

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

Part II: Finding Technical Reports, Dissertations, and Standards

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TECHNICAL REPORTS

Technical reports are defined as “works that describe the progress or results of scientific or technical research and development,” usually produced in response to a specific request or research need, which serve as a report of accountability to the funding organization. Technical reports usually fall into two categories: government sponsored research reports and privately funded research reports. Both categories may include national or international reports by university departments, institutes, private industry, or government agencies and laboratories.

Technical reports are often more detailed than articles in the peer-reviewed journal literature. They may be hundreds of pages long and may include supporting materials that never make it into journal publications, such as data sets or programming code. In addition, researchers in the private sector may not have any incentive to publish the results of contracted research in a peer-reviewed journal, as academic researchers do, and so the technical report they write for their funding agency may represent the first, and only, place that particular piece of research is published.

NTIS Database

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

NTIS is the National Technical Information Service, an agency that serves as a national clearinghouse for government-contracted technical reports. NTIS indexes and sells technical reports (nearly 3 million of them) from a broad spectrum of government agencies. This publicly accessible version of the NTIS database provides citations plus abstracts to technical reports for 1990-present. Selected full text also is available.

NASA Technical Reports Server

<http://ntrs.nasa.gov/>

This database allows you to search in one place information about technical reports published by a number of NASA Research and Space Centers. Full text of selected reports is available.

DOE Energy Citations Database

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

Citations plus abstracts to unclassified Department of Energy (DOE) and DOE-contractor reports on energy and energy-related topics for the years 1948-present.

DOE Information Bridge

http://ublib.buffalo.edu/libraries/e-resources/info_bridge.html

Full-text database of many DOE and DOE-contractor reports; 1995-present.

DoD Scientific and Technical Information Network

<http://stinet.dtic.mil/>

Provides access to unclassified technical reports by Department of Defense (DoD) contractors for 1974-present. Includes *selected* full text.

EPA National Environmental Publications Internet Site (NEPIS)

http://ublib.buffalo.edu/libraries/e-resources/epa_pubs.html

Full text database of over 10,000 EPA publications including EPA technical reports.

Many of the **National Laboratories** provide online access to information about their reports and, in some cases, the full text of their reports; see:

Argonne National Laboratory Publications

<http://www.library.anl.gov/apt/index.html>

Brookhaven National Laboratory Publications

<http://www.inform.bnl.gov/pubsearch/>

Lawrence Livermore National Laboratory Library Catalogs & Publications

<http://www.llnl.gov/library/>

Los Alamos National Laboratory Library Catalog

<http://library.lanl.gov>

Oak Ridge National Laboratory Technical Reports

http://www.ornl.gov/info/reports/ORNL_reports.shtml

Sandia National Laboratory News & Publications Center

<http://www.sandia.gov/news-center/publications/index.html>

GrayLIT Network: A Science Portal of Technical Reports

<http://graylit.osti.gov>

Single point for searching the technical reports across a number of agencies. Currently, the site includes information on NASA, DOE, DoD, and EPA technical reports, with links to full text where available. Dates of coverage vary,

The UB Libraries have a very large collection of technical reports with major holdings of reports by DOE, NASA, EPA, and their contractors. Most of the reports are on microfiche (~1.5 million) and are shelved in fiche cabinets on the 2nd floor of Capen Hall. Reports in microfiche are filed either by Technical Report Number (e.g., *NASA-CR-193724*, "Dynamics of Adaptive Structures") or by NTIS Accession Number (e.g., *AD 678750*, "An Apparatus for Psychophysical Investigations of Visual Processes").

To determine if we have the technical report you are looking for, start with BISON at <http://ublib.buffalo.edu/libraries/e-resources/bison/>. Many of our reports are cataloged in BISON (all of our EPA reports are, and a large number of our NASA reports are too). You can search in BISON by report author and/or title as well as various combinations of keywords using the acronym of the funding agency and report number (e.g., k=NASA and 1422) or report series (e.g., k=wartime report? and NACA). After searching BISON, ask for assistance from a reference librarian or contact me directly at schiller@buffalo.edu.

Expanding Your Search to Major Society Papers

AIAA Papers

The American Institute of Aeronautics and Astronautics (AIAA) publishes approximately 3,500 papers each year. We have a large collection of selected AIAA papers here at UB, primarily in fiche, spanning the years 1963-1996. The collection is not complete. AIAA papers on microfiche are shelved in the fiche cabinets on the 2nd floor of Capen Hall by AIAA report number, which takes the form AIAA-[yr]-[report no.]. For help locating an AIAA paper, see a reference librarian or contact me directly at schiller@buffalo.edu.

AIAA Papers Citations Database

<http://www.aiaa.org/content.cfm?pageid=413>

Use this publicly available database to identify AIAA papers on topics of interest. Coverage is for the years 1963-present.

SAE Papers

The Society of Automotive Engineers (SAE) publishes thousands of technical papers each year related to designing, building, maintaining, and operating land, sea, air, and space vehicles. We have a large collection of SAE technical papers at UB, primarily in print (covering the years 1963-1990, with gaps), a few selected papers on microfiche, and the 1994 papers on CD-ROM. SAE papers are shelved under the call number TL240 .S63 (in print on the 3rd floor of Capen in the SEL Book Collection, in fiche in the LC-classified fiche cabinets in the 2nd floor of Capen SEL Reference area, and on CD-ROM in the UGL/SEL Reference Area on the 1st floor of Capen).

SAE Search Engine

<http://www.sae.org/jsp/jsps/advancesearch.jsp>

You can use the *Advanced Search* feature on the SAE website to search for SAE publications including technical papers.

Please note: UB acquired a major gift of AIAA and SAE technical papers from the Veridian Corporation that have not yet been added to the collection; to see if the AIAA or SAE paper you need is included among these, please check with me directly at schiller@buffalo.edu.

DISSERTATIONS

To find dissertations on your topic, use:

Digital Dissertations

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

Indexes and abstracts doctoral and *selected* masters theses in all disciplines for the years 1861-present. *Digital Dissertations* offers free downloading of the full text of UB dissertations published after January 1997, as well as the full-text of many non-UB digital dissertations published since 1997. To download dissertations, click on "Free Download" and follow the instructions.

Digital Dissertations includes only a small, limited number of Master's theses. To expand your search for Master's theses, use:

WorldCat

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

You can search for Master's theses (and doctoral dissertations) in WorldCat using the *Advanced Search* feature. Change the "Keyword" box setting to "Material Type" and type in: **thesis or dissertation**. In the second box, type in the keywords that best describe your topic. Master's theses can be borrowed from other schools through InterLibrary Loan. Click on the ILL icon at the top of the record.

STANDARDS

Standards are detailed instructions that explain how something is to be manufactured, managed, designed, or otherwise handled. For help identifying and locating standards, use the recommended resource described below. Like patents, standards are also a rich source of detailed technical information. The *SAE Handbook*, which contains the full-text of the majority of SAE standards, covers everything from clutch design to the use of crash test dummies.

Guide to Standards

<http://ublib.buffalo.edu/libraries/asl/guides/standards.html>

Lists major standards as well as guides to standards information, test methods, and building codes in our collections and other local collections, with links to engineering standard web catalogs and websites.