

# Preparing for your literature survey

EEE PhD Oct 2021

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Engineering



# What we will cover today

Tools for advanced literature searching

Developing a search strategy

Managing documents and references

Keeping up to date with research

Other useful resources





Getting started with your literature survey





At the start and during your research...

# Your literature search will...



build up your knowledge




give you ideas of how to proceed



avoid duplication. The aim is to create new knowledge



As a result of your literature search you may end up changing the direction of your research

The background of the entire slide is a dense, overlapping pattern of colorful sticky notes in various shades including yellow, pink, blue, green, and purple. The notes are scattered across the surface, creating a vibrant and textured backdrop.

By referring to published literature – your work is put into context

Your evidence that you have created new knowledge

...During writing up

# Finding research papers – search tools







What search tools might you use for your research?



# Looking for research papers using Library Search

The screenshot displays the Imperial College London Library Search interface. At the top, the search bar contains the query "control multiterminal hvdc grids". Below the search bar, filters are set to "Articles", "that contain my query words", and "anywhere in the record". The search results page shows "0 selected" items, "PAGE 1" of "561 Results", and a "Personalize" toggle. Two search results are visible:

- Result 1:** "Hierarchical power control of multiterminal HVDC grids" by Egea-Alvarez, Agustí ; Beerten, Jef ; Van Hertem, Dirk ; Gomis-Bellmunt, Oriol. Published in Elsevier B.V. (ISSN: 0378-7796; EISSN: 1873-2046; DOI: 10.1016/j.epr.2014.12.014). The article is from Electric power systems research, 2015-04, Vol.121, p.207-215. It includes options to "Download PDF" and "View Issue Contents", and a highlighted "Online full text" link.
- Result 2:** "Robust Predictive Sliding Mode Control for Multiterminal HVDC Grids" by Musa, Aysar ; Sabug, Lorenzo R ; Monti, Antonello. Published in IEEE (ISSN: 0885-8977; EISSN: 1937-4208; DOI: 10.1109/TPWRD.2018.2811560; CODEN: ITPDE5). The article is from IEEE transactions on power delivery, 2018-08, Vol.33 (4), p.1545-1555.

On the right side of the results, there are additional filters: "Search outside Imperial" (unchecked), "Sort by Relevance", "Format Articles (561)", "Date" (From 1990, To 2022, with a "Refine" button), and "Availability".

Two red arrows point to specific elements: one points to the "0 selected" checkbox, and the other points to the "Search outside Imperial" checkbox.

Make use of the filters (by type of resource)

# EEE library support page


Contact us | COVID-19 | New to Imperial | Using our libraries | Find books and online resources | **Subject support** | Learning and teaching support | Research support | NHS

- Chemical Engineering
- Chemistry
- Civil and Environmental Engineering
- Computing
- Design Engineering
- Earth Science and Engineering
- Education and Teaching
- Electrical and Electronic Engineering**
- Environment
- Imperial Horizons
- Languages
- Life Sciences
- Materials
- Mathematics
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**Citing & Referencing: Harvard Style**  
[PDF, 263KB]

**Citing & Referencing: Vancouver Style**  
[PDF, 262KB]





## Your librarian



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[Chat with me via Teams](#)

Alexandra can help with:

- Searching and finding information
- Evaluating the information you find
- Using and connecting to e-journals, e-books and databases
- Referencing and reference management software
- Using the Library and our services
- Open access publishing



## Help and support

Just drop in:  
Mon to Fri 09.30 - 16.30 Librarians' Office, Central Library (Rm 110)  
[Book a one to one with Alexandra](#)

- [Book a library workshop](#)
- [Get items not available at Imperial](#)
- [Open access help](#)
- [Help with Reading Lists](#)

### Search tools

- Engineering Village (Compendex, Inspec)
- IEEE Xplore (IEEE digital library)
- Scopus (all subjects)
- Web of Science Core Collection (all subjects)
- SPIE digital library (optics and photonics)

### Standards

- IEEE standards
- British Standards Online (some IEC equivalents)

### Other resources

- Patents
- Theses
- Spiral – Imperial College London's Repository
- RefWorks
- EndNote

### Help and support

- Passwords and logging in to online resources off-site
- Document Delivery Service
- Research support
- Open access publishing
- Research data management
- Reference management

# Advanced search tools

**Web of Science**

**Association of  
Computing Machinery  
Digital Library**

**IEEE Xplore**

**SPIE Digital Library**

**Engineering  
Village**

**Scopus**



A close-up, top-down view of a dense field of bright green clover leaves. The leaves are small, four-lobed, and have a vibrant, healthy green color. They are packed closely together, creating a textured, repetitive pattern across the entire frame. The lighting is even, highlighting the natural sheen and veins of the leaves.

# Developing a search strategy

# Developing a search strategy

Identify key concepts

Think of alternative terms (e.g. synonyms, singular/plural, word forms, US/UK spelling variations)

Combine terms (**AND, OR, NOT**)

# Developing a search strategy

Look for advanced search option

Truncation character, usually \*

“Phrase searching”

Restricting search terms to specific fields



# Example search (1)

Control of multiterminal HVDC grids

# Example search (2)

Control of multiterminal HVDC grids

Control of multiterminal HVDC grids

# Example search (3)

Control of multiterminal HVDC grids

(Control) AND

(multiterminal OR multi-terminal) AND

(HVDC OR “high voltage direct current”)

AND (grids)



# Try it out

Using IEEE Xplore



Think of a topic within your research area



Think of key words and alternate terms



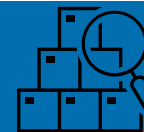
Make use of the Search Strategy sheet



Run your search



Evaluate your results



# Use of controlled terms

Must search individual database

Reduces the need to look consider alternatives

Fewer results – higher percentage of relevant items

Look at controlled terms assigned to records for suitable terms

IEEE Xplore thesaurus – freely available

[http://www.ieee.org/publications\\_standards/publications/services/thesaurus\\_access\\_page.html](http://www.ieee.org/publications_standards/publications/services/thesaurus_access_page.html)

# Citation searching

Citation searching uses the way authors cite other authors' work to identify more research papers of interest (i.e. expands your search)

1.  **Nonlinear finite element analysis-based flow distribution and heat transfer model** (*Open Access*)  
Létal, Tomáš (Institute of Process Engineering, Faculty of Mechanical Engineering, Brno University of Technology, Technická 2, Brno, Czech Republic); Štěrba, Dominika Babička; Jegla, Zdeněk Source: *Energies*, v 13, n 7, 2020

Some databases include "cited by" information...

[Full text ↗](#) [Find at Imperial ↗](#)

2.  **A finite element method in combination with laminar solution method for pipe**  
Dudar, O.I. (Appl. Math. & Mech. Fac., Perm Nat. Res. Polytech. Univ., Perm, Russia); Dudar, E.S. Source: *IOP Conference Series: Materials Science and Engineering*, v 262, p 012085 (7 pp.), 2017

Database: Inspec

Document type: Conference article (CA)

Detailed Show preview ▾

[Cited by in Scopus \(2\)](#)

[Full text ↗](#) [Find at Imperial ↗](#)

3.  **A finite element method for localized erosion in porous media with applications to backward piping in levees**  
Rotunno, A.F. (Ecole Centrale de Lyon, LTDS, Univ. Lyon, Eacutecully, France); Callari, C.; Froiio, F. Source: *International Journal for Numerical and Analytical Methods in Geomechanics*, v 43, n 1, p 293-316, Jan. 2019

Database: Inspec

Document type: Journal article (JA)

Detailed Show preview ▾

[Cited by in Scopus \(5\)](#)

[Full text ↗](#)

Finding other papers...



As a validation of the present model in Fig. 4, a comparison between the present model (AHM) and the differential scheme (see details Guinovart-Díaz et al., 2013 [12]) is given. A particular two-phase composite with  $C_{66}^{(2)}/C_{66}^{(1)} = 10$  under imperfect spring contact and parallelogram cell with  $75^\circ$  is analyzed. Both methods illustrate similar behavior for the normalized effective coefficients  $C_{66}^*$  and  $\kappa^*$  by the matrix property.

The... in  
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va...  
tions and different angle of the cell. Similar effect of the angle of the cell in the value of the effective coefficients is observed.

## 9. Conclusions

Two-scale asymptotic homogenization technique was used for effective coefficients calculation of an circular elastic fiber reinforced composite with imperfect bonding between constituents and parallelogram periodic cell. Analytical expressions are obtained for all effective coefficients considering two different  $K_n$  and  $K_t$

## References

- [1] Rodríguez-Ramos R, Yan P, López-Realpozo JC, Guinovart-Díaz R, Bravo-Castillero J, Sabina FJ, et al. Two analytical models for the study of periodic fibrous elastic composite with different unit cells. *Compos Struct* 2011;93: 709–14.
- [2] Guinovart-Díaz R, López-Realpozo JC, Rodríguez-Ramos R, Bravo-Castillero J, Ramirez M, Camacho-Montes H, et al. Influence of parallelogram cells in the axial behaviour of fibrous composite. *Int J Eng S C* 2011;49:75–84.
- [3] López-Realpozo JC, Rodríguez-Ramos R, Guinovart-Díaz R, Bravo-Castillero J, Sabina FJ. Transport properties in fibrous elastic rhombic composite with imperfect contact condition. *Int J Mech Sci* 2011;53: 98–107.
- [4] Rodríguez-Ramos R, Medeiros Ricardo de, Guinovart-Díaz R, Bravo-Castillero J, Otero JA, Tita Volnei. Different approaches for calculating the effective elastic properties in composite materials under imperfect contact adherence. *Compos Struct* 2013;99:264–75.
- [5] Lebon F, Rizzoni R. Modelling adhesion by asymptotic techniques. *Adhesive Prop Nanomater Compos Films* 2011:96–126.
- [6] Rizzoni R, Dumont S, Lebon F, Sacco E. Higher order model for soft and hard elastic interfaces. *Int J Solids Struct* 2014;51(23–24):4137–48.
- [7] Ciarlet PG. *Mathematical elasticity. Three-dimensional elasticity*. North-Holland, Vol. I; 1988.
- [8] Jones RM. *Mechanics of composite materials*. Taylor & Francis; 1999.
- [9] Bakhvalov NS, Panasenko GP. *Homogenization averaging processes in periodic media*. Dordrecht: Kluwer; 1989.
- [10] Pobedria BE. *Mechanics of composite materials*. Moscow: Moscow State University Press; 1984 [in Russian].
- [11] Rodríguez-Ramos R, Sabina FJ, Guinovart-Díaz R, Bravo-Castillero J. Closed-form expressions for the effective coefficients of fibre-reinforced composite with transversely isotropic constituents-I. Elastic and square symmetry. *Mech Mater* 2001;33(4):223–35.
- [12] Guinovart-Díaz R, Bravo-Castillero J, Rodríguez-Ramos R, Sabina FJ. Closed-form expressions for the effective coefficients of fibre-reinforced composite with transversely isotropic constituents – I. Elastic and hexagonal symmetry. *J Mech Phys Solids* 2001;49(7):1445–62.

Copy query link

Publications

You may also like...

# Web of Science

## Refine results

Search within results for...

### Quick Filters

- Review Articles 9
- Open Access 109

### Publication Years

- 2021 15
- 2020 41
- 2019 49
- 2018 45
- 2017 49

See all

### Document Types

- Articles 198
- Proceedings Papers 98

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Citations: highest first <

1 of 6 >

1 **Impact of DC Line Voltage Drops on Power Flow of MTDC Using Droop Control** 219 Citations  
[Haileselassie, TM and Uhlen, K](#)  
 Aug 2012 | [IEEE TRANSACTIONS ON POWER SYSTEMS](#) 27 (3) , pp.1441-1449  
 This paper discusses the impact of dc transmission voltage drops on the distribution of dc grid balancing power when dc voltage droop control is applied. DC line voltage drops in a multiterminal VSC-HVDC (MTDC) system result in nonuniform variations of dc bus voltages when changes in dc grid power flow occur. This in turn affects the distrib ... [Show more](#)  
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2 **Methodology for Droop Control Dynamic Analysis of Multiterminal VSC-HVDC Grids for Offshore Wind Farms** 189 Citations  
[Prieto-Araujo, E; Bianchi, FD; \(...\); Gomis-Bellmunt, O](#)  
 Oct 2011 | [IEEE TRANSACTIONS ON POWER DELIVERY](#) 26 (4) , pp.2476-2485  
 This paper discusses the impact of dc transmission voltage drops on the distribution of dc grid balancing power when dc voltage droop control is applied. DC line voltage drops in a multiterminal VSC-HVDC (MTDC) system result in nonuniform variations of dc bus voltages when changes in dc grid power flow occur. This in turn affects the distrib ... [Show more](#)

# Sorting results by number of citations

3 **Topologies of multiterminal HVDC-VSC transmission for large offshore wind farms** 165 Citations

# Other search tools





# Institutional repositories – SPIRAL

Imperial College  
London

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## Search Spiral

Imperial College London's repository



## Browse

Communities and collections



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**Engineering**



Faculty of  
**Medicine**



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# Institutional repositories

**Cornell University's Open Access Archive – arXiv**  
(Computer Science, Electrical Engineering, Systems Science, Physics, Maths, etc)

**Other institutional repositories:**

More information about Institutional repositories can be found in the Registry of Open Access Repositories (ROAR) and the Directory of Open Access Repositories (DOAR)

communication networks

0 selected PAGE 1 368,767 Results Personalize

1 **DISSERTATION**  
**Integration of Clouds to Industrial Communication Networks**  
Peng, Haorui  
2021; ISBN: 9789178957262; ISBN: 9178957265; ISBN: 9178957257; ISBN: 9789178957255  
**Online full text**

2 **DISSERTATION**  
**Multilayered Security and Privacy Protection in Car-to-X Networks Solutions from Application down to Physical Layer ; 1st ed. 2013.**  
Stübing, Hagen. author.  
Wiesbaden : Springer Fachmedien Wiesbaden : Imprint: Springer Vieweg; 2013; 1st ed. 2013.; ISBN 3-658-02531-X; ISBN 3-658-02530-1  
**Online access**

3 **DISSERTATION**  
**Wireless Powered Communication Networks**  
Gao, Zihao  
Faculty of Engineering & Information Technologies; 2017

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Date  
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Searching for PhD theses

# Other search tools/ other material



**Standards**

- IEEE standards
- British Standards Online (some IEC equivalents)

**Other resources**

- Patents
- Theses
- Spiral – Imperial College London’s Repository
- RefWorks
- EndNote

Standards and  
Patents

EEE library support page



# The research process

Have a clear idea of **what** it is you are looking for

What **type** of information are you looking for?

Which **search tools** are you planning to use?

Carry out the search using your **search strategy**

Identify the **relevant** documents

Acquire and **store** documents

# Managing documents and references

# Planning

You will collect a lot of information over the next three/four years

Plan NOW – minimise stress

Automate as much as possible

Find what works for you

# Where to store documents and references

[OneDrive for Business](#)

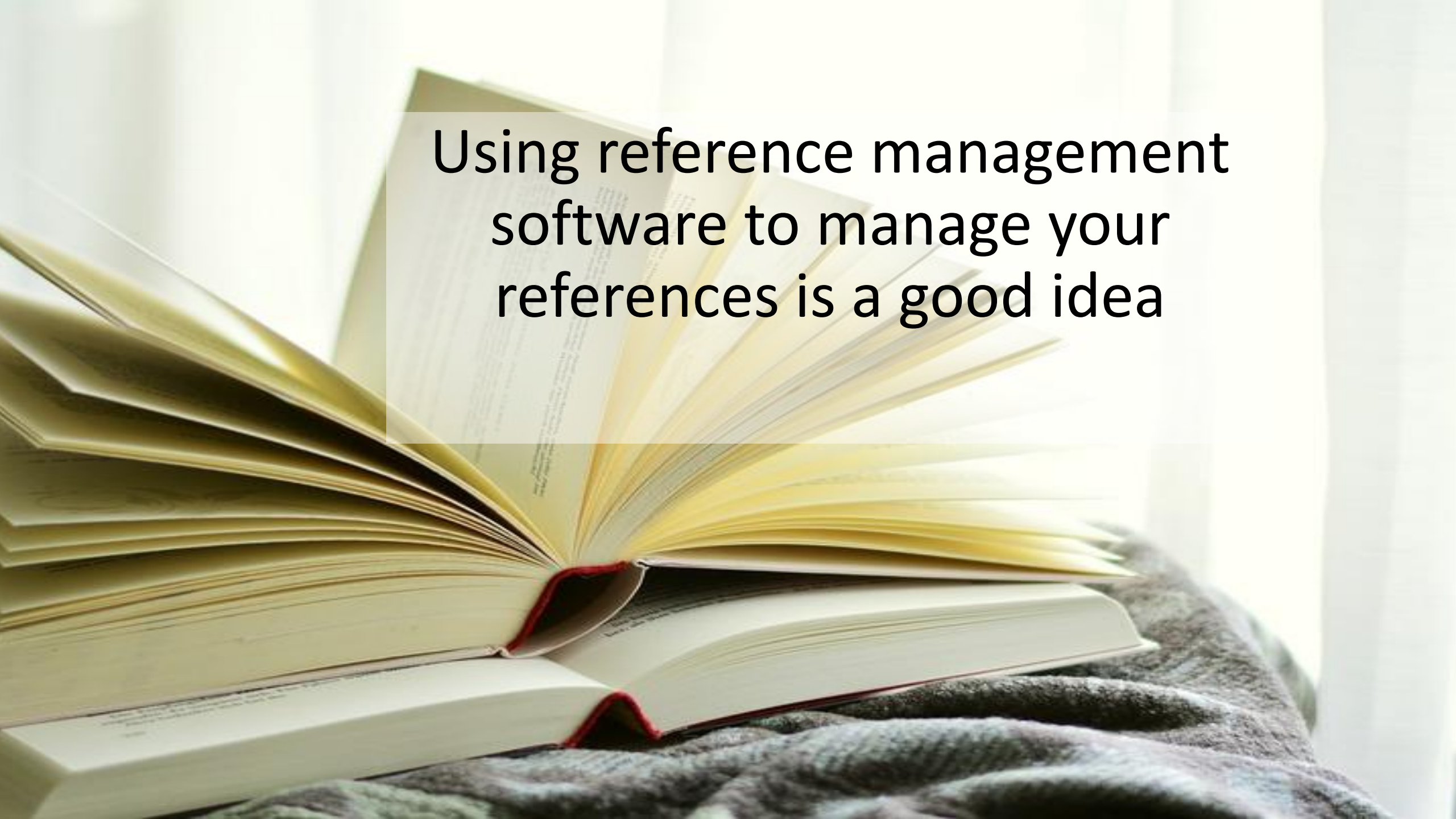
[Home directory \(H: drive\)](#)

[Research data store](#)

[Reference management software](#)





An open book with a red bookmark is shown from a low angle, resting on a grey, textured blanket. The pages are yellowed with age. A semi-transparent white text box is overlaid on the upper right portion of the book. The background is a bright, out-of-focus window with white curtains.

Using reference management software to manage your references is a good idea



Build your personal library



Automatic data capture



Organize and re-use



Output in different formats

# Reference management software - comparison chart

**EndNote**

**RefWorks**

**Mendeley**

**Zotero**

# Reference management – top tips

Choose one that fits your workflows

Do you need one that can be accessed from multiple places/devices?

Make sure you are familiar with how it syncs your references

Do you need to share references with other people?

Think about the structure and organisation of your references



# LaTeX users

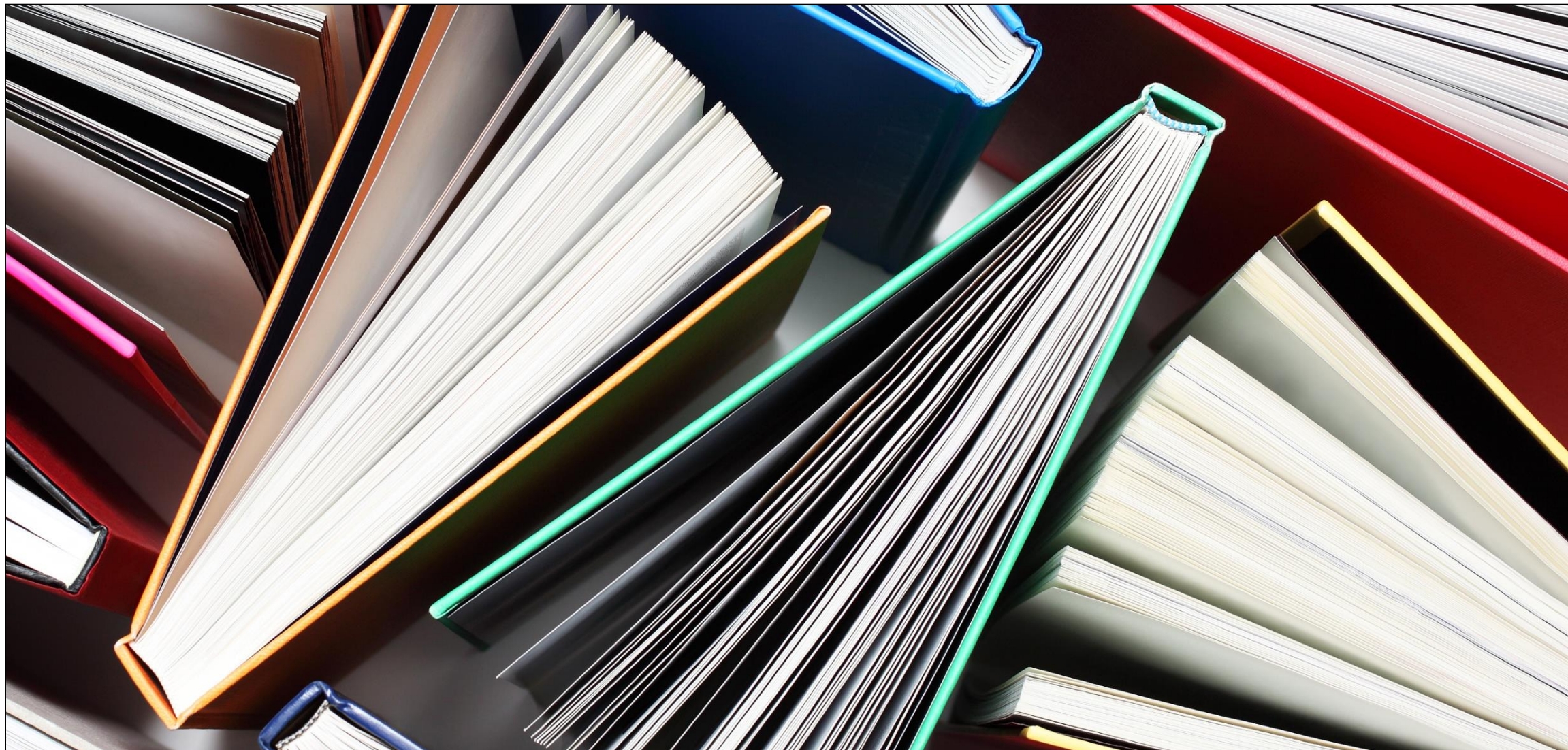
## BibTeX files

Many search tools allow automatic data export in BibTeX format

Reference management software – BibTeX export options

Style files available e.g. from publishers

# Keeping up to date with research





What's **NEW** in your research area?

Information Overload vs Missing Important Information

Databases – search alerts (keywords, authors, journal title)

Table of Contents (ToC) services e.g. ZeToC,  
RSS readers e.g. Feedly, NewsBlur, Inoreader

Journal websites – alerts service, RSS feeds

Browzine – for discovery purposes (no in-depth searches)



Some different methods...

# Browzine

BrowZine Library My Bookshelf My Articles

Access Provided By Imperial College London

?

☐

⚙️

🔍

Engineering and Technology

Change Subject


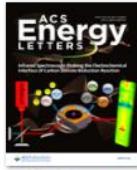









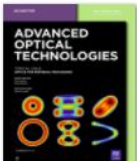





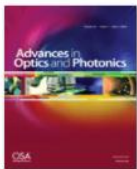










CATEGORIES

- All Journals
- Aerospace Engineering
- Biomedical Engineering and Bioengineering
- Chemical Engineering
- Civil and Environmental Engineering
- Computational Engineering & Science
- Computer and Information Science
- Electrical and Computer Engineering**
- Engineering and Technology, General/Interdisciplinary
- Materials Science
- Mechanical Engineering
- Mining, Petroleum and Power

Electrical and Computer Engineering

- All Journals
- Computer Engineering
- Controls and Control Theory
- Digital Circuits
- Digital Communications and Networking
- Electrical Engineering
- Electrical Engineering - Teaching and Professional Issues
- Electrical Power and Energy
- Electromagnetics and Photonics
- Electronic Devices and

SORT A-Z / JOURNAL RANK

 ACS Applied Energy Materials	 ACS Energy Letters	 ACS Sensors	 Acta Electrotechnica et Informatica	 Acta Energetica	 Acta Mechanica et Automatica	 Active and Passive Electronic Components
 actuators	 ADCAIJ : Advances in Distributed	 Advanced Electromagneti	 Advanced Intelligent Systems	 Advanced Optical Technologies	 Advanced Robotics	 Advances in Electrical and Computer
 Advances in Electrical and Electronic	 Advances in Multimedia	 Advances in Optical Technologies	 Advances in Optics and Photonics	 Advances in OptoElectronic:	 Advances in Power Electronics	 Advances in Radio Science
 AEU - International Journal of	 AIMS Electronics and Electrical	 AIMS Energy	 Ain Shams Engineering Journal	 Alexandria Engineering Journal	 Analele Universitatii "Dunarea de	 Analog Integrated Circuits and



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Easily see new issues

Save pdf's to read offline

Pdf's/reference details can be saved to reference management software

Browzine

Other useful resources



Extra storage space  
2000 files per project  
Protected projects  
Full project history  
Track Changes

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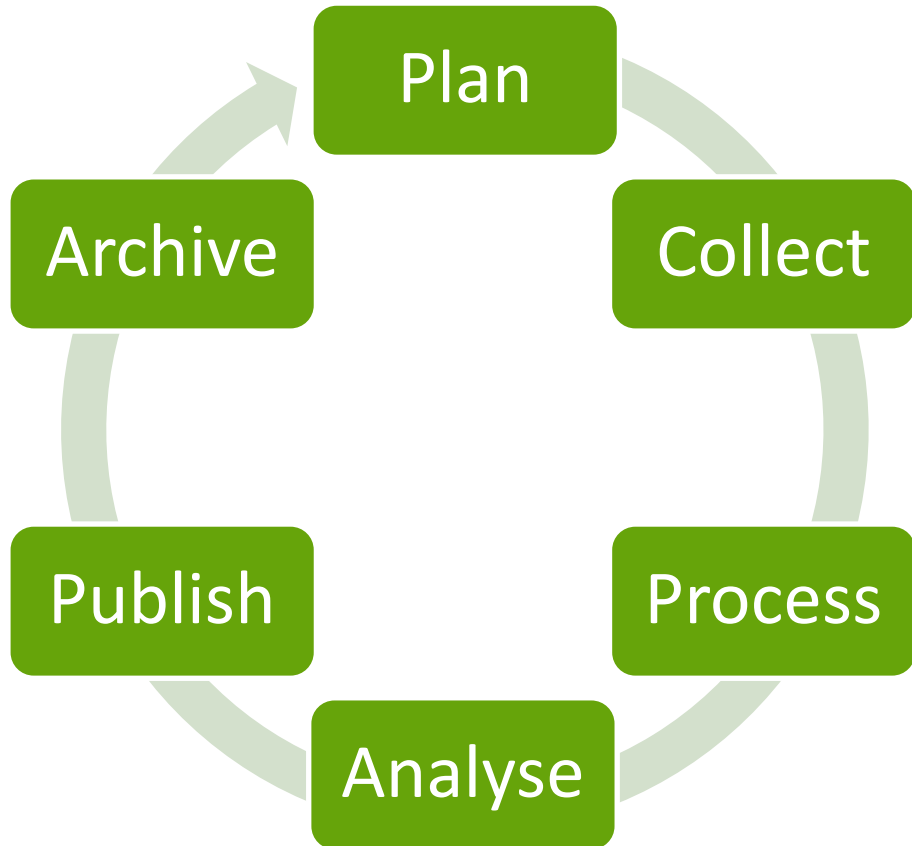
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# What is research data management (RDM)?



- Where can I store my data during the project?
- How can I manage sensitive data and protect data confidentiality?
- How can I share my data with colleagues and collaborators?
- How can I publish and get credit for my data?
- How can I encourage others to discover and reuse my data?
- Where can I archive my data to ensure long-term preservation and reuse?

# Open Access and RDM Support

The screenshot shows a website page for 'Scholarly Communication'. The top navigation bar includes links for 'Open access', 'Research data management', 'Bibliometrics', 'ORCID', 'Symplectic', 'Training and events' (which is highlighted), 'Publishing with Spiral', and 'Open research at Imperial'. The left sidebar has a 'Training and events' section with two buttons: 'Book a one to one to discuss open access' and 'Book a one to one to discuss research data management'. The main content area has a breadcrumb trail: 'Home / Research and Innovation / Support for staff / Scholarly Communication / Training and events'. The main heading is 'Training and events'. The first event is a 'Webinar: Alternative Ways to Measure Your Research Impact (online)' on Friday 12 November 10:00-11:00. The description states it is a one-hour course debunking myths of the Journal Impact Factor and the h-index, aimed at Doctoral Students. A link to register is provided. The second event is 'Research Data Management (for PhD students)', described as a course highlighting key considerations for students and researchers. A list of dates and times is provided: Thursday 14 October 2021 10:00-12:00, MS Teams; Thursday 03 March 2022 10:00-12:00, MS Teams; and Monday 09 May 2022 10:00-12:00, MS Teams. A link to the graduate school webpages is also included.

Scholarly Communication

Open access | Research data management | Bibliometrics | ORCID | Symplectic | **Training and events** | Publishing with Spiral | Open research at Imperial

Training and events

Book a one to one to discuss open access

Book a one to one to discuss research data management

Home / Research and Innovation / Support for staff / Scholarly Communication / Training and events

## Training and events

### Webinar: Alternative Ways to Measure Your Research Impact (online)

Friday 12 November 10:00-11:00

This one hour course debunks the myths of the Journal Impact Factor and the h-index as well as explores alternative approaches to research assessment used by research organisations including Imperial College London, other universities and major funders. Primarily aimed at Doctoral Students enrolled in the Graduate School and taught once a term, all staff and students are welcome to attend.

Please [email](#) to register to attend or for more information.

### Research Data Management (for PhD students)

Data is a key research asset, underpinning almost all published research conclusions. This course will highlight the key considerations for students and researchers to help them assess when it is appropriate to share your data and how, and how to write a data management plan.

- Thursday 14 October 2021 10:00-12:00, MS Teams
- Thursday 03 March 2022 10:00-12:00, MS Teams
- Monday 09 May 2022 10:00-12:00, MS Teams

Visit the [graduate school](#) webpages to book your place.

Depositing in Spiral  
Data management  
planning  
Applying for OA funding  
Sharing data



# Compulsory online Plagiarism Awareness course (Graduate School)



Self enrol

Online course must be completed before the 9 month Early Stage Assessment (ESA)

Advice on Plagiarism/citing and referencing available (from me!)

# Any questions?



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