

Resources for Mathematics and Physics

Research databases contain abstracts and citations from scientific journals, conference proceedings, books, technical reports, patents...

Databases are a good starting point for searching on a research topic for your research project or a dissertation. You may need to search more than one database to cover different aspects of your research.

Online **Subject Guides to resources**, produced by subject librarians, provide comprehensive coverage of resources for Mathematics, Statistics, and Physics.

In this task, you will be asked to explore databases of interest for your research. Select a database from the list and conduct a search on your research topic.

Where to start

- Go to the Radcliffe Science Library web page: www.bodleian.ox.ac.uk/science
- Click on Subject Support and then select Mathematics or Physics. A library guide with resources and information specific to your subject will open.
- Click on the Databases tab to explore databases and start your search.
- In addition to **MathSciNet**, **Web of Science** and **Scopus** are very good places to find literature on your subjects. More detailed information on using these databases is provided in separate task sheets.

Searching MathSciNet

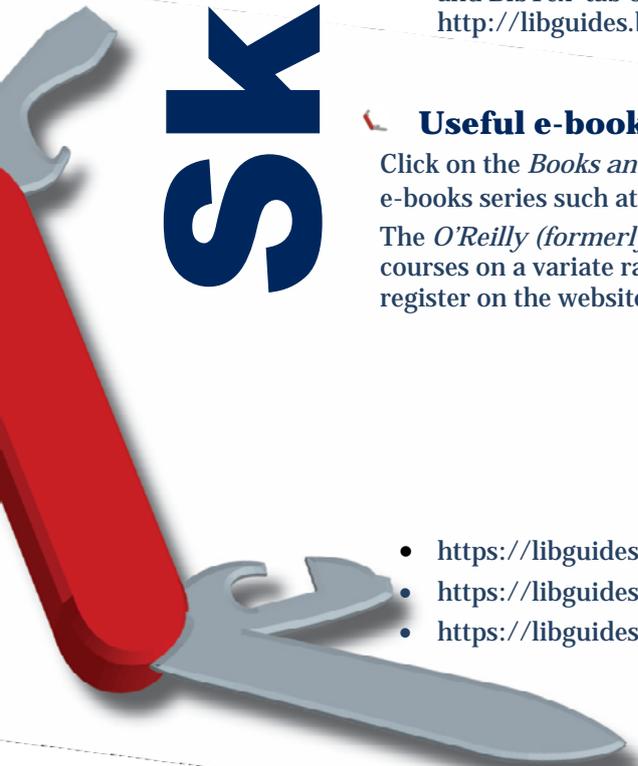
- **MathSciNet** is produced by the American Mathematical Society (AMS). The database covers research in mathematics – pure and applied mathematical sciences, and includes Mathematical Reviews - summaries of research findings produced by experts.

Searching MathSciNet for publications

- Go to SOLO at <http://solo.bodleian.ox.ac.uk/>
- Search for MathSciNet , and follow the 'Online access' link
- Make sure you are on the Publications tab (defaulted)
- To run a topic search, select Anywhere from the drop-down menu next to each search box
- Enter the following search terms in separate search boxes
Monte Carlo method* AND fluid flow* AND simulat*
- You can use this search example or use keywords related to your own
- research topic.

The screenshot shows the MathSciNet search interface. At the top, there are navigation links: Home, Features, Free Tools, About, and Login. Below this is the logo for the American Mathematical Society, MathSciNet, and Mathematical Reviews. There are four tabs: Publications (selected), Authors, Journals, and Citations. Under the Publications tab, there is a 'Search Terms' section with four search boxes. The first three boxes contain the terms 'monte carlo method*', 'fluid flow*', and 'simulat*' respectively, each with a dropdown menu set to 'Anywhere' and an 'and' button to the right. The fourth box is empty and has a dropdown menu set to 'MSC Primary/Secondary'.

- <https://libguides.bodleian.ox.ac.uk/maths>
- <https://libguides.bodleian.ox.ac.uk/physics>
- <https://libguides.bodleian.ox.ac.uk/statistics-resources>



Research students'
SKILLS TOOLKIT

- Combine search terms using the Boolean operator **AND**.
- The wild card * finds plurals and alternative word endings e.g. flow* for flows, flowing, etc.
- Use **Time Frame** to limit your search to a specific publication time range
- Click **Search**. Search results are displayed.
- You can sort your results by date, citations, and authors. Results can be refined by filters on the left.

Searching MathSciNet for Authors, Journal, Citation

- Click on the **Authors tab** on the main page.
- Enter the *Author Surname, initial** and search.
- The *MR Author Profile* will appear. You can view publications, Co-authors, Citations.
- Click on the **Journals tab** on the main page to search for journals.
- Click on the **Citation tab** to open **MR Citation database**.
- Look up **Citations** by Author, Journal, Subject, and Year.

Exporting references from MathSciNet

- Open **MathSciNet** and run a search.
- Select the articles you want to keep
- Choose a file type from the **Batch download** dropdown menu - *select Citation (BibTeX) for references in BibTeX format*.
- Click **Retrieve Marked** to display references for the articles you have selected.
- Select all references, copy and paste them on a Notepad file.
- Save the file in .bib format.
- Alternatively, you can add articles you want to keep to **Clipboard**, then click on the Clipboard link at the top of the page and export references directly from there.

Organising your references with reference managers

Reference managers help you to organise details of all the papers, books and other documents you collect to support your research. They also simplify adding citations and properly formatted bibliographies to your documents.

- You can import and export your references in .bib format with all reference managers, and organise them in folders, annotate, or share them.
- For instructions on using BibTeX with reference management packages check the 'Latex and BibTeX' tab on the Managing your References LibGuide:
<http://libguides.bodleian.ox.ac.uk/reference-management/>

Useful e-book series

Click on the *Books and e-books* tab on the Mathematics or the Physics LibGuide to access useful e-books series such as *Lecture Notes in Mathematics* and *Lecture Notes in Physics*.

The *O'Reilly (formerly Safari) platform* includes ebooks, programming manuals, and online courses on a variate range of topics in computing, data science, business, etc. You will need to register on the website using an .ox.ac.uk email address to access it.

- <https://libguides.bodleian.ox.ac.uk/math>
- <https://libguides.bodleian.ox.ac.uk/physics>
- <https://libguides.bodleian.ox.ac.uk/statistics-resources>