergonomics Association**

http://www.iea.cc/

This is the site of the association of ergonomics and human factors societies around the world. IEA promotes the knowledge and practice of ergonomics by the advancement of research, information exchange, and technology transfer. Also, it facilitates the practical applications of ergonomics in industry. Information about congresses, publications, and news are found at this site.

#### **International Society for Occupational Ergonomics and Safety**

http://www.isbweb.org/

This society (ISOES) is dedicated to the advancement of occupational ergonomics and safety. Conference proceedings, meetings, publications, research and application projects, and educational opportunities are found at this site. Also, it serves as an information center for the field of occupational ergonomics and safety.

### **International Society of Biomechanics**

http://isb.ri.ccf.org/

The International Society of Biomechanics (ISB) promotes the study of all areas of biomechanics with special emphasis given to the biomechanics of human movement. The Society serves as a vehicle for the dissemination of knowledge and encourages international collaboration among scientists. Information about congresses, publications, a monographic series, and other resources are found at this site.

### Occupational Safety & Health Administration

http://www.osha.gov/

The Occupational Safety and Health Administration (OSHA) is a major regulatory agency of the United States government. Its main purpose is to save lives, prevent injuries, and protect the health of America's workers. News, regulations, a library, and information about events and outreach programs are some of the topics found at this site.

### **Operational Research Society**

http://www.orsoc.org.uk/

The Operational Research Society (ORS) is a well established international learned society serving the operations research profession. This site provides general information about both operations research and training programs. It is a vehicle to disseminate current developments in the field and to learn about national, international, and specialist conferences on the subject

#### **OSHA Technical Manual**

http://www.osha-slc.gov/dts/osta/otm/otm toc.html

The OTM is a Web based publication that provides information to assist in hazard recognition and accident prevention. It is divided into ten sections and twenty-five chapters and includes information about: sampling, measurement methods, and instruments; health hazards; safety hazards; construction operations; ergonomics; personal protective equipment; and safety and health management.

# Research Institute of Human Engineering for Quality Life

http://www.hql.or.jp/gpd/jpn/www/

The Research Institute of Human Engineering for Quality Life undertakes research and disseminates information about human life engineering. Its activities include the development of measurement technologies for physical, physiological, and psychological factors, to improve the adaptability of products to people's living and working environments.

## **Risk Management Internet Services**

http://www.rmis.com

This is a product of Managerial Technologies Corporation, Downers Grove, Illinois, available only to subscribers for a fee. This service specializes in identifying and categorizing Web resources. There are sites related to industrial environment, ergonomics, risk management, safety, and safety management. As of October, 2000 a total of 15,000 Web sites with descriptive summaries have been classified.

Encyclopedic works dealing with industrial ergonomics are included in this section. Encyclopedias are written by authorities in the field; topics are presented in a clear style to make the subject comprehensible to those less familiar with the area. Dictionaries are also included in this section. In a field that is as highly interdisciplinary as ergonomics, specialized dictionaries and glossaries are good sources of information.

Halter, Thomas A. Halter's Industrial Terminology for Occupational Health and Safety Professionals. Dearborn, MI: W-H Interscience, 1987.

This is a compilation of 4,500 terms divided into 26 major topics or industries. It covers, among other areas, air pollution, chemistry, radiation, insurance, foundries, welding, noise, ventilation, legal, construction, and petroleum. It has a section for abbreviations of agencies and organizations.

Industrial Engineering Department, University of Cincinnati Industrial and Occupational Ergonomics. **Industrial and Occupational Ergonomics: User's Encyclopedia**. Cincinnati, OH: Industrial Engineering Department, University of Cincinnati: International Journal of Industrial Engineering, 1 computer optical disc, 1998.

This CD-ROM encyclopedia is intended for practitioners seeking solutions to industrial and occupational ergonomic problems. A variety of topics are covered such as building industry, carpal tunnel syndrome, cognitive engineering, graphical user interface, hazards, motion analysis, and psychometric charts.

Institute of Industrial Engineers. Industrial Engineering Terminology: A Revision of ANSI Z94.0-1982: An American National Standard, Approved 1998. Rev. ed. Norcross, GA: Engineering and Management Press, Institute of Industrial Engineers, 2000.

It contains the definitions of terms used in industrial engineering. This book is divided into 17 sections, among them, biomechanics, cost engineering, computer and information systems, facility planning, work measurements and methods, human factors, and anthropometry.

Karwowski, Waldemar. **International Encyclopedia of Ergonomics and Human Factors**. 3 vols. London: Taylor & Francis, 2000.

This is the most comprehensive encyclopedia of ergonomics and human factors available. Written for practitioners, academic staff, and students, this encyclopedia is an important reference source of ergonomics information. A distinguished list of contributors created this significant work.

Meulen, Meine van der, **Definitions for Hardware and Software Safety Engineers**. London; New York: Springer, 2000.

This is a compilation of definitions about electro-technical systems safety. It is based on the terminology used in current journal literature and international standards. About 2,500 terms are included; it is particularly strong in the areas of reliability engineering and software assessment.

North, K., Christine Stapleton, and Chantal Vogt, eds. **Ergonomics Glossary: Terms Commonly Used in Ergonomics**. Utrecht: Bohn, Scheltema en Holkema, 1982.

This is a multilingual dictionary covering ergonomics terminology in English, French, German, Danish, Italian, and Dutch.

Stellman, Jeanne Mager, et al, eds. **Encyclopaedia of Occupational Health and Safety**. 4th ed. 4 vols. Geneva: International Labour Office, 1998.

A major and comprehensive work dealing with all aspects of work-related hazards. The content of the volumes is:

- 1. The Body and Health Care; Prevention, Management and Policy; and Tools and Approaches.
- 2. Hazards.
- 3. Chemicals; Industries and Occupations.
- 4. Indexes and Guides.

Stramler, James H. The Dictionary for Human Factors/Ergonomics. Boca Raton, FL: CRC Press, 1993.

A compilation of 8,000 terms related to all areas of human factors, this dictionary is a good reference for practitioners, educators, and students. An appendix of abbreviations and acronyms is included. A list of national and international organizations is also included.

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The titles included in this selective list are specialized sources in industrial ergonomics. Keeping in mind that ergonomic studies are part of many areas of industrial operations, this section also includes reference works in related areas such as mechanical and electrical design, industrial management, safety, and others. Handbooks and tables are reference materials usually including numerical data, definitions, formulations, testing and measurement procedures, and descriptions of design, processes, materials, and equipment.

American Society of Heating, Refrigerating and Air-Conditioning Engineers. **2001 ASHRAE Handbook:** Fundamentals. Atlanta, GA: ASHRAE, 2001.

This volume covers general theory, general engineering information, basic materials, load and energy calculations, duct and pipe design, and other general information about industrial heating and cooling systems.

Boff, Kenneth R., and Janet E. Lincoln, eds. **Engineering Data Compendium: Human Perception and Performance**. 3 vols. Wright-Patterson A.F.B., OH: Harry G. Armstrong Aerospace Medical Research Laboratory, 1988.

Provides systems designers with human performance and perceptual data about visual, auditory, and other senses. Spatial, perceptual, and attention data are presented, as well as, human language processing and environmental stressors.

Boff, Kenneth R., and Janet E. Lincoln, eds. **User's Guide: Engineering Data Compendium: Human Perception and Performance**. Wright-Patterson A.F.B., OH: Harry G. Armstrong Aerospace Medical Research Laboratory, 1988.

This is a guide to help find information in the *Engineering Data Compendium*. It includes a complete table of contents for the three volumes of the Compendium, a glossary of terms with definitions, and a list of over 1,000 technical index terms with cross references to the volumes of the Compendium.

Burke, Mike. Applied Ergonomics Handbook. Boca Raton, FL: Lewis Publishers, 1992.

This book uses a step-by-step approach for selecting the procedures, forms, and advice most appropriate to developing ergonomics programs in an industrial setting.

Cote, Ron, ed. Life Safety Code Handbook: With the Complete Text of the 1997 Edition of the Life Safety Code. Quincy, MA: National Fire Protection Association, 2000.

This handbook includes the complete fire code with explanations and examples for those in the safety engineering field. It includes more than 400 illustrations in order to clarify some of the most complex fire protection rules.

Gertman, David I., and Harold S. Blackman. **Human Reliability & Safety Analysis Data Handbook**. New York: John Wiley, 1994.

A valuable resource in the field of risk analysis. This handbook provides a significant amount of data, cases studies, and numerous examples. It takes into consideration the human and technical aspects of risk in industrial settings.

Gilmore, Walter E., David I. Gertman, and Harold S. Blackman. The User-Computer Interface in Process Control: A Human Factors Engineering Handbook. Boston: Academic Press, 1989.

Provides the essential human factors guidelines for the design of user-computer interfaces for industrial process control. It contains a design checklist section that is convenient for evaluating processes and interfaces.

Herb, S. M. **Human-Machine Interface for Plant Automation**. Research Triangle Park, NC: Instrument Society of America, 2000.

This volume includes the following chapters: Humans in Control; Video for User Interfaces; Adjusting Technology to Fit; Video Monitor Hardware; Exploring Displays; and Trending Data Through Video. It intends to provide ready-to-use summarized information to plant professionals.

Instrument Society of America. **Standards and Recommended Practices for Instrumentation and Control**. Research Triangle Park, NC: Instrument Society of America, 2000.

The 2000 edition is available only in CD-ROM. It contains the fulltext of ISA's standards, recommended practices, and technical reports. It is also a source for other instrumentation and control-related standards published in the U.S. and abroad.

Irwin, J. David, ed. **The Industrial Electronics Handbook**. Boca Raton, FL: CRC Press in cooperation with IEEE Press, 1997.

It includes information on many important topics; for example, electronics, systems and process control, industrial communications, measurement, and instrumentation, that are the core of industrial electronics. It contains nearly 1,700 pages with many illustrations, formulas, and charts.

Karwowski, Waldemar and William S. Marras, eds. **The Occupational Ergonomics Handbook**. Boca Raton, FL: CRC Press, 1999.

Written by nearly 125 contributors, this handbook provides a comprehensive overview of industrial ergonomics. The 111 chapters cover all major topics of ergonomics and are a good source of information for practitioners looking for ergonomic solutions in a variety of businesses and industries.

O'Brien, Thomas G., and Samuel G. Charlton. **Handbook of Human Factors Testing and Evaluation**. Mahwah, NJ: Lawrence Erlbaum Associates, 1996.

This book deals with the interactions between human-system components, hardware, software, procedures, and humans. It covers how these interactions are measured and characterized. It is an important reference source for human factors professionals and students.

Rosaler, Robert C., ed. **Standard Handbook of Plant Engineering**. 3rd ed. New York: McGraw-Hill, 2002.

A comprehensive work covering all aspects of commercial and industrial plants. The book includes the planning and construction of plants, plant equipment, and plant maintenance. Issues such as noise control, heating, ventilation and air conditioning, safety considerations, and materials handling are covered.

Rothbart, Harold A., ed. Mechanical Design Handbook. New York: McGraw-Hill, 1996.

Written by 38 contributing authors, this handbook covers all major fields of mechanical engineering design and machine design. It is a reference tool for practitioners interested in all aspects of dynamics, power, and control as they apply to the design of machines.

Sage, Andrew, and William B. Rouse, eds. **Handbook of Systems Engineering and Management**. New York: John Wiley, 1999.

A basic reference about the theory and practice of systems engineering. It includes topics such as: risk management, reliability, standards, measurements, human control, human error, and cognitive task performance.

Salvendy, Gavriel, ed. **Handbook of Human Factors and Ergonomics**. 2nd ed. New York: John Wiley, 1997.

Provides technical information about the place of humans in complex systems and the design of equipment and facilities. It covers design considerations in systems where humans, machines, and the environment interact. Chapters in this handbook were written by over 100 top specialists.

Salvendy, Gavriel, ed. **Handbook of Industrial Engineering: Technology and Operations Management**. 3rd ed. New York: John Wiley, 2001.

This handbook is divided into 5 sections covering the entire field of industrial engineering: Function and Skills; Technology; Performance Improvement; Management, Planning, Design and Control; and Methods for Decision Making.

Shigley, Joseph E., and Charles R. Mischke, eds. **Standard Handbook of Machine Design**, 2nd ed. New York: McGraw-Hill, 1996.

Written by 50 experts in the field of mechanical design, it contains many tables, charts, and graphs useful for working designers. It provides practical information about basic design as well as specific machine elements.

Weimer, Jon. **Handbook of Ergonomic and Human Factors Tables**. Englewood Cliffs, NJ: Prentice Hall, 1993.

Contains figures and tables for ergonomicists and human factors professionals in eight areas: anthropometry, workplace, control, sensing, display, work physiology, information processing, and methods and equations.

Woodson, Wesley, et al. Human Factors Design Handbook: Information and Guidelines for the Design of Systems, Facilities, Equipment, and Products for Human Use. 2nd ed. New York: McGraw-Hill, 1992.

Provides general reference information about human-factors and human-product design and data. Areas covered include: auditory displays, product design, equipment design, workplace design, hand tools, system reliability, muscular strength and endurance, radiation, controls, and vibration.

Zandin, Kjell B., ed. **Maynard's Industrial Engineering Handbook**. 5th ed. New York: McGraw-Hill, 2001.

This book includes, among other topics, basic reference information about industrial engineering in practice, methods engineering, work-measurement techniques, work-measurement application and control, manufacturing engineering, human factors, ergonomics, facilities and material flow, optimization techniques, and special industry applications.

The following is a list of periodicals with strong coverage of the literature of industrial ergonomics. Most of these titles are published in English; representative titles published from around the world are included. Periodical publications are very important for industrial ergonomic personnel because they publish the results of current research, methods, and developments in the field. Most of these periodicals are available online, but no attempt was made to identify their online providers. More information about online providers is found in the Appendix of this guide.

American Journal of Industrial Medicine. New York: Wiley-Liss, monthly, 1980 - .

**Applied Ergonomics: Human Factors in Technology and Society**. Oxford, UK: Elsevier Science, bimonthly, 1969 - .

**Applied Occupational and Environmental Hygiene**. Cincinnati, OH: Applied Industrial Hygiene, Inc. for the American Conference of Governmental Industrial Hygienists, monthly, 1990 - .

Biomecanica. Madrid, Spain: Sociedad Espanola de Biomecanica, semiannually, 1993 - .

Computer-Integrated Manufacturing Systems. Oxford, UK: Elsevier Science, quarterly, 1988-1998.

Computers & Industrial Engineering. New York: Elsevier Science, eight/year, 1977 - .

Ergonomia (Italy). Bergamo, Italy: Societa Italiana de Ergonomia, quarterly, 1993 - .

**Ergonomia** (Poland). Krakow, Poland: Polish Academy of Sciences, Committee of Ergonomics, semi-annually, 1978 - .

**Ergonomics: An International Journal of Research and Practice in Human Factors and Ergonomics.** London: Taylor & Francis, monthly, 1957 - .

**Ergonomics Australia On-line**. Brisbane, Australia: The University of Queensland, 1997 - . Available at http://www.uq.edu.au/eaol

Previous Title: Ergonomics Australia, Canberra, Australia: Ergonomics Society of Australia, bimonthly, 1987 - 1996.

**Ergonomics in Design: the Magazine of Human Factors Applications**. Santa Monica, CA: Human Factors and Ergonomics Society, quarterly, 1993 - .

Ergonomics New Zealand. Auckland, New Zealand: New Zealand Ergonomics Society, quarterly, 1986 - .

**Ergonomics SA: Journal of the Ergonomics Society of South Africa**. Grahamstown, South Africa: The Ergonomics Society of South Africa, annual, 1985 - .

The Ergonomist. Loughborough, UK: Ergonomics Society, monthly, 1965 - .

**European Journal of Work and Organizational Psychology**. Hove, East Sussex, UK: Psychology Press, quarterly, 1997 - .

Previous Title: European Work and Organizational Psychologist, 1991-1996.

**Human Factors: the Journal of the Human Factors and Ergonomics Society**. Santa Monica, CA: Human Factors and Ergonomics Society, quarterly, 1993 - .

Previous Title: Human factors, the Journal of the Human Factors Society, 1958-1992.

**Human Factors and Ergonomics in Manufacturing**. New York: Wiley, quarterly, 1998 - . Previous Title: International Journal of Human Factors in Manufacturing, 1991-1997.

**Human Factors and Ergonomics Society Bulletin**. Santa Monica, CA: Human Factors and Ergonomics Society, monthly, 1993 - .

Previous Title: Human Factors Society Bulletin, 1958-1992.

**IEEE Transactions on Systems, Man, and Cybernetics. Part A: Systems and Humans**. New York Institute of Electrical and Electronics Engineers, bimonthly, 1996 - . Previous Title: IEEE Transactions on Systems, Man and Cybernetics, 1971-1995.

**IEEE Transactions on Systems, Man, and Cybernetics. Part B: Cybernetics**. New York: Institute of Electrical and Electronics Engineers, bimonthly, 1996 - .

Previous Title: IEEE Transactions on Systems, Man and Cybernetics, 1971-1995.

IEEE Transactions on Systems, Man, and Cybernetics. Part C: Applications and Reviews: a Publication of the IEEE Systems, Man, and Cybernetics Society. New York: Institute of Electrical and Electronics Engineers, bimonthly, 1998 - .

Industrial Health. Kawasaki, Japan: National Institute of Industrial Health, quarterly, 1963 -.

Interacting with Computers. New York: Elsevier Science, bimonthly, 1989 - .

**International Journal of Cognitive Ergonomics**. Mahwah, NJ: Lawrence Erlbaum Associates, quarterly, 1997 - .

**International Journal of Human-Computer Studies**. London: Academic Press, monthly, 1994 - . Previous Title: International Journal of Man Machine Studies, 1969-1993.

**International Journal of Industrial Ergonomics**. New York: Elsevier Science, monthly, 1996 - , Previous Title: International Journal of Ergonomics, 1986-1995.

**International Journal of Occupational Safety and Ergonomics, JOSE**. Central Institute for Labour Protection, Warsaw, Poland, quarterly, 1995 - . Online, available at www.ciop.waw.pl/jose

**Journal of Applied Biomechanics**. Champaign, IL: Human Kinetics Publishers, quarterly, 1992 - . Previous Title: International Journal of Sport Biomechanics, 1985-1991.

Journal of Applied Physiology. Bethesda, MD: American Physiological Society, monthly, 1948 - .

Journal of Biomechanics. New York: Elsevier Science, monthly, 1968 - .

**Journal of Experimental Psychology: Human Perception and Performance**. Washington, DC: American Psychological Association, bimonthly, 1975 - .

Previous Title: **Journal of Experimental Psychology**, 1916-1974.

**Journal of Occupational Health and Safety - Australia and New Zealand**. North Ryde, N.S.W.: CCH Australia Ltd., bimonthly, 1985 - .

**Journal of Organizational Behavior**. Chichester, UK: Wiley, eight/year, 1988 - . Previous title: Journal of Occupational Behaviour, 1979-1987.

**Ningen Kogaku, Japanese Journal of Ergonomics**. Tokyo, Japan: Japan Ergonomics Society, bimonthly, 1965 - .

Occupational Ergonomics. London: International Thomson Publishing Group, quarterly, 1996 - .

**Robotics and Computer-Integrated Manufacturing**. Oxford,UK: Elsevier Science Ltd., bimonthly , 1984 - .

Transportation Human Factors. Mahwah, NJ: Lawrence Erlbaum Associates, quarterly, 1999 - .

Vision Research. New York: Elsevier Science, bimonthly, 1961 - .

Work and Stress. London: Taylor & Francis, quarterly, 1987 - .

Work Study. London: MCB University Press Ltd., seven/year, 1952 - .

Workplace Ergonomics News. Dallas, TX: Stevens Publishing Corporation, monthly, 1999 - .

**Zentralblatt fur Arbeitsmedizin, Arbeitsschutz und Ergonomie**. Heidelberg, Germany: Dr. Curt Haefner-Verlag, monthly, 1951 - .

Conference proceedings are the most timely and detailed source of current technical information in industrial ergonomics; often, they can be more important than the journal literature. They appear in many different forms, e.g., as special issues of journals, or as books in series. Often a conference proceeding is an up-to-date review of the state-of-the-art in an area and becomes a textbook or a treatise. The following is a selected list of proceedings of the major conferences with strong coverage of recent developments in industrial ergonomics and related fields.

Advances in Industrial Ergonomics and Safety: Proceedings of the Annual International Industrial Ergonomics and Safety Conference. London: Taylor & Francis, 1989 - .

Advances in Manufacturing Technology: Proceedings of the National Conference on Manufacturing Research. London: Taylor & Francis, 1984 - .

Computer Applications in Ergonomics, Occupational Safety, and Health: Proceedings of the International Conference on Computer-Aided Ergonomics and Safety. Amsterdam: North-Holland, 1992.

**Contemporary Ergonomics: Proceedings of the Annual Conference of the Ergonomics Society**. London: Taylor & Francis, 1984 - .

Ergonomics of Hybrid Automated Systems: International Conference on Ergonomics of Advanced Manufacturing and Hybrid Automated Systems. New York: Elsevier, 1988.

Ergonomics of Hybrid Automated Systems: Proceedings of the International Conference on Human Aspects of Advanced Manufacturing and Hybrid Automation. Amsterdam: Elsevier, 1990 -1994.

Global Ergonomics: Proceedings of the Ergonomics Conference. New York: Elsevier, 1998.

**Human Factors in Computing Systems: Conference Proceedings.** New York: Association for Computing Machinery, 1984 - .

Human Factors for the Process Industries. London: IBC Technical Services, 1995.

**International Conference on Engineering Psychology and Cognitive Ergonomics**. Aldershot, UK: Ashgate, 1997 - .

Industrial Engineering Research Conference. Norcross, GA: Institute of Industrial Engineers, 1992 - .

Managing New Product Innovation: Proceedings of the Conference of the Design Research Society. London: Taylor & Francis, 1999.

Manufacturing Agility and Hybrid Automation: Proceedings of International Conference on Human Aspects of Advanced Manufacturing: Agility & Hybrid Automation. Santa Monica, CA: IEA Press, 1996 - .

Proceedings of the Annual American Society of Safety Engineers Professional Development Conference. Des Plaines, IL: American Society of Safety Engineers, 1962 - .

Proceedings of the European Annual Conference on Human Decision Making and Manual Control. Delft, Netherlands: Man-Machine Systems Group, Delft University of Technology, 1981 - .

Note: First conference was held at Delft University of Technology, location varies after that.

**Proceedings of the Human Factors and Ergonomics Society**. Santa Monica, CA: Human Factors and Ergonomics Society, 1956 - .

**Proceedings of the International Conference on Production Research**. London: Taylor & Francis, 1973 - .

Proceedings of the International Congress on Ergonomics. London: Taylor & Francis, 1962 - .

**Silicon Valley Ergonomics Conference & Exposition**. San Jose, CA: Silicon Valley Ergonomics Institute, San Jose State University. 1995 - .

Trends in Ergonomics/Human Factors. New York: North-Holland, 1984 -

This section includes a very select list of textbooks and treatises representative of a large body of the literature of industrial ergonomics. This list covers research-oriented and theoretical treatments as well as more practical books used by students and practitioners. Further works on industrial ergonomics can be found in libraries' catalogs under specific authors, titles, or subject terms.

Bhattacharya, Amit, and James D. McGlothlin. **Occupational Ergonomics: Theory and Applications**. New York: Marcel Dekker, 1996.

Includes forty case studies from the automotive, health care, construction, and warehouse industries. It covers fundamental ergonomic principles and practical applications to problems in the workplace. OSHA's proposed ergonomics standards are discussed.

Boy, Guy A. Cognitive Function Analysis. Stamford, CT: Ablex Pub. Corp., 1998.

Presents research and practical methods used to find the best ways to integrate information technology in human-machine systems. Emphasizes methods related to cognitive systems with dynamic, complex, and safety issues, human-centered design, and cooperative design are emphasized.

Burke, Mike. Ergonomics Tool Kit: Practical Applications. Gaithersburg, MD: Aspen Publishers, 1998.

This is a collection of instructional guides, worksheets, report templates, model scripts, agendas, checklists, and menus required to do ergonomic analysis.

Cacha, Charles A. Ergonomics and Safety in Hand Tool Design. Boca Raton, FL: CRC Press, 1999.

This book presents a number of ergonomic issues related to the design of hand tools. The book covers pathological, physiological, anatomical, anthropometric, and kinesiological aspects of the hands and arms. It also covers the biomechanics, ergonomics, and safety considerations for hand tools.

Christensen, Wayne C., and Fred A. Manuele, eds. **Safety Through Design**. New York: American Society of Mechanical Engineers, 2000.

Addresses many of the safety concerns that exist in the workplace. It also provides guidance about how to introduce safety in all aspects of the industrial process such as product design, machine design, plant layout, materials selection, and production planning.

Corlett, E. N., and T.S. Clark. **The Ergonomics of Workspaces and Machines: A Design Manual**. 2nd ed. London; Bristol, PA: Taylor & Francis, 1995.

This manual for designers provides information about workspaces, working equipment and machines. The data provided in this book about human variabilities, size and strength, and sensory abilities is intended to help designers integrate ergonomic methods in their work.

Hancock, P.A., ed. **Human Performance and Ergonomics**. 2nd ed. San Diego, CA; London: Academic, 1999.

This book deals with the effects of the work environment on the performance of workers. The influence of behaviors on the performance of jobs is also covered. It presents many real-world examples. The book also discusses human-machine interaction and the importance of teamwork to achieve desirable performances.

Helander, Martin. A Guide to the Ergonomics of Manufacturing. London; Bristol, PA: Taylor & Francis, 1995

This is a compendium of information on how ergonomics can enhance productivity and safety in the manufacturing setting. Written for graduate students, ergonomic engineers, and other professionals in the field, it includes case studies of ergonomics in the manufacturing industry.

Heller, Alison. Your Guide to Developing an Ergonomics Process. Boca Raton, FL: Lewis Publishers, 1999.

This is a complete set of guidelines for industry professionals concerning safety issues in the workplace. These guidelines are based on the principles of ergonomics as they apply to the industrial setting. The book outlines federal and state requirements.

Kohn, James P., ed. **Ergonomic Process Management: a Blueprint for Quality and Compliance**. Boca Raton, FL: Lewis Publishers, 1999.

This is a guidebook on developing an ergonomic program in an industrial setting. It discusses the recognition, evaluation, and control of ergonomics problems, provides ideas about establishing an ergonomic program in the workplace, and presents techniques to make the program successful.

Kohn, James P. The Ergonomic Casebook: Real World Solutions. Boca Raton, FL: CRC Press, 1997.

This is a collection of twenty-seven case studies divided into nine chapters and covers examples from a variety of industries: agricultural, chemical, electronics, health, manufacturing, service, and utilities. It also covers the office environment and retail businesses.

Kroemer, K. H. E., H. J. Kroemer, and K. E. Kroemer-Elbert. **Engineering Physiology: Bases of Human Factors/Egonomics**. 3rd ed. New York: Van Nostrand Reinhold, 1997.

This book provides physiological information needed to design work and equipment appropriate for humans. It includes chapters on anthropometry, the skeletal system, muscles and strength, biomechanics, metabolism at work, work schedules, and reengineering the human body.

Kumar, Shrawan, ed. Biomechanics in Ergonomics. London; Philadelphia, PA: Taylor & Francis, 1999.

Written by experts in the field of biomechanics, this book includes twelve chapters focusing on how the concepts of biomechanics are applied from the tissue level to the organ/structure and finally to the whole human body.

MacLeod, Dan. The Ergonomics Edge: Improving Safety, Quality, and Productivity. New York: Van Nostrand Reinhold, 1995.

Written in a nontechnical style, this book provides basic concepts and perspectives on how to apply ergonomics in the workplace. It is a book for plant managers wanting to address ergonomic issues as a business strategy.

MacLeod, Dan. The Ergonomics Kit for General Industry: with Training Disc. Boca Raton, FL: Lewis Publishers. 1999.

Written for the ergonomics professional, this tool kit provides the basic and necessary information for developing ergonomic programs in the manufacturing industry. The disc provides handouts, checklists, presentation slides, survey forms, and worksheets.

Oborne, David J., ed. **Ergonomics and Human Factors**. 2 vols. New York: New York University Press, 1995.

This is a selective collection of articles about the psychology of ergonomics and human factors. The articles deal with the history and philosophy of human factors, biomechanics, display controls, workplace posture, and other factors such as noise, vibration, temperature, ventilation, and illumination in the workplace.

Oborne, David J. **Ergonomics at Work: Human Factors in Design and Development**. New York: John Wiley, 1995.

This book includes chapters on the structure of the body, man and man-machine communication, design of the work place, physical environment of the workplace, safety, and maintenance issues. It emphasizes the concept approach for understanding ergonomics.

Pheasant, Stephen. **Bodyspace: Anthropometry, Ergonomics, and the Design of Work**. 2nd ed. London; Bristol, PA: Taylor & Francis, 1996.

Presents the basic concepts of anthropometry. It shows how human dimensions could be used in the design of workplaces. A number of technical definitions and their uses are included. Several tables are also included.

Roebuck, John Arthur. **Anthropometric Methods: Designing to Fit the Human Body**. Santa Monica, CA: Human Factors and Ergonomics Society, 1995.

This book provides a nontechnical approach to the technical and medical aspects of ergonomics as they are applied to problems usually found in the workplace. It also covers how to describe and summarize anthropometric data.

Stanton, Neville, and Mark S. Young. **A Guide to Methodology in Ergonomics: Designing for Human Use**. London; New York: Taylor & Francis, 1999.

This is a guide to a range of methodologies used in ergonomics. The book contains a number of tools such as flowcharts that are helpful to the reader. The ergonomic methods discussed are presented with arguments about their reliability.

Di Martino, Vittorio and Nigel Corlett, eds. **Work Organization and Ergonomics**. Geneva: International Labour Office, 1998.

Includes several case studies, checklists, tables and diagrams. This book discusses the relationship between ergonomics and work organization in order to improve productivity and increase quality and performance. It is a good source of information for managers, engineers, and workers interested in using sound ergonomic principles in the workplace.

Wilson, John R., and E. Nigel Corlett. **Evaluation of Human Work: A Practical Ergonomics Methodology**. 2nd ed. London; New York: Taylor & Francis, 1995.

This is a compendium of ergonomic methods and techniques. It includes chapters on product design and evaluation, assessment and design of the workplace, analysis of work activities, and analysis and evaluation of work systems.

This section includes some main sources for information on industrial standards and specifications. Standards and specifications are available in several formats including print, CD-ROM, microform and Web access. They can also be purchased by mail, fax or online. Addresses of principal standards organizations can be found in the appendix.

American National Standards Institute. **American National Standards Catalog**. Annual. New York: ANSI, 1969 - .

This is a list of all standards approved by the American National Standards Institute (ANSI). This catalog is arranged by standard number. There is also a subject index.

Information Handling Services. **Index and Directory of Industrial Standards**. Annual. Englewood, CO: Information Handling Services, 1989 - .

One of the most comprehensive paper indexes for worldwide standards, it included all the major standards agencies. It has a subject index as well as an organization/standard number listing. U.S. and international (non-U.S.) standards are listed separately. Summaries for the standards are not included.

Information Handling Services. **HIS International Standards and Specifications**. Englewood, CO: Information Handling Services, 1989 -.

This database has two subfiles: STANDARD and MILSPEC. STANDARD contains summaries of 90% of all voluntary engineering standards. MILSPEC includes references to unclassified federal specifications and standards. Online Vendor: DIALOG.

Lord, Charles R. **Guide to Information Sources in Engineering**. Englewood, CO: Libraries Unlimited, 2000.

This is an excellent guide to the entire engineering literature. Chapter Nine of this work is a very good introduction to sources related to standards and specifications.

Ricci, Patricia L. **Standards, A Resource Guide for Identification, Selection, and Acquisition**. 2nd ed. Woodbury, MN: Pat Ricci Enterprises, 1992.

This is a good compilation of information about industrial standards with national and international coverage. It includes names, acronyms and addresses of organizations. Also, has listing of lending libraries, vendors, courses, and conferences related to standards.

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#### I. Database Guides

This is a list of major directories with information about electronic resources.

Gale Directory of Databases. Detroit: Gale Research, 1993 - .

This is one of the most complete lists of databases. Each entry has information about producers, distributors, coverage and descriptions of databases. It covers online databases, CD-ROM, diskette, magnetic tape, and batch products.

**Books and Periodicals Online: A Directory of Online Publications**. Washington, DC: Library Technology Alliance, 1989 - .

An important reference source for finding information about online products. It includes several indexes such as: Database Vendors; Vendor Contact Information; and Producer Contact Information.

The Multimedia and CD-ROM Directory. London: Waterlow New Media Information, 1987 - .

Provides comprehensive information about more than 30,000 CD-ROM and multimedia products available on the market. It includes information about publishers and distributors worldwide. A CD-ROM version is available.

## II. Standards Organizations

Association for the Advancement of Medical Instrumentation (AAMI) 330 Washington Blvd.
Suite 400
Arlington VA, 22201-4598, USA
1-703-525-4890

American Conference of Governmental Industrial Hygienists Inc. (ACGIH) 1330 Kemper Meadow Dr. Cincinnati, OH 45240, USA 1-513-742-2020

American Industrial Hygiene Association (AIHA) 2700 Prosperity Ave.
Suite 250
Fairfax, VA 22031-4311, USA 1-703-207-3561

American Standards National Institute (ANSI) 11 W 42<sup>nd</sup> St. 13<sup>th</sup> floor New York, NY 10036, USA 1-212-642-4900 America Society of Heating, Refrigerating & Air-Conditioning Engineers Inc. (ASHRAE) 1791 Tullie Circle NE Atlanta, GA 30329-2305, USA 1-406-636-8400

American Society of Safety Engineering (ASSE) 1800 E Oakton St. Des Plaines, IL 60018-2187, USA 1-847-699-2929

British Standards Institute (BSI) 389 Chiswick High Road London, W4 4 AL, UK 44-208-996-90-00

Human Factors and Ergonomics Society (HFES) PO Box 1369 Santa Monica, CA 90406-1369, USA 1-310-394-1811

Institute of Industrial Engineers (IIE) 25 Technology Park Norcross GA 30092, USA 1-770-449-0460

Instrument Society of America (ISA) PO Box 1277 Research Triangle Park, NC 27709, USA 1-919-549-8411

Industrial Safety Equipment Association (ISEA) 1901 N. Moore St. Suite 808 Arlington, VA 22209, USA 1-703-525-1695

Institute of Electrical and Electronics Engineers (IEEE) 445 Hoes Lane P.O. Box 1331 Piscataway, NJ 08855, USA 1-980-981-0060

International Organization for Standardization (ISO) Case Postale 56 Geneva, CH-1211, Switzerland 011-41-22-749-011

Japanese Industrial Standards (JIS) 1-24, Akaska 4, Minato-Ku Tokyo 107-8440, Japan 81-3-35-01-94-71 National Council on Radiation Protection and Measurements (NCRP) 7910 Woodmont Ave.
Suite 800
Bethesda, MD 20814, USA
1-301-657-2652

National Safety Council (NSC) PO Box 558 Itasca, IL 60143-0558, USA 1-630-285-1121

Occupational Safety and Health Administration (OSHA) U.S. Department of Labor 200 Constitution Ave., NW Washington, DC 20210, USA 1-202-693-2000

The Society of Automotive Engineers, SAE International (SAE) 400 Commonwealth Dr. Warrendale, PA 15096-0001, USA 1-412-776-4841

#### III. Publishers and Vendors

Axiom See Institute of Physics Publishing

American Psychological Association 750 1st. St. NE Washington, DC 20002-4242 1-202-336-5650

Cambridge Scientific Abstracts 7200 Wisconsin Ave., Ste. 601 Bethesda, MD 20814-4823 1-301-961-6700

Canada Institute for Scientific and Technical Information (CISTI) Montreal Rd., Bldg. M-55 Ottawa, ON, Canada K1A OS2 613-993-1600

CEDOCAR See France Ministry of Defense

Community of Science, Inc. 1629 Thames St. Suite 200 Baltimore, MD 21231 1-410-563-5382 CompuServe Interactive Services 5000 Arlington Centre Blvd. PO Box 20212 Columbus, OH 43220-2913 1-614-457-8600

CRC Press 2000 NW Corporate Blvd. Boca Raton, FL 33431 1-561-994-0555

DataStar The Communications Bldg. 48 Leicester Sq. London WC2H 7DB, England 44-171-9306900

DIALOG The Communications Bldg. 48 Leicester Sq. London WC2H 7DB, England 44-171-9306900

United States branch office:

11000 Regency Pkwy., Ste. 10 Cary, NC 27511 1-919-462-8600

EBSCO Publishing 10 Estes St. Ipswitch, MA 01938 1-978-356-6500

Elsevier Science B.V. PO Box 211 NL-1000 AE Amsterdam, Netherlands 31-20-4853757

United States branch office:

PO Box 945 New York, NY 10159-0945 1-212-633-3730

Engineering Information Inc. 1 Castle Point Terr. Hoboken, NJ 07030-5996 1-201-216-8500

The Ergonomics Society Devonshire House, Devonshire Square, Loughborough LE11 3DW, UK 44-1509-234904 European Information Network Services (EINS) c/o The British Library St. Pancras 96 Euston Rd. London NW1 2DB, England 44-171-4127946

France Ministry of Defense
Delegation Generale pour l'Armement
Centre de Documentation de l'Armement
(CEDOCAR)
26, blvd. Victor
F-00460 Paris-Armees, France
4552-4584

FIZ Technik Ostbahnhofstr. 13 D-60314 Frankfurt/Main, Germany 49-69-4308225

Ingenta, Ltd.
BUCS Bldg.
University of Bath
Claverton Down
Bath BA2 7AY, England
44-1225-826283

United States branch office:

44 Brattle St. 4th Floor Cambridge, MA 02138 1-617-395-4000

Institute of Physics Publishing Dirac House, Temple Back Bristol BS1 6BE, England 44-117-9297481

Institution of Electrical Engineers Savoy Place London WC2R OBL, England 44-171-2401871

International Labour Office 4, route de Morillos CH-1211 Geneva 22, Switzerland 41-227-998675

John Wiley 605 Third Ave. New York, NY 10158-0012 1-212-850-6000 Lawrence Erlbaum Associates 10 Industrial Ave. Mahwah, NJ 07430-2262 1-800-926-6579

Lewis Publishers 2000 Corporate Blvd., NW Boca Raton, FL 33431 1-800-272-7737

Marcel Dekker 270 Madison Ave. New York, NY 10016 1-212-696-9000

McGraw-Hill, Inc. 1221 Avenue of the Americas New York, NY 10020 1-212-512-6410

U.S. National Aeronautics and Space Administration (NASA) NASA Headquarters Washington, DC 20546 1-301-621-0390

National Technical Information Service (NTIS) 5285 Port Royal Rd. Springfield, VA 22161 1-703-605-6000

North-Holland Imprint of Elsevier, See Elsevier Science

Ovid Technologies, Inc. 333 Seventh Ave. New York, NY 10001 1-212-563-3006

Prentice Hall One Lake St. Upper Saddle, NJ 07458 1-201-236-7141

Questel - Orbit 4, rue des Colonnes F-75082 Paris, France 33-1-55045200

United States branch office:

8000 Westpark Dr. McLean, VA 22102 1-703-442-0900 SilverPlater Information Inc. 100 River Ridge Dr. Norwood, MA 02062-5043 1-781-769-2599

STN International FIZ Karlsruhe PO Box 2465 D-76012 Karlsruhe, Germany 49-7247-8080

ScienceDirect See Elsevier Science

Taylor & Francis 1900 Frost Rd. Suite 101 Bristol, PA 19007-1598 1-215-785-5800

Van Nostrand Reinhold 115 Fifth Ave. New York, NY 10003 1-212-254-3232