Mathematics Research Resources Online

Selected Very Useful Resources

- Reviews and abstracts of mathematical publications. (Click here for more <u>detailed information</u>.)
 - MathSciNet, the Web version of Mathematical Reviews.
 - Zentralblatt MATH Database, the on-line version of Zentralblatt für Mathematik.
 - Science Citation Index.
 - The 2010 Mathematics Subject Classification, effective now for all publications.
- Electronic repositories
 - **JSTOR**: electronic copies of complete runs of several major U.S. and British publications (AMS and Royal Soc. journals, Annals of Math., etc.).
 - The **arXiv** of electronic preprints in mathematics and physics.
- Mathematics on the Web: the AMS guide
- A direct link to the Notices of the AMS for on-line reading.
- A list with extensive links to home pages. From Penn State: worldwide coverage of math departments (USA and other countries A-F, G-M, N-Z); institutes, journals, societies, some publishers, specialized subject pages (classified by area), software, etc.
- LaTeX advice. On-line advice at CTAN (Comprehensive TeX Archive Network); in particular A (Not So) Short Introduction to LaTeX2e and a very compact, printable symbol list excerpted from the preceding (not readable with acroread; try ghostview).

We also present to you a large, comprehensive symbols list (111 pages in PDF), with advice on forming new symbols (prepared by Scott Pakin).

Further Useful Resources

Index

- <u>Reviews and abstracts</u> of mathematical publications.
- Pages for <u>undergraduates</u>.
- <u>Lists</u> with extensive links to **home pages** of departments, institutes, etc. (Look in this section to find, e.g., math depts.) Especially recommended: the <u>Penn State list</u>.
- Bibliographical sources for journal home pages, preprint servers, publishers, etc.
- <u>Search</u> by topic.
- Societies and organizations.
- Finding <u>people</u>.
- <u>Meetings</u>.
- Internet <u>news and discussion</u> groups.

- Employment, career, and fellowship information.
- Specialized fields, among them being:
 - <u>Theoretical computer science</u>
 - Operations research
 - Statistics
 - Ethnomathematics
 - <u>Physics</u>
- Divers diverse mathematical connections.
 - <u>History and biography</u>.
- <u>Software</u>.
- <u>Fun</u>.

Pages for undergraduates

For example:

- The MAA Student's Page: varied information from the Mathematical Association of America.
- SIAM's WWW Undergraduate Page from the Society for Industrial and Applied Mathematics.

Lists with extensive links to home pages

- Penn State: worldwide coverage of math departments (geographically well organized), institutes, journals, societies, some publishers, specialized subject pages (classified by area), software, etc.
- The Math Archives of the University of Tennessee at Knoxville. Particular virtues: extensive references for teaching materials (all levels), and descriptive annotations. Search for resources on the math topic of your choice, or look up departments (incorporating lists for Australia, Canada, the United Kingdom, Ireland, and the former Soviet Union), institutes, societies, and more.
- The World-Wide Web Virtual Library: Mathematics at Florida State. Math departments (geographical), specialized resources and lists, high school servers, gophers, software, links to membership lists for U.S. and Canada, etc., etc.
- Mathematical Resources on the Web from the University of Florida. Lots of references to departments and organizations (alphabetical; math and related), bulletin boards, and much more.
- Mathematical Departments in Europe, with both hyperlinks and old-fashioned mailing addresses.
- The "Platonic Realms" site of B. Sidney Smith: a curiosity: very ambitious and attractive (in color) yet mostly incomplete and has many errors.

Bibliographical sources

Reviewing and citation indexes.

- MathSciNet, the Web version of Mathematical Reviews. (Accessible for Binghamtonians.) How to use MathSciNet in ways ordinary and extraordinary. The MathSciNet home page.
- Zentralblatt MATH Database, the on-line version of Zentralblatt fÃ¹/₄r Mathematik. (That link takes you to the basic search form at the New York mirror site.) There is also a home page with more information.
- Science Citation Index.

Journal home pages.

- Binghamton University online journal access: a partial list of journals accessible to us, with links, is maintained by the library.
- The most extensive lists of math journals, from the AMS.
- The Penn State lists of math journals.
- Recent contents pages of many math and cs journals at le Bibliothèque Mathématique et Informatique de l'Université de Bordeaux. These are photographed and might not be very legible.

Preprint servers.

- The extensive AMS list of preprint servers.
- The physics and mathematics preprint arXiv (formerly the Los Alamos XXX ArXive).
- The Mathematics Front for the ArXiv.
- The Computer Science ArXiv.
- Publishers (including selected publishers with major search engines).
 - The AMS publishers list.
 - Academic Press: searchable book journal catalog with authors, titles, abstracts. A large searchable journal database. (Accessible for Binghamtonians.)
 - Elsevier (North-Holland) for searchable book catalog. Go to ScienceDirect for searchable **journal** lists with authors, titles, abstracts. (Accessible for Binghamtonians.)
- Lists from the AMS of, among others, printed and electronic journals that have sites on the Internet.
- The World Wide Web Virtual Library: Publishers, an all-subject listing.
- A MathSciNet search can give you a list of **mathematical articles from a specific journal**. One search method: Click on a field-name box (e.g., "Author") to change the field name to "Journal". Then enter the journal name or abbreviation (recommended: use wild-card asterisks * as much as possible). This should give you a list of the articles from the journal that are indexed in Mathematical Reviews, from newest to oldest. Another method: Find an article from the journal and use that form of the title in your search.

Search by topic

- The Math Archives of the University of Tennessee at Knoxville.
- MathSearch by Jim Richardson (at the University of Sydney): a database of English-language Web pages in mathematics and statistics, searchable by keywords.
- The Yahoo math page in the Yahoo index.
- A broad collection of searchers from the CSC in Finland.

Societies and organizations

Societies and organizations

- The AMS (American Mathematical Society). Expository news items and a digest of recent popular articles, publications catalog and store, employment information, and more. A direct link to the Notices of the AMS for online reading.
- The MAA (Mathematical Association of America). Mathematics news, MAA publications and many other math books, meetings,
- SIAM, the Society for Industrial and Applied Mathematics.
- The Young Mathematicians Network.
- The Association for Women in Mathematics (AWM).
- The National Association of Mathematicians and Nathaniel Dean's Info on Minorities in math.
- The National Science Foundation's Division of Mathematical Sciences.
- The Canadian Mathematical Society and CAMEL, the Canadian mathematical Web service.
- The European Mathematical Information Service, with information about the European Mathematical Society, links to some national societies, and information on mathematical activities in Europe.
- The International Mathematical Union (IMU): IMU reports, list of member countries, ICM-98 (the 1998 International Congress of Mathematicians), the World Mathematical Year 2000, and "links to the mathematical world".
- The International Study Group for Ethnomathematics .
- The Association for Symbolic Logic.

Finding people

- The CML (Combined Membership List) of the AMS, MAA, and SIAM.
- The Canadian Mathematical Society: membership list and members' home pages.
- Addresses and telephone numbers: a list of lists from the University of Florida.
- Addresses: a list of lists from Florida State.
- The Penn State Who's On-line: Mathematicians service (not so big, but add yourself!).
- The Mathematicians page of Andrew J. Nicas.
- The Geometry and Topology Address Book.
- Directory of Russian Mathematicians from the Information and Publishing Department of the Russian Academy of Sciences and the Steklov Mathematical Institute.
- Membership of the Israel Mathematical Union.

Meetings

- The AMS Mathematics Calendar (world mathematics meetings); also, its AMS Meetings and Conferences pages with international, national, sectional meetings of the AMS.
- Mathematical meetings in Europe.
- ICM-98, the International Congress of Mathematicians in 1998 in Berlin.

Internet news and discussion groups

- UTK's large and descriptively annotated Math Archives list.
- A list from the CSC in Finland.
- The Florida State list.

Employment, career, and fellowship information

- Academic employment information and services from the AMS.
- More information about careers and employment in math, as well as postdoctoral fellowships.

Specialized fields

- Resources arranged by 1991 Mathematics Classification codes at the AMS.
- Penn State's specialized subject pages (classified by area).
- From the WWW Virtual Library.
- **Topology Atlas** from the University of Nipissing.
- The source for **operations research** is Michael Trick's Operations Research Page at Carnegie Mellon. One of its links is to Harvey Greenberg's Mathematical Programming Glossary.
- Theoretical computer science .
 - Consult Theoretical Computer Science on the Web at Stanford.
 - For a more comprehensive list of CS resources, including societies, technical report indexes, and specialized areas, see the Computer Science Research Resources listing at the University of Maryland.
 - Carnegie-Mellon's list of Computer Science Departments.
 - The Computer Science ArXiv of preprints.
- Applied (mostly) math connections at the University of Delaware.
- Mathematical Life Sciences from UTK, complete with artificial life and complex systems.
- Quick links to U.S.A. departments of physics, engineering, and mathematics, from Waubonsee Community College.

Divers diverse mathematical connections

- A long and extremely varied list of specialized and odd resources from the University of Florida.
- The Dartmouth Surf the Web page.
- See the Mathematics Pages of Interest at Clark University.
- Mandelbrot and Julia Set Explorer from Clark University.
- "POP" (Popular) Mathematics at UTK.
- The rather impressive Kids Web Math page, part of Kids Web A World Wide Web Digital Library for Schoolkids.

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- Commentary, interviews, biographies, opinions about topology at TopCom (a section of the Topology Atlas).
- History and biography.
 - The Clark University history of mathematics page.
 - The MacTutor History of Mathematics at the University of St Andrews, Scotland.
 - The SunSITE Vatican exhibit: Mathematics: treat yourself to a page of Euclid and other goodies.
 - Biographies of women mathematicians at Agnes Scott College.

Software

- The Penn State list.
- The Guide to Available Mathematical Software from NIST.
- The WWW Virtual Library.
- Math-Net Links at ZIB-Berlin.

Fun

- We could not resist putting in a link to Arnold Reinhold's Math in the Movies page, complete with links to divers real math.
- Want a Klein-bottle hat (volume 0)? A portrait of Gauss, lovingly prepared on linen paper with secret identifying Deutschmarks? Try Acme Klein Bottle.
- Find mathematicians by their birthdays!
- Furman University's Mathematical Quotations Server.
- Winners of the Fields medal and Nevanlinna prize.
- And not to forget the Erdös Number Project. Find your Erdös number!

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