Find it!

Online resources for Engineers and Materials Scientists

MAT4444: Transferable Skills for Engineers and Materials Scientists

School of Engineering and Materials Science

---

www.library.qmul.ac.uk

Queen Mary University of London

S&E Teaching & Learning Support Team

library-sande@qmul.ac.uk

James Soderman – Faculty Liaison Librarian for Science and Engineering

Victoria Hart & Natasha Burbridge – Information Assistants

Did you know?

2000: roughly 550 billion individual documents online

From: Bergman JK. **White paper: the deep web : surfacing hidden value.** J Electron Publ. [internet]. 2001 [cited in 8 July 2015]; 7(1). Available at: DOI: http://dx.doi.org/10.3998/3336451.0007.104

This session

After this session you should be able to:

- Identify keywords and build a search strategy
- Find and use the Library Discovery tool and Knovel.
- Identify high-quality information resources including research articles and text books.

It can feel like a big adjustment coming to grips with how to find and use information at university level; it may be very different to your previous experiences…

library-sande@qmul.ac.uk

Your reading…

Some of you will be presented with a primary reading resource. This resources is excellent for acquiring an understanding of the key themes within your courses.

The library has extensive resources that can enhance your learning and help with further explanation of concepts, and supply material which could expand your understanding beyond your textbook.

library-sande@qmul.ac.uk

Your reading…

While others will very soon encounter journal articles with original research which you will need to come to grips with.

The library has lots of resources to enhance your learning from this perspective too…

Preparing for research

Most of the time information does not find you… it is up to you to find the information

For a successful start you will need to define the area you want to research and then extract keywords

library-sande@qmul.ac.uk

Exercise: Defining Keywords

Title of your first assignment

Report on the force-extension behaviour of a polymer

Polymers, commonly called plastics, are artificial products that are not available in nature.

From: Ghosh A. Technology of Polymer Packaging. Munich ; Cincinnati, Ohio: Hanser Publishers; 2015.

What did you come up with?

Go to **www.govote.at** and use the code **50 39 53** and contribute to the word cloud!

Developing a Search Strategy

Identify important concepts and choose **keywords**

- This will include **synonyms**

e.g. polyethylene, polyethene, polymethylene

- and **related terms**

e.g. thermoplastic, thermoplastic resin

Searching the Web

Using a search engine to search the Web has become by far the most common method of locating information about a subject

library-sande@qmul.ac.uk

Searching the Web

However, the is no quality control mechanism for publishing on the Web, with anyone being able to publish online

While there is a great deal of high-quality information available either free or for a fee, much online content is of poor quality

The vast majority of online information is not indexed by search engines (the so-called Hidden or Deep Web) including the contents of library catalogues and online databases such as Web of Science or Knovel

This information must be accessed directly

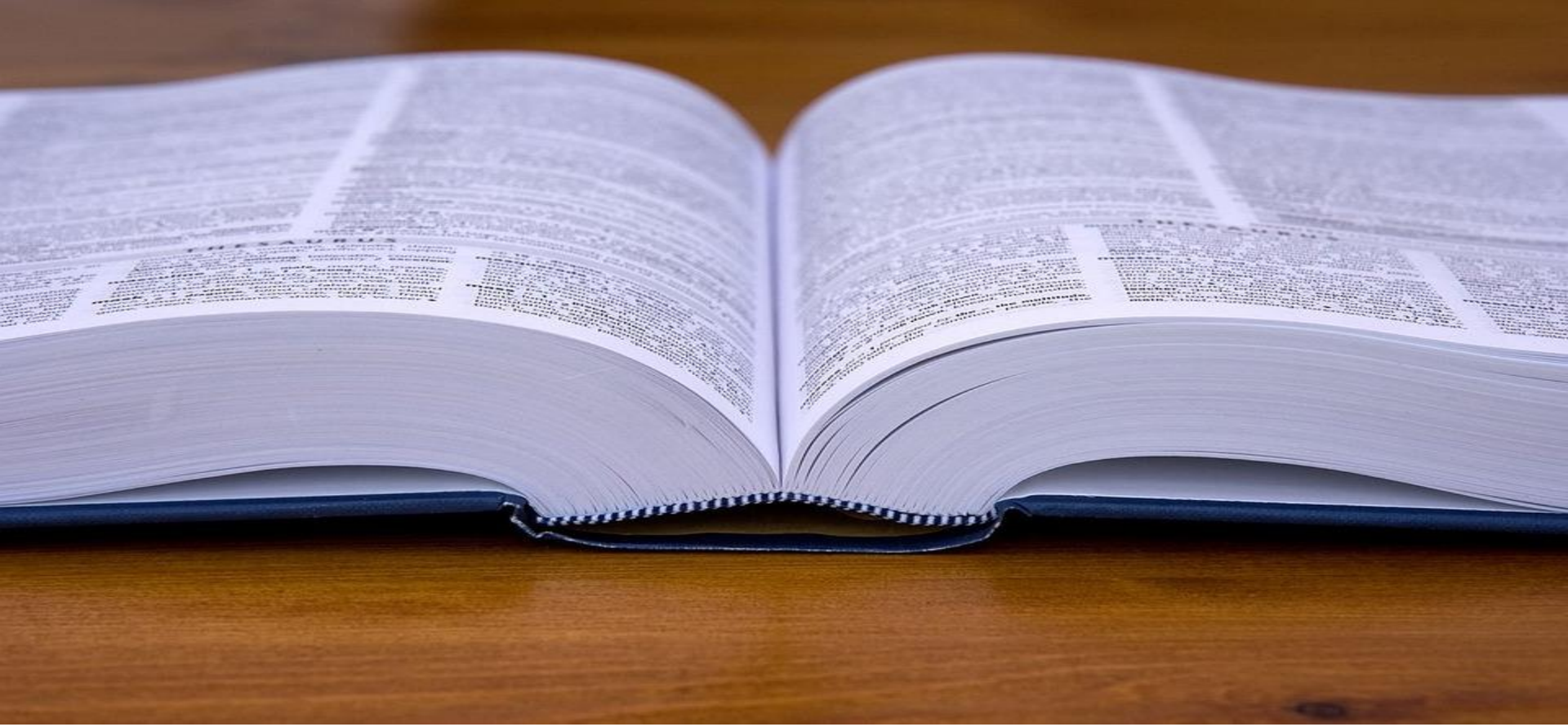
library-sande@qmul.ac.uk

Google

Google is good at what is does, but, like all search engines, *it doesn't cover everything*

Always make use of other search tools such as the Library Discovery tool and Knovel

library-sande@qmul.ac.uk



For ***basic information*** that will help you to get started and understand the essential concepts why not try an ***encyclopaedia.***

library-sande@qmul.ac.uk

Wikipedia

Create account Log in

Article Talk | Read Edit View history | Search

WIKIPEDIA
The Free Encyclopedia

- Main page
- Contents
- Featured content
- Current events
- Random article
- Donate to Wikipedia
- Wikipedia store

Interaction
- Help
- About Wikipedia
- Community portal
- Recent changes

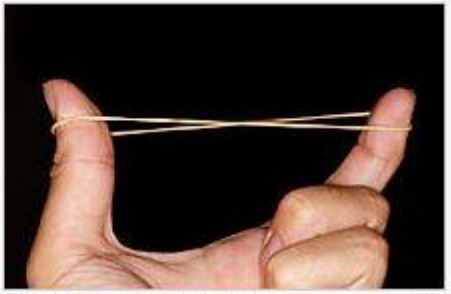
Young's modulus

From Wikipedia, the free encyclopedia

Young's modulus, also known as the **tensile modulus** or elastic modulus, is a mechanical property of linear elastic solid materials. It measures the force (per unit area) that is needed to stretch (or compress) a material sample.

Young's modulus is named after the 19th-century British scientist Thomas Young. However, the concept was developed in 1727 by Leonhard Euler, and the first experiments that used the concept of Young's modulus in its current form were performed by the Italian scientist Giordano Riccati in 1782, pre-dating Young's work by 25 years.[1] The term modulus is the diminutive of the Latin term *modus* which means *measure*.

A solid body deforms when a load is applied to it. If the material is elastic, the



Rubber, a material with an extremely low Young's modulus

library-sande@qmul.ac.uk

Wikipedia

Beware

The quality of information on Wikipedia varies greatly, and *it is not a trusted, consistent or reliable source of academic information*!

library-sande@qmul.ac.uk

Even Wikipedia tells you to be critical:

Users should be aware that not all articles are of encyclopedic quality from the start: they may contain false or debatable information.

Wikipedia:About
https://en.wikipedia.org/wiki/Wikipedia:About
[Accessed 14/03/2016]

library-sande@qmul.ac.uk

Wikipedia

Note sections on *References* and *External Links*:

References [edit]

1. ^ *The Rational Mechanics of Flexible or Elastic Bodies, 1638–1788*: Introduction to Leonhardi Euleri Opera Omnia, vol. X and XI, Seriei Secundae. Orell Fussli.
2. ^ In computer graphics visual effects, the terms *linear elastic material* and *rigid material* are used interchangeably if the Young's modulus is high.
3. ^ IUPAC, *Compendium of Chemical Terminology*, 2nd ed. (the "Gold Book") (1997). Online corrected version: (2006–) "modulus of elasticity (Young's modulus), *E*".
4. ^ a b c d e f g h i j k l m n o p q r s t "Elastic Properties and Young Modulus for some Materials". The Engineering ToolBox. Retrieved 2012-01-06.
5. ^ "Overview of materials for Low Density Polyethylene (LDPE), Molded". Matweb. Retrieved Feb 7, 2013.
10. ^ Polyester Matrix Composite reinforced by glass fibers (Fiberglass). [SubsTech] (2008-05-17). Retrieved on 2011-03-30.
11. ^ Kol, N. et al. (June 8, 2005). "Self-Assembled Peptide Nanotubes Are Uniquely Rigid Bioinspired Supramolecular Structures". *Nano Letters* **5** (7): 1343–1346. Bibcode:2005NanoL...5.1343K. doi:10.1021/nl0505896.
12. ^ Niu, L. et al. (June 6, 2007). "Using the Bending Beam Model to Estimate the Elasticity of Diphenylalanine Nanotubes". *Langmuir* **23** (14): 7443–7446. doi:10.1021/la7010106.
13. ^ E-G-nu.htm "Composites Design and Manufacture (BEng) – MATS 324".
14. ^ Nabi Saheb, D.; Jog, JP. (1999). "Natural fibre polymer composites: a review". *Advances in Polymer Technology* **18** (4):

Further reading [edit]

- ASTM E 111, "Standard Test Method for Young's Modulus, Tangent Modulus, and Chord Modulus," [2]
- The *ASM Handbook* (various volumes) contains Young's Modulus for various materials and information on calculations. Online version

External links [edit]

- Matweb: free database of engineering properties for over 63,000 materials
- Young's Modulus for groups of materials, and their cost

library-sande@qmul.ac.uk

Going further!

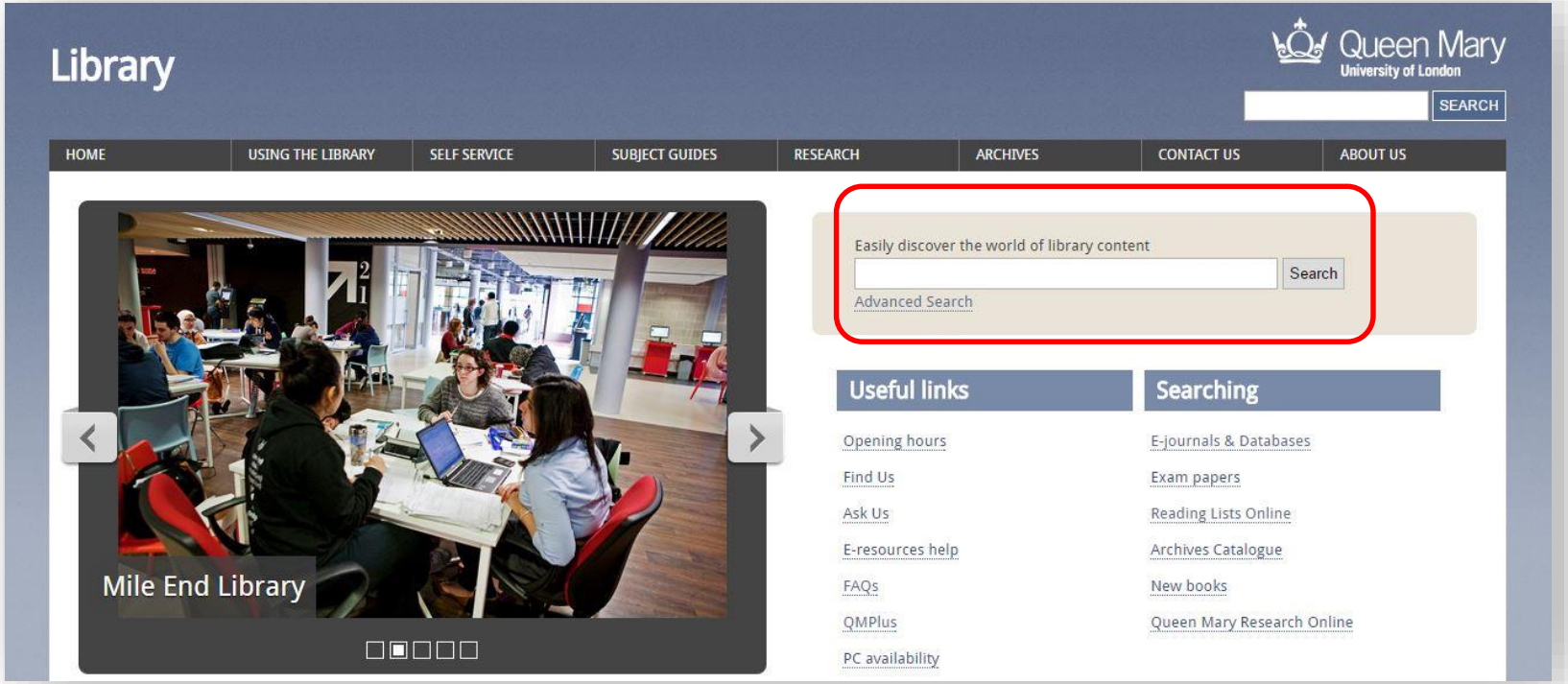
At university level you'll also need in-depth information from academic books and journal articles that have been through the peer-review process

library-sande@qmul.ac.uk

What makes something peer-reviewed?

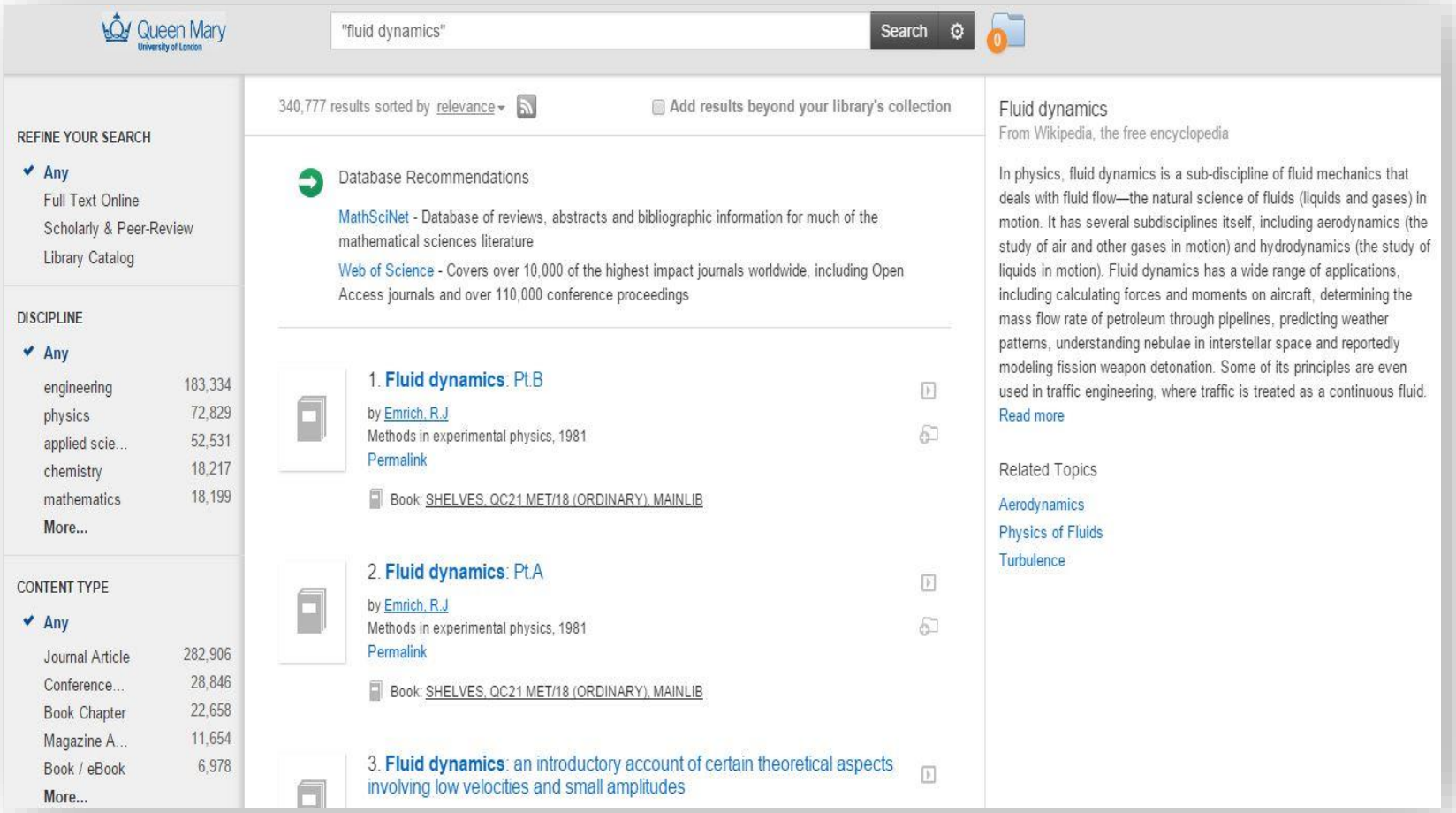
Library Discovery

The Library Discovery Tool is a great way to find textbooks and journals in your subject area…



library-sande@qmul.ac.uk

Going Further - Library Discovery



library-sande@qmul.ac.uk

Library Discovery - Refining Your Results

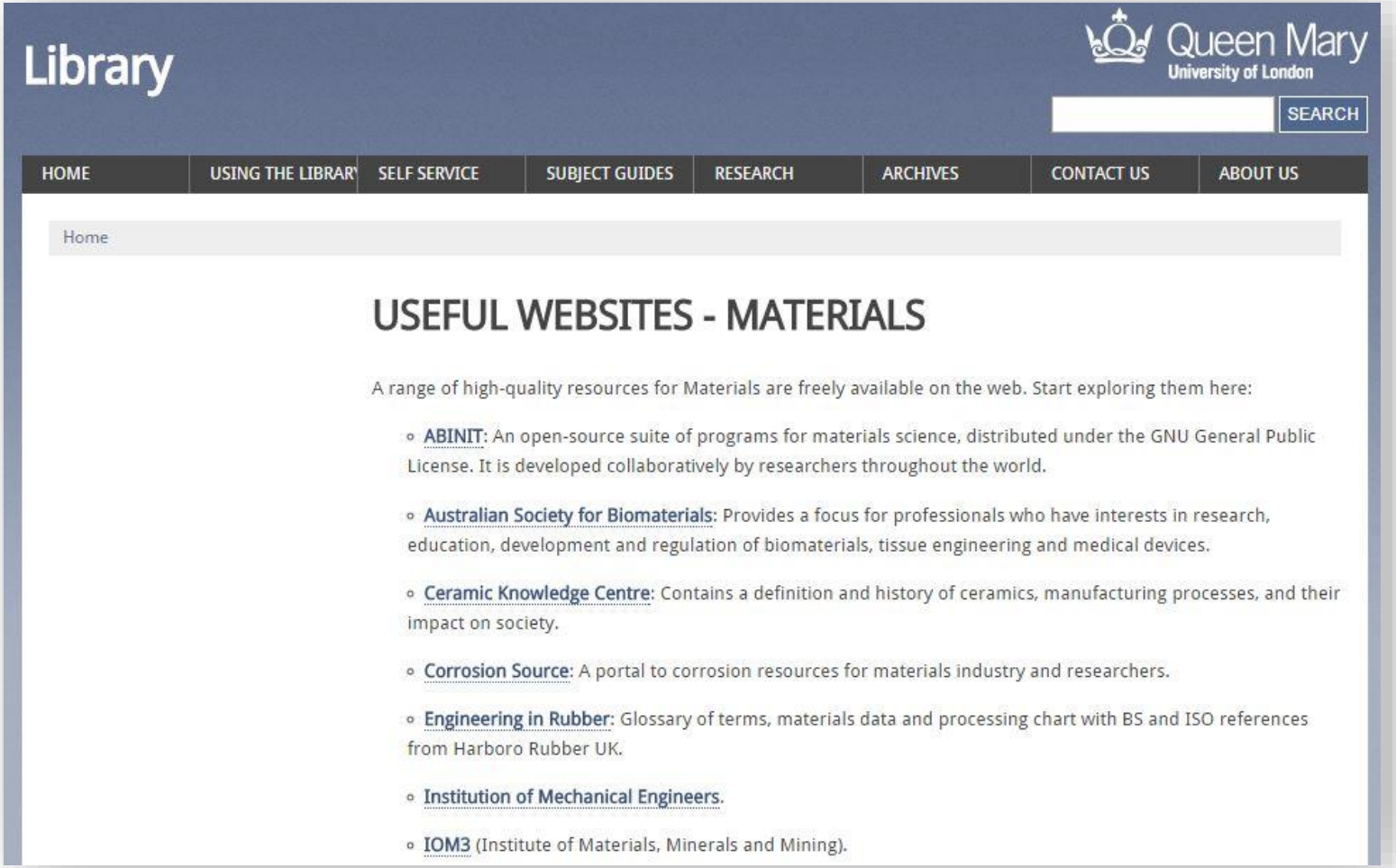
library-sande@qmul.ac.uk

What is Knovel?

Knovel is a web-based application integrating technical information with analytical and search tools to drive innovation and deliver answers engineers can trust.

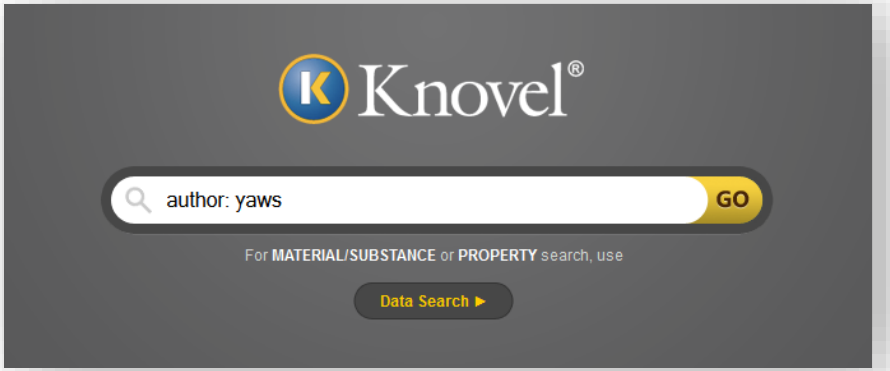
- It is also used within the industry.

Resources for Your Subject



library-sande@qmul.ac.uk

The Knovel Library

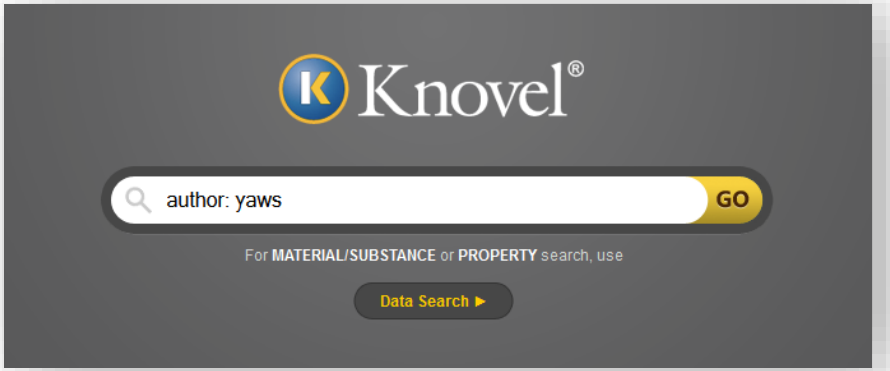


- Knovel is a database of the full text of many leading engineering reference handbooks and conference proceedings

- Knovel also provides tabular and graphical data, including facts, figures, formulas and definitions

library-sande@qmul.ac.uk

The Knovel Library



- Knovel is available to all Queen Mary students and can be used in your work as you conduct technical research, select materials, test and create designs, improve processes and more

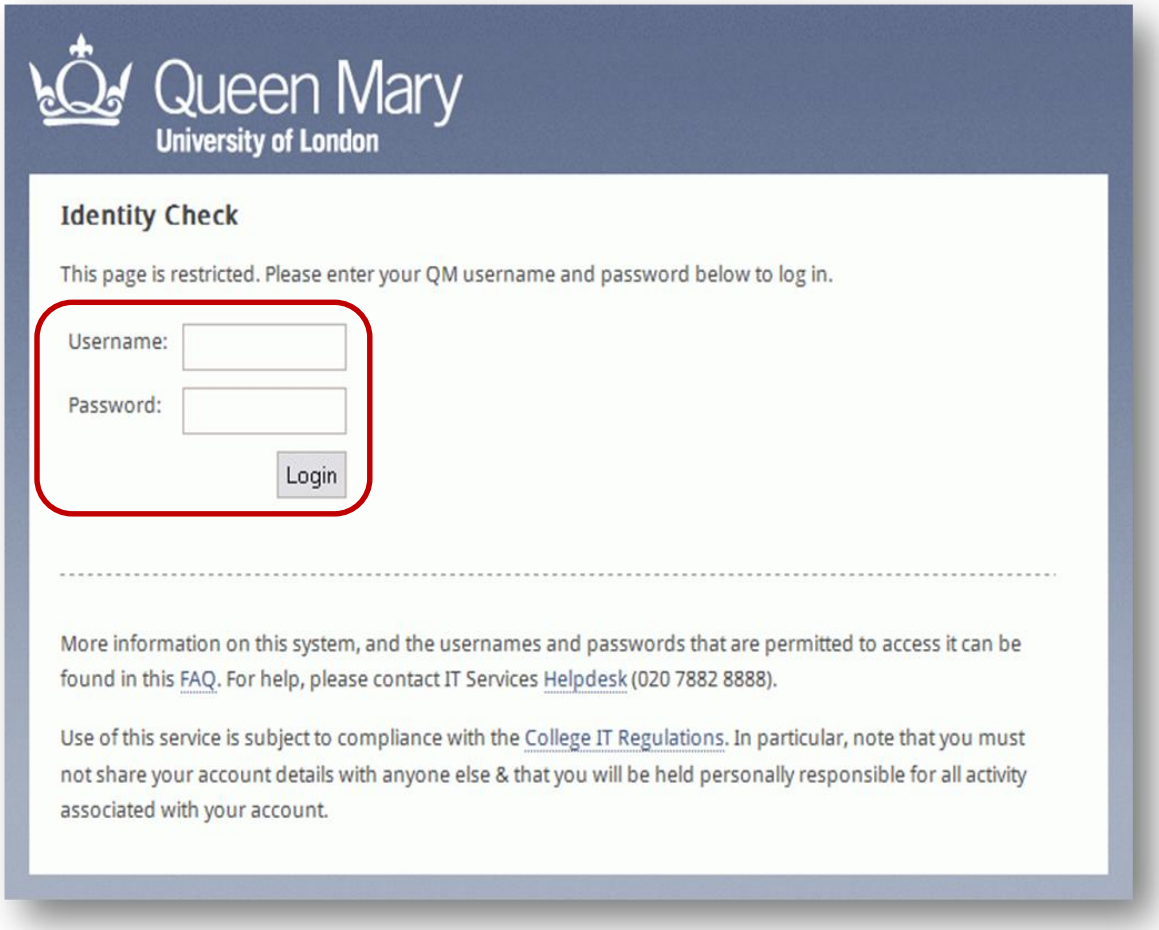
- Access via Library Discovery tool/Subjects Guides

library-sande@qmul.ac.uk

Searching Knovel

- Enter your keywords in the search box, e.g.:

Access and Login



- Access e-resources via Library homepage/ Library Discovery tool
- Off-campus you must log into e-resources using your Queen Mary username and password
- Some e-resources accessed instead via **Institutional Login/Shibboleth/UK Federation**

library-sande@qmul.ac.uk

Referencing


CREATED USING
POWTOON

Perfect references?

Referencing your sources

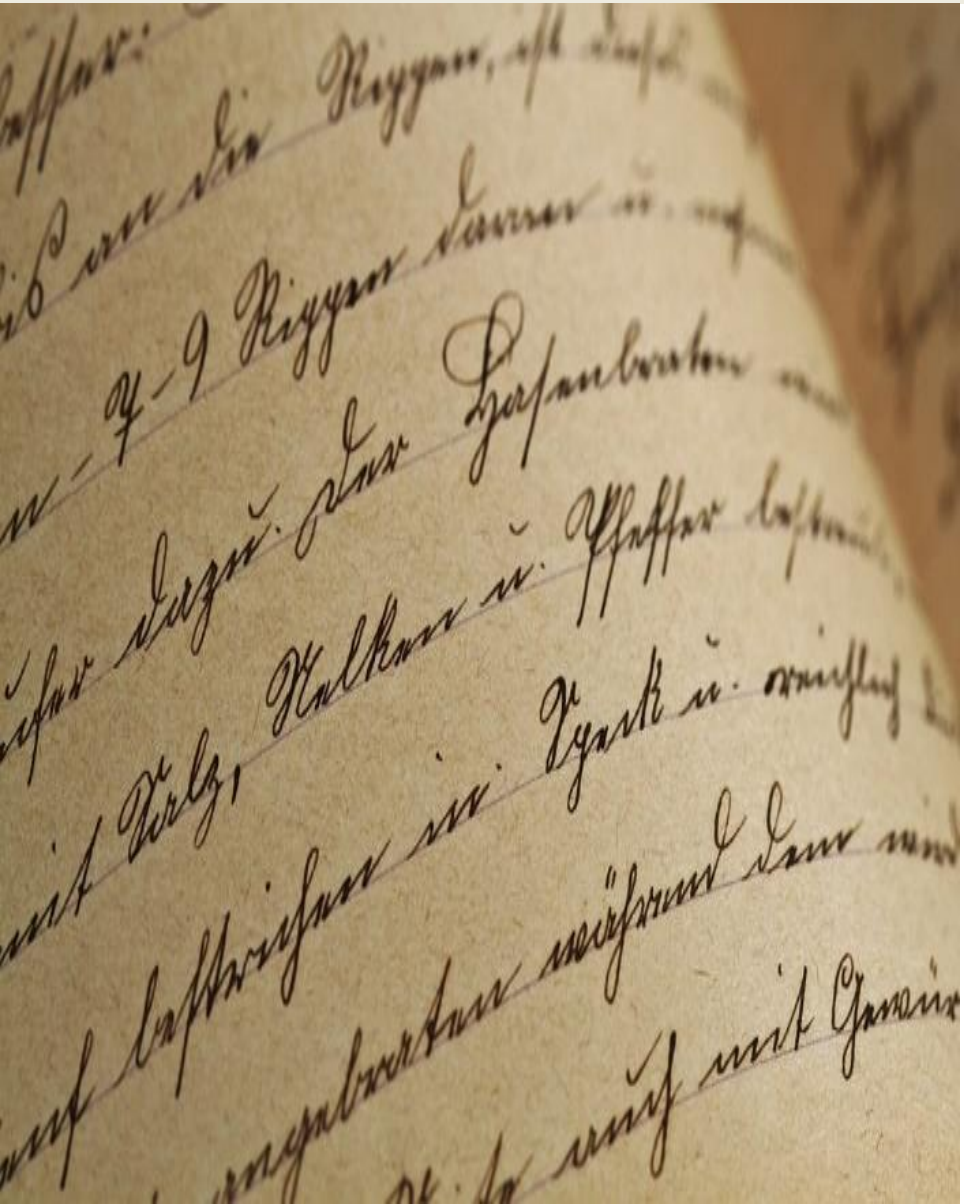
Information and examples for citing your information sources is available (if off-campus you will need to login through our proxy server):

http://citethemrightonline.com/

CITE THEM RIGHT ONLINE

More examples for citing your information sources is available on QMplus:

Recording your sources



- Be selective
- Be systematic
- Be electronic
- Be obsessive

Further Help

- **Welcome Desk** on the Ground Floor - entry/exit issues and circulation problems
- **Help Zone** on Ground Floor - general enquiries
- **Roving Staff** on all floors - general enquiries
- **Online**: http://www.library.qmul.ac.uk/contact-us/
- **Subject-related enquiries**

library-sande@qmul.ac.uk

You are logged in as **Guest user**

SUPPORTING RESEARCH

Whether you are a taught student, research student or member of staff, the Library can help you with your research. Investigate our services and resources on the Library Website and complete our accredited courses on QMplus as part of the Researcher Development Framework:

- RDF Principles of Open Access and Open Access Publishing
- RDF Information Literacy Skills for Researchers
- RDF Research Data Management

USING YOUR LIBRARY

The essentials for all our staff and students.

Manage your library account and find out about our services:

- Using the Library
- Self-service
- Add Copy and Print Credit

Finding Information

Find the books, journal articles and other learning resources you need for your coursework and research:

Search Library Discovery:

INFORMATION LITERACY SKILLS

Find it! Use it! Reference it! - helping you develop your information literacy.

Always think Critically! Learn:

- How to find the information you need
- How to evaluate it and use it effectively in your work
- How to reference the information you've found

Get started with our QMplus module

FIND IT! USE IT! REFERENCE IT >

and investigate our range of

SUBJECT GUIDES >

NEW QMPLUS - TIPS

- Top ten videos to get you started
- Ten little things that are new in QMplus
- Whats new with assignments?
- Highlights of the new theme - Video
- Editing your new landing page
- Issues log (Check here before raising a ticket

The Library on QMplus

STUDENT LIFE

- Student email
- My QMUL
- Queen Mary Students' Union
- Student Enquiry Centre
- Careers
- Course reps

HELP & SUPPORT

- Raise a support ticket
- QMplus for students
- Browse our help guides
- E-learning Unit website
- Book a learning technologist
- Book a recording booth

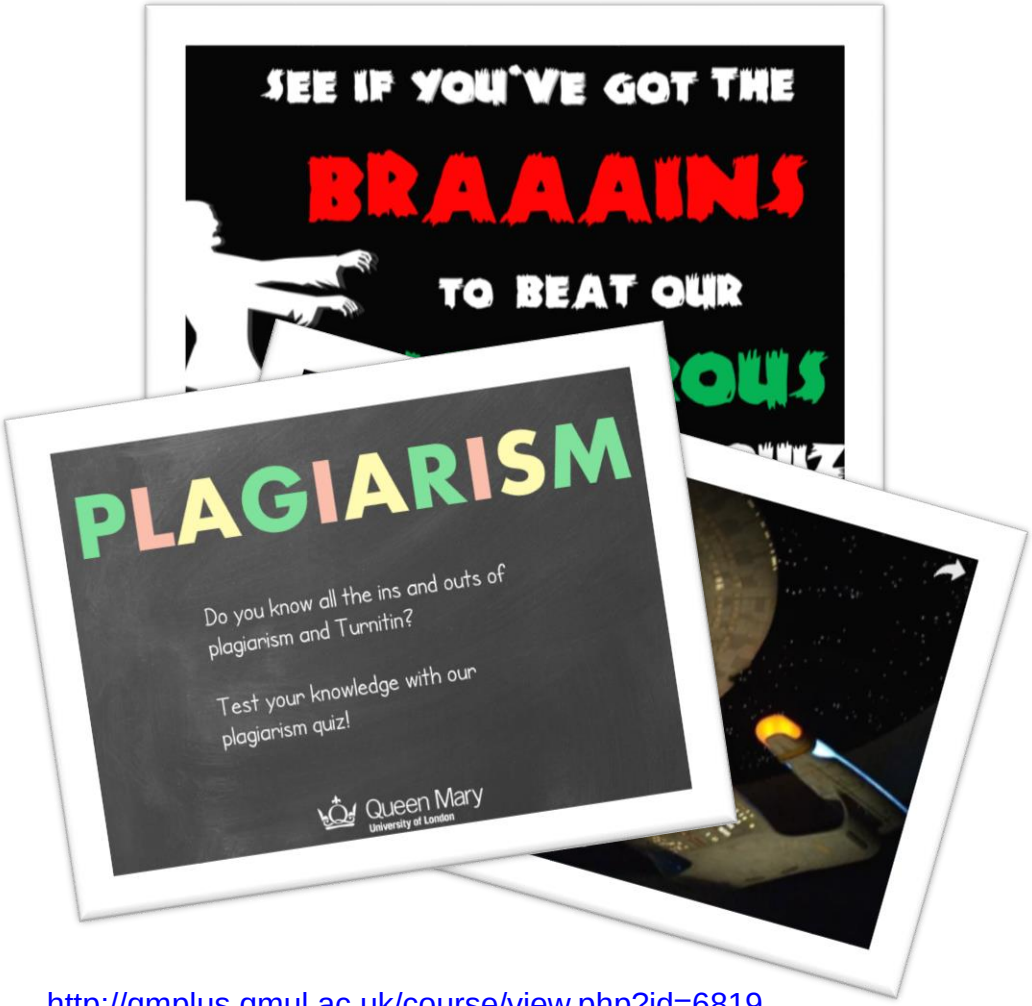
LIBRARY

- Library Landing Page
- Library Website
- Find it! Use it! Reference it!
- Search Library Discovery
- Subject guides
- Cite Them Right

QMPLUS ARCHIVE

- Archive
- 2016-17
- 2015-16
- 2014-15
- 2013-14 (on campus)
- 2012-13 (on campus)

Find It! Use It! Reference It!



http://qmplus.qmul.ac.uk/course/view.php?id=6819

- Find academic information
- Evaluate information
- Reference your dissertation
- Avoid plagiarism
- Produce the perfect bibliography

Mile End Library Tours

Every ½ hour from at 9.30am to 6.30pm (ends at 7pm)

Ask at the Welcome Desk for more details

library-sande@qmul.ac.uk

How to get to your slides?

How to contact your S&E team?

Email: library-sande@qmul.ac.uk

For news and recent developments:

Twitter: @QMLibrarySciEng