

GradProSkills GPLL238

Discover Engineering Village

ENCS Graduate Research Essentials

Chloe Lei

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Your Engineering Librarians



Danielle Dennie
Chemical & Materials Engineering
danielle.dennie@concordia.ca



Tim Walsh
Computer Science & Software Engineering, Mechanical, Industrial & Aerospace Engineering
tim.walsh@concordia.ca



Chloe Lei
Building, Civil & Environmental Engineering, Electrical & Computer Engineering
chloe.lei@concordia.ca

Overview

- Recognize the differences between major library search tools
- Conduct literature searching in Engineering Village and make use of its advanced search functions
- Make use of available tools to stay organized and track research





Library search basics

Major library search tools

The screenshot shows the Concordia University Library website. At the top, there is a navigation bar with links for MyConcordia, Cspace, Webmail, Directories, Hours, A-Z, Maps, The Campaign for Concordia, and Quick links. Below this is the 'Library' header with buttons for 'Library Research Skills Tutorial', 'Live chat', and 'Log into...'. A secondary navigation bar includes 'FIND', 'HELP & HOW-TO', 'RESEARCH SUPPORT', 'TECHNOLOGY', 'LOCATIONS & HOURS', and 'ABOUT THE LIBRARY'. The main content area features a search bar with the text 'Search full-text articles, ebooks, books, images, streaming video/audio...' and a search button. Below the search bar are icons for 'Book a group study room/scanner', 'Databases by subject', 'Citation guides & RefWorks', 'E-journals', 'Course reserves & textbooks', and 'Renew books, etc.'. At the bottom, there are tabs for 'Undergraduate students', 'Graduate students', and 'Faculty', along with 'Today's opening hours' and 'Look ahead' sections.

Concordia.ca / Library

DISCOVERY SEARCH LIBRARY CATALOGUE

Search full-text articles, ebooks, books, images, streaming video/audio...

FAQ

Book a group study room/scanner Databases by subject Citation guides & RefWorks E-journals Course reserves & textbooks Renew books, etc.

Undergraduate students Graduate students Faculty

Today's opening hours >

Webster Library: 24 hours
Vanier Library: 24 hours
Grey Nuns: 9am to 9pm

Look ahead >

- Find databases & more via the [subject guide](#) for your department
- Search for [textbooks](#) by course code
- Use the [Article Finder](#) to locate a specific article
- Use my [laptop in the library](#) (Wi-Fi & printing)
- [Borrow from other libraries](#) (interlibrary loans and BCI cards)
- Write research papers, annotated bibliographies, literature reviews, etc.
- [More...](#)

- Discovery Search
- Library Catalogue
- Databases
- Interlibrary Loan

Subject Databases

Library [Library Research Skills Tutorial](#) [Live chat](#) [Log into ...](#)

FIND HELP & HOW-TO RESEARCH SUPPORT TECHNOLOGY LOCATIONS & HOURS ABOUT THE LIBRARY

Concordia.ca / Library / Find / Databases by subject

Search for database by:

Name Subject

Example: JSTOR

Browse by database type:

Patents

See also:

[Databases on trial](#)

[Find article from citation](#)

[Search Open Access resources](#)

Databases by subject

Conditions of use

- Accountancy
- Anthropology
- Applied Human Sciences
- Art Education
- Art History
- Arts (Studio)
- Biology
- Building Engineering
- Business, Management & Marketing
- Chemistry & Biochemistry
- Cinema/Film Studies
- Civil Engineering
- Classics
- Communication Studies
- Computer Science
- Creative Arts Therapies
- Dance
- Design & Computation Arts
- Economics
- Education
- Electrical & Computer Eng.
- English
- Environmental Engineering
- Études françaises
- Exercise Science
- Finance
- First Peoples Studies
- Geography, Planning & Environment
- Health, Kinesiology & Applied Physiology
- History
- HIV/AIDS
- Journalism
- Mathematics
- Mechanical, Industrial & Aerospace Engineering
- Modern Languages & Linguistics
- Music
- Philosophy
- Physics
- Political Science
- Psychology
- Religions and Cultures
- Studies in Sexuality
- Sociology
- Supply Chain & BTM
- Theatre
- Theological Studies
- Women's Studies

Explore them

- by subject
- by type

Library Databases and Google Scholar

Library Databases

- Focus search within a discipline/subject
- Many options for precise searching
- Full text can be obtained most of the time

Google Scholar

- A broad search of the scholarly literature
- Limited advanced search options
- Full text is not usually included (can set up library links to check)



Engineering Village

About Engineering Village

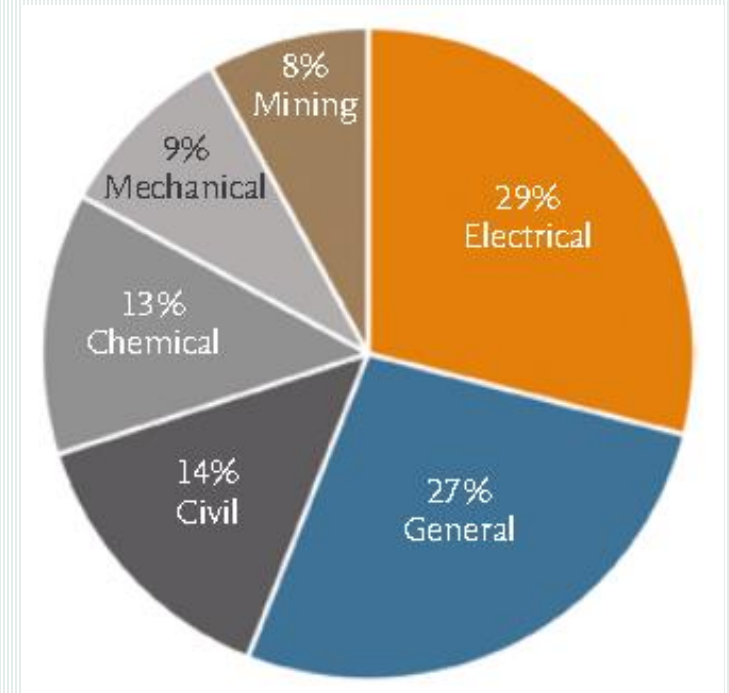
- A major platform for engineering literature
- Content from core engineering databases (e.g. Compendex, Inspec, Geobase)
- Carefully selected and indexed
- Types of information: Journals, conference proceedings, dissertations, technical standards, trade magazines, technical reports...



Engineering Village

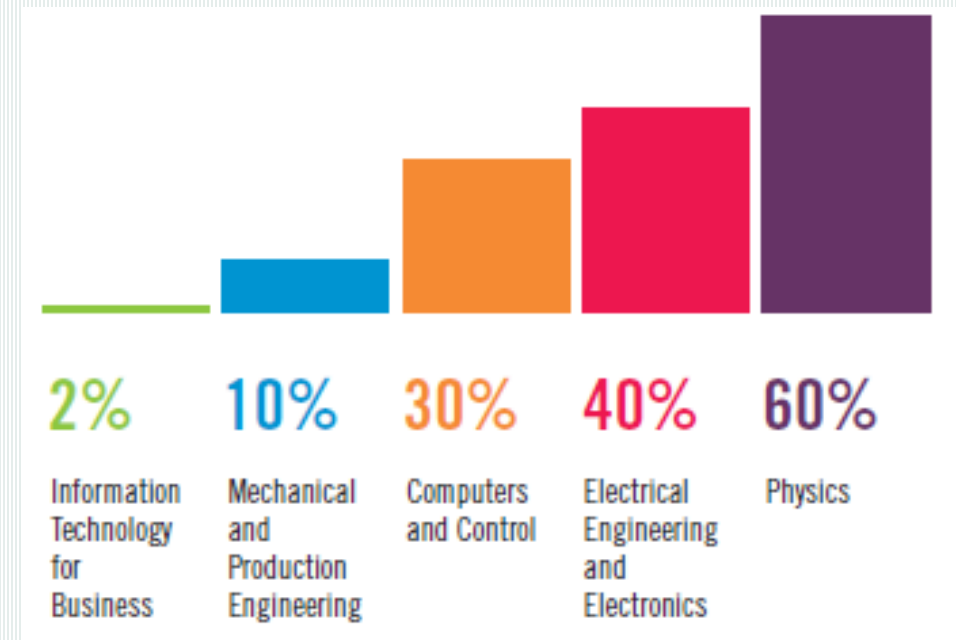
Compendex

- Comprehensive coverage of various engineering subjects
- Over 18.8 million records from 1970 – present
- Over 1.7 million records from 1884 – 1969
- Publications from over 76 countries



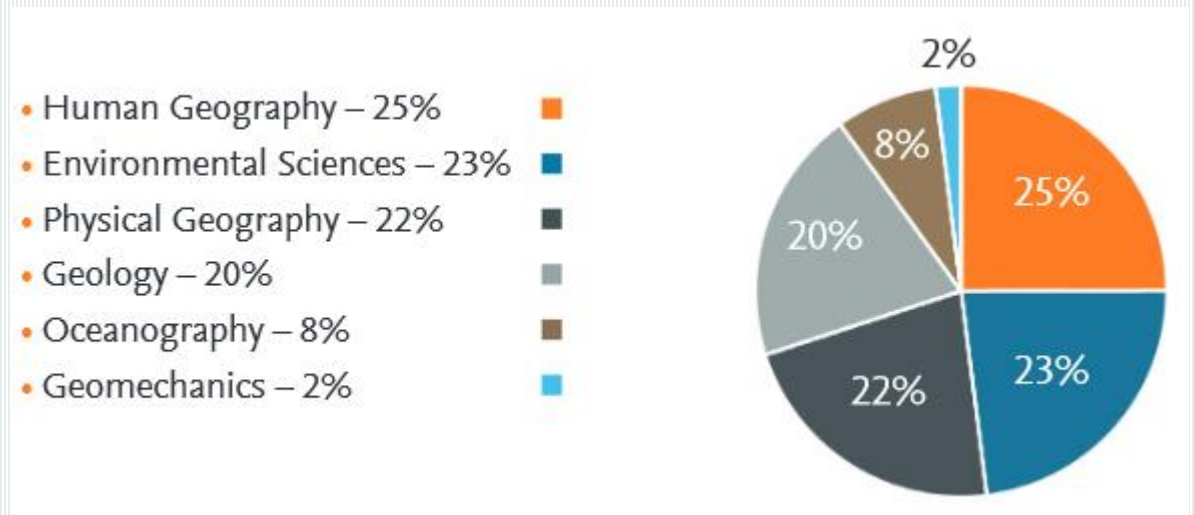
INSPEC

- Physics, electrical engineering and electronics, computers and control, mechanical, production engineering, information technology and more
- Around 837,000 records from 1898 to 1968
- Almost 16 million records since 1969
- Publications from over 95 countries



GEOBASE

- Earth sciences, ecology, geology, human and physical geography, environmental sciences, oceanography, geomechanics, alternative energy sources, pollution, waste management and nature conservation
- Over 3 million records
- 200,000 records added per year
- Publications from over 68 countries



Accessing Engineering Village

Think about the following questions

1. By default, which of the 3 databases am I searching?
2. By default, is the function “AutoSuggest” turned on?
3. Should I create an account?
4. What’s the difference between Quick Search and Expert Search?

Starting the Search

- Try to break down your topic into different concepts
- In Quick Search, you can add more search fields as needed

Quick search:	All fields	▼	for	<i>e.g. (artificial intelligence OR intelligent computing) AND {social media}</i>		
AND	▼	All fields	▼	for	<i>e.g. (artificial intelligence OR intelligent computing) AND {social media}</i>	×
AND	▼	All fields	▼	for	<i>e.g. (artificial intelligence OR intelligent computing) AND {social media}</i>	×
AND	▼	All fields	▼	for	<i>e.g. (artificial intelligence OR intelligent computing) AND {social media}</i>	×

Starting the Search

Quick search

Search in: All fields for how does temperature affect rockets

4 results

Quick search

Search in: All fields for concept 1 OR synonym OR synonym 2, etc.

AND All fields for concept 2 OR synonym

AND All fields for *Search for... e.g. transcription factors AND jon smith*

Quick search

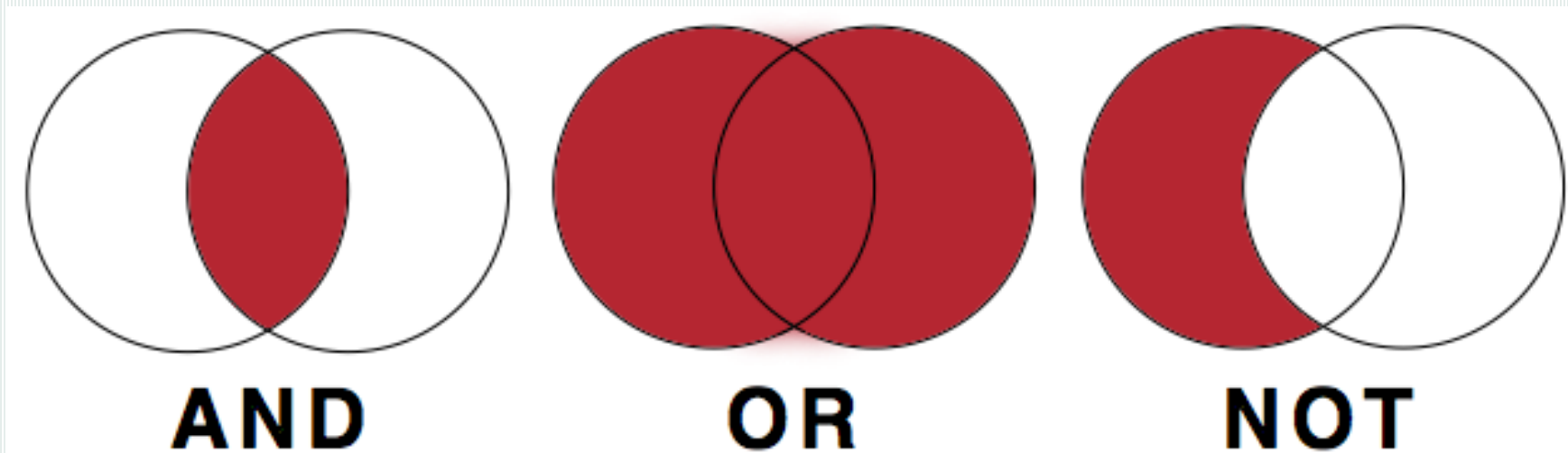
Search in: All fields for temperature OR thermal effects

8715 results

AND All fields for rocket engines

Turn off AutoSuggest | + Add search field | Reset form

Combine Search Terms



↑
This is usually the default setting. AND is used to combine ideas together

↑
Use OR to combine synonyms

↑
If the main idea has a common use you want to exclude, use NOT to exclude that word

Thesaurus/Controlled Vocabulary

- Each article is indexed in Engineering Village
- Controlled vocabulary is used to standardize the way the articles are indexed

Blockchain Technology: An Aid to the Governance of Smart Cities

Patel, Vishva Nitin ¹ ✉; Patel, Chhayaben Nitin ² ✉

Source: *Advances in Intelligent Systems and Computing*, v 933, p 373-382, 2020; ISSN: 21945357; DOI: 10.1007/978-981-13-7166-0_36; Publisher: Springer Verlag

Author affiliations : ¹ Department of Information Technology, Madhuben and Bhanubhai Patel Women's Institute of Engineering, Gujarat Technological University, Anand; Gujarat, India

² Anand Institute of Information Science, Anand; Gujarat, India

Main heading: **Information management**

Controlled terms: **Blockchain** - Data handling - Digital storage - Distributed computer systems - Economics - Hash functions - Network architecture - Peer to peer networks - **Smart city**

Uncontrolled terms: Decentralized architecture - Double-spending - Proof of work - Shared economy - Smart property - Transparent governance - Trust-free

Classification code: **722** Computer Systems and Equipment - **723.2** Data Processing and Image Processing - **971** Social Sciences

Database: Compendex

Thesaurus/Controlled Vocabulary

- Find synonyms and related terms
- Improve your search strategy with suggested broader and narrower terms

The screenshot displays a search interface. On the left, a dropdown menu is open under the 'Search' button, listing options: 'Quick', 'Expert', 'Thesaurus', and 'Engineering School Profile'. The 'Thesaurus' option is highlighted. The main search results area shows the query 'smart home' with navigation links '< Previous | Next >'. Below the query, there are two columns of results. The left column lists terms: 'Smart buildings', 'Smart cards', 'Smart city', 'Smart fabrics', and 'Smart houses'. The right column lists terms: 'Smart materials', 'Smart meters', 'Smart power grids', 'Smart sensors', and 'Smart structures'. Each term in the right column has a checkbox next to it. At the bottom, there is a navigation bar with various filters: 'Databases', 'Date', 'Language', 'Document type', 'Sort by', 'Browse indexes', 'Autostemming', 'Discipline', and 'Treatment'. Below this bar, there are four links: 'Author', 'Author affiliation', 'Controlled term', and 'Source title', each with an external link icon.

Search [^](#)

Quick

Expert

Thesaurus

Engineering School Profile

smart home [< Previous](#) | [Next >](#)

Term

Smart buildings

Smart cards

Smart city

Smart fabrics

Smart houses

Term

Smart materials

Smart meters

Smart power grids

Smart sensors

Smart structures

Databases [v](#) Date [v](#) Language [v](#) Document type [v](#) Sort by [v](#) Browse indexes [^](#) Autostemming [v](#) Discipline [v](#) Treatment [v](#)

[Author \[↗\]\(#\)](#) [Author affiliation \[↗\]\(#\)](#) [Controlled term \[↗\]\(#\)](#) [Source title \[↗\]\(#\)](#)

Handout – Part I

Part 1

For the following questions, please try to:

- Break down the topic into different parts/concepts
- Brainstorm synonyms. You can make use of the thesaurus/controlled vocabulary in *Engineering Village* to help you

What techniques are used to prevent damage to spacecraft during launch?

Concept 1	Concept 2	Concept 3
Synonym 1 ...	Synonym 2 ...	Synonym 3 ...

How can nanotechnology make solar energy technology more efficient?

Concept 1	Concept 2	Concept 3
Synonym 1 ...	Synonym 2 ...	Synonym 3 ...

Variations of Words

- **Autostemming (turned on by default)**

management → manage, managed, manager, managers, managing, management, etc.

- **Truncation (use it if autostemming is not sufficient enough)**

col*r → color, colour

h*emoglobin → hemoglobin, haemoglobin, hemimethemoglobin

*sorption → adsorption, absorption, desorption, resorption

comput* → computers, computing, computerize, etc.

Phrase Searching

- Search for exact phrases, so certain words appear together
- Both **quotation marks** and **curly brackets** would work

“social media”

{social media}

"social media" {artificial intelligence}

Methods to identify fake news in **social media** using **artificial intelligence** technologies

Zhuk, Denis ¹; Tretiakov, Arsenii ¹ ✉; Gordeichuk, Andrey ¹; Puchkovskaia, Antonina ¹

Source: *Communications in Computer and Information Science*, v 858, p 446-454, 2018, *Digital Transformation and Global Society - Third I 2018, Revised Selected Papers*; **ISSN:** 18650929; **ISBN-13:** 9783030028428; **DOI:** 10.1007/978-3-030-02843-5_36; **Conference:** 3rd In Transformation and Global Society, DTGS 2018, May 30, 2018 - June 2, 2018; **Publisher:** Springer Verlag

Author affiliation : ¹ ITMO University, St. Petersburg; 197101, Russia

Abstract: Fake news (fake-news) existed long before the advent of the Internet and spread rather quickly via all possible means of communication. Currently, there are many definitions of fake news, but the professional community cannot fully agree on a common one, which creates a big problem for its detection. Many large IT companies, such as Google and Facebook, are developing their own algorithms for the detection of falsification of information. At the same time, the lack of a common understanding regarding the essence of fake news makes the solution of this problem impossible. Consequently, experts and digital humanists specializing in different fields must study this problem intensively. This research is devoted to publishing and distributing fake-news according to the classification, structure and algorithm of the construction. Conclusions are drawn about identifying this type of news in **social media** using systems with elements of **artificial intelligence** and machine learning.

© Springer Nature Switzerland AG 2018. (17 refs)

When do I use Expert Search?

- Search within specific fields that are not available in Quick Search (e.g. doi, conference code, funding number)
- Combine many fields and operators in a complex search

(ICTC **WN** **CF**) AND (smart **NEAR** phone)

Within

Conference information

The two search terms are near to each other in any order

Code = Field

AB	= Abstract (c,i,g)
ACT	= Access type (c)
AN	= Accession number (c,i,g)
AF	= Affiliation/Assignee (c,i,g)
ALL	= All fields (c,i,g)
AI	= Astronomical indexing (i)
AU	= Author/Inventor (c,i,g)
CI	= Chemical indexing (i)
CL	= Classification code (c,i,g)

Code = Field

PID	= IPC Code (i)
BN	= ISBN (c,i,g)
SN	= ISSN (c,i,g)
SU	= Issue (c,i,g)
LA	= Language (c,i,g)
MI	= Material identity number (i)
NU	= see Numerical Data Codes (c,i)
NI	= Numerical indexing (i)
OC	= Original classification code (i)

Refine Results with Facets

- Common criteria such as “Document Type”, “Controlled Vocabulary”, and “Year”
- Other specialized ones include “By Physical Property” and “Remove Duplicates”

The screenshot displays a search interface with two main sections. On the left, a 'Document type' facet is shown with a list of document types and their counts. On the right, a 'Refine' panel is visible, containing two expandable options: 'Remove duplicates' and 'By physical property'.

Document type	Count
<input type="checkbox"/> Conference article	(19,376)
<input type="checkbox"/> Journal article	(9,513)
<input type="checkbox"/> Conference proceeding	(891)
<input type="checkbox"/> Book chapter	(303)
<input type="checkbox"/> Article in Press	(119)

Bar chart View more >

Refine <<

Remove duplicates ?

By physical property

Filter results by physical properties such as size, temperature, pressure and many more ↗.

The Article Record

- Very detailed metadata about the article
- Options to check full text, share, or download the record
- Link out to other relevant content

Development of mobile application for **smart home** energy management: iSHome

Chen Li ¹ ✉; Logenthiran, T. ¹ ✉; Woo, W.L. ¹ ✉

Source: 2016 IEEE 6th International Conference on Power Systems (ICPS), 6 pp., 2016; ISBN-13: 978-1-5090-0128-6; DOI: 10.1109/ICPS.2016.7584199; Conference: 2016 IEEE 6th International Conference on Power Systems (ICPS), 4-6 March 2016, New Delhi, India; Publisher: IEEE, Piscataway, NJ, USA

Author affiliation : ¹ Sch. of Electr. & Electron. Eng., Newcastle Univ., Singapore, Singapore

Abstract: Singapore looks forward to be a **smart** nation soon where **smart homes** and **smart** buildings are the key elements. In a **smart** nation, **smart homes** will interact themselves and interact with the **smart** power grid to have a high efficient and sustainable electricity system. Newcastle University, Singapore campus sets out to realistic design and development of ICT (Information and Communications Technology) - enabled collaborative technical and commercial architecture for **smart** power distribution system in the context of **smart homes** and **smart** buildings. This paper presents the design and development of a **smart** phone application that can control all **smart** appliances in **smart home**. A mobile application was developed on Eclipse that allows writing an Android application. These were two versions of the application designed and developed: iSHome 1 and iSHome 2. iSHome 1 is able to communicate with power plugs and iSHome 2 is able to interact with **smart home** management server. Both versions of the application use Bluetooth for their communication. Even though the current version of the mobile application has not been included any energy saving algorithms, it saves much electrical energy wastage and brings many attractive features to the **smart homes**.

Inspecc controlled terms: **Android (operating system)** - **Bluetooth** - **building management systems** - **domestic appliances** - **energy conservation** - **energy management systems** - **groupware** - **home automation** - **mobile computing** - **smart power grids** - **sustainable development**

Uncontrolled terms: **mobile application development** - **smart home energy management** - **iSHome** - **smart nation** - **smart buildings** - **smart power grid** - **sustainable electricity system** - **Newcastle University** - **Singapore campus** - **ICT enabled collaborative technical architecture** - **ICT enabled collaborative commercial architecture** - **information and communications technology** - **smart power distribution system** - **smart appliances** - **Eclipse** - **Android application** - **power plugs** - **smart home management server** - **Bluetooth** - **electrical energy wastage reduction**

Classification code: **A8620Q** Buildings (energy utilisation) - **B8570** Domestic appliances - **B6250F** Mobile radio systems - **B8110B** Power system management, operation and economics - **C3365** Automated buildings - **C6190V** Mobile, ubiquitous and pervasive computing - **C3340H** Control of electric power systems - **C7420** Control engineering computing

IPC Code: **G05B15/00** - **G06F9/44** - **G06F9/46** - **H02J13/00** - **H04B7/00** - **H04B7/26** - **H04W**

Treatment: Practical (PRA)

Database: Inspecc

Getting Full Text

Thermal effects and anomalies in the low-temperature plasticity of crystals

Malygin, G.A. (A.F. Ioffe Physicotech. Inst., St. Petersburg, Russia) Source: *Physics of the Solid State*,

Database: Inspec

Document type: Journal article (JA)

Detailed Show preview  Cited by in Scopus (2) [Full text !\[\]\(0f31ebba7abcd47777e178db26f29705_img.jpg\)](#) [Find it @ Concordia](#)

1. “Full text” button, if one exists
2. “Find it @ Concordia” button
3. Check **Library Catalogue** for print copies & use [Article Delivery Service](#) to get a scanned copy
4. Use [Interlibrary loans](#)

Handout – Part 2

Part 2

In Engineering Village, using any of the suggested topics, please try:

- Conduct a search using well-constructed search terms (make use of the tips discussed in class)
- Refine results using different limiters/facets
- Set up an account, then create alerts, save searches, export/download results, etc.
- Identify an article of interest, and find out whether the full text is available

Suggested topics

- What virtual reality techniques can be used for emergency response?
- How can integrated transportation systems reduce waste?
- What benefits and problems are present in using hydrogels to 3D print tissue for medical use?



**Stay organized
&
Track research**

Zotero - Managing References

- Make use of a reference manager such as Zotero to help organize your literature
- A browser plug-in that makes saving content easy while searching
- Integration with MS Word and Google Doc makes citing and referencing easy when writing
- The Library provides help in using Zotero

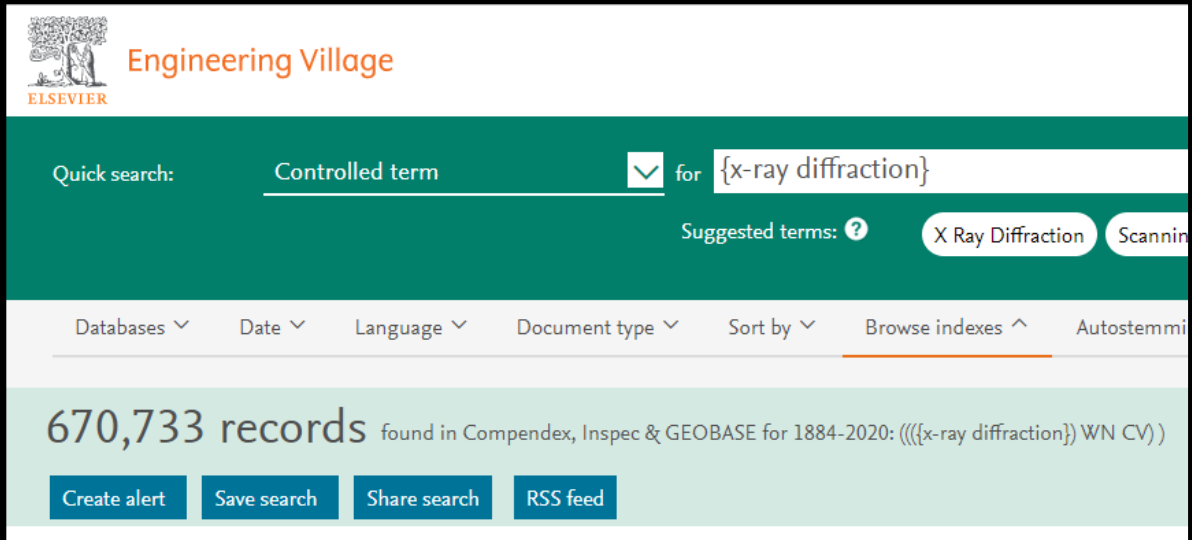
The logo for Zotero, featuring the word "zotero" in a lowercase, sans-serif font. The letter "z" is red, and the remaining letters "otero" are black.A blue oval button with the text "Getting Started" in white, sans-serif font.

Getting Started

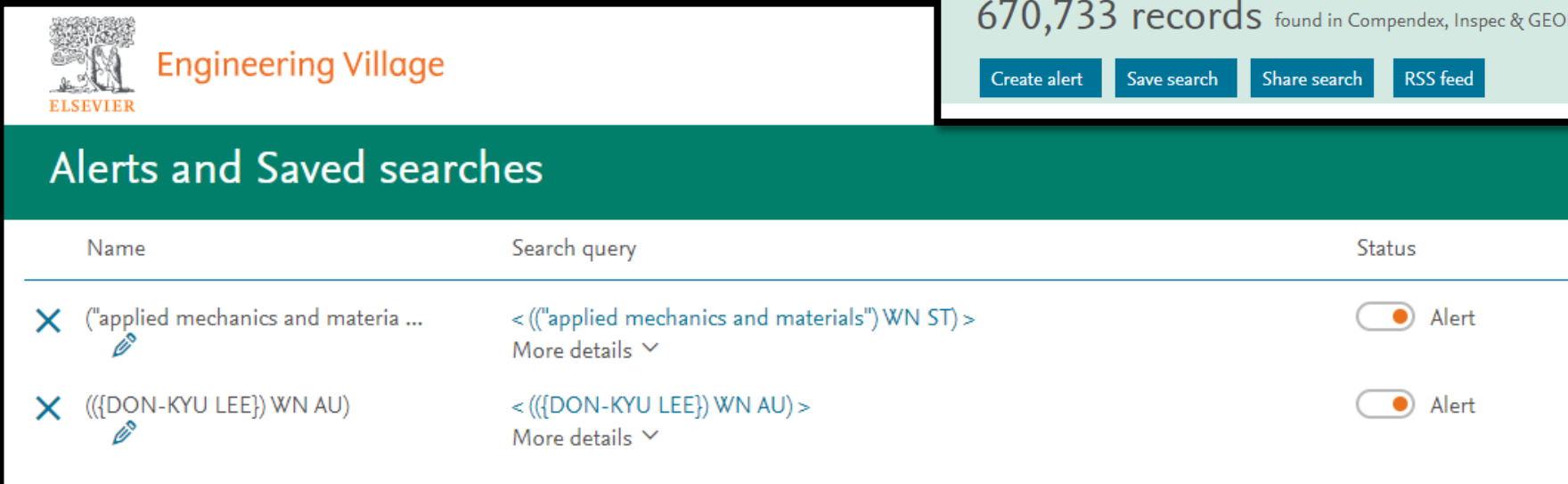
<http://zotero.org>

Email Alerts



- Create email alerts for specific searches to track output of specific journals, authors, etc.
- Need to set up a personal account on the platform



The screenshot shows the Engineering Village search interface. At the top left is the Elsevier logo and the text 'Engineering Village'. Below this is a search bar with the text 'Quick search: Controlled term' and a dropdown arrow, followed by 'for {x-ray diffraction}'. To the right of the search bar are 'Suggested terms: ?' and two buttons labeled 'X Ray Diffraction' and 'Scanning'. Below the search bar is a navigation bar with several dropdown menus: 'Databases', 'Date', 'Language', 'Document type', 'Sort by', 'Browse indexes', and 'Autostemmi'. The main content area displays '670,733 records found in Compendex, Inspec & GEOBASE for 1884-2020: {{{x-ray diffraction}} WN CV)'. Below this are four buttons: 'Create alert', 'Save search', 'Share search', and 'RSS feed'.

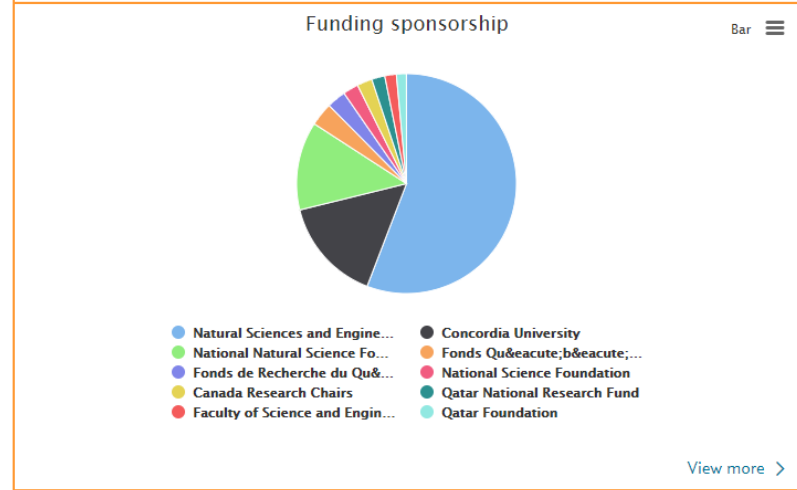
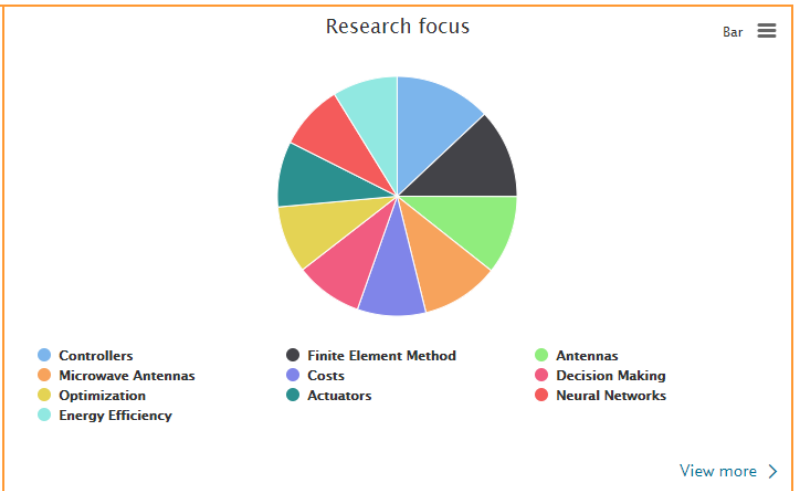
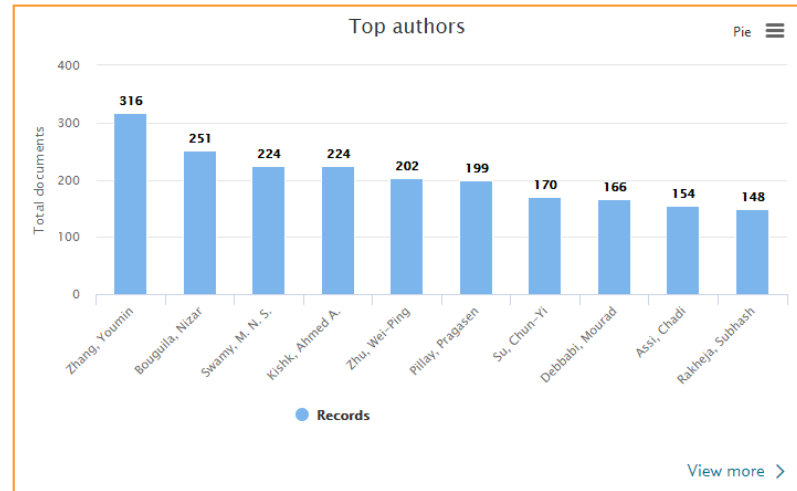


The screenshot shows the 'Alerts and Saved searches' page in Engineering Village. At the top left is the Elsevier logo and the text 'Engineering Village'. Below this is a green header with the text 'Alerts and Saved searches'. The main content is a table with three columns: 'Name', 'Search query', and 'Status'. There are two rows of saved searches, each with a blue 'X' icon and a pencil icon.

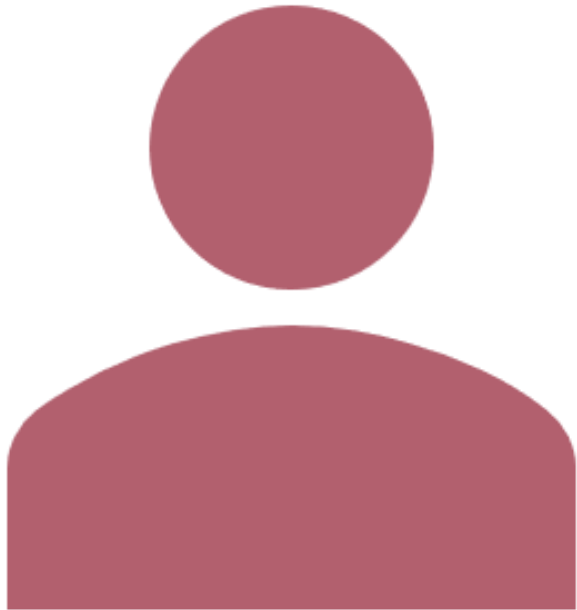
Name	Search query	Status
✕ ("applied mechanics and materia ... 	< ("applied mechanics and materials") WN ST > More details ▾	<input checked="" type="checkbox"/> Alert
✕ {{{DON-KYU LEE}} WN AU) 	< {{{DON-KYU LEE}} WN AU > More details ▾	<input checked="" type="checkbox"/> Alert

Tracking Development

- Some databases provide tools to help visualize and analyze research activities
- Engineering Village has Engineering School Profile
- Web of Science and Scopus



Getting help



- Ask us desk
- Live chat service
- Contact your subject librarian

Engineering Subject Guide: <https://www.concordia.ca/library/guides/encs>