

GradProSkills GPLL238

ENCS Graduate Research Essentials

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Your Engineering Librarians



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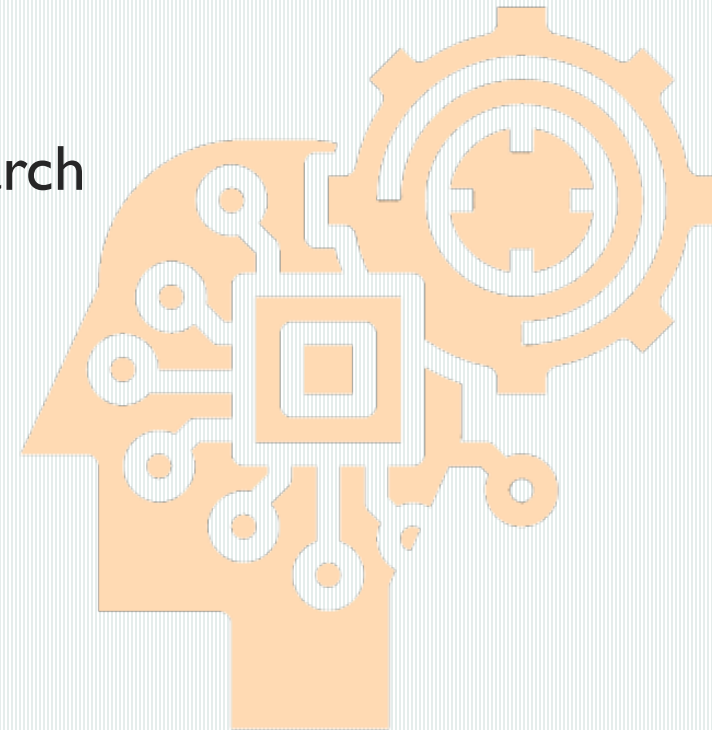
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Overview

- 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 displays the Concordia University Library homepage. At the top, the Concordia University logo is on the left, and navigation links for MyConcordia, Cspace, Webmail, Directories, Hours, A-Z, and Maps are in the center. On the right, there are links for 'The Campaign for Concordia' and a 'Quick links' dropdown. Below this, the word 'Library' is prominently displayed. To its right are buttons for 'Library Research Skills Tutorial', 'Live chat', and 'Log into ...'. A dark navigation bar contains links for FIND, HELP & HOW-TO, RESEARCH SUPPORT, TECHNOLOGY, LOCATIONS & HOURS, and ABOUT THE LIBRARY, followed by a search icon. Below the navigation bar, the breadcrumb 'Concordia.ca / Library' is shown. The main content area features a large background image of books and papers. Overlaid on this is a search box with two tabs: 'DISCOVERY SEARCH' (selected) and 'LIBRARY CATALOGUE'. The search box contains the placeholder text 'Search full-text articles, ebooks, books, images, streaming video/audio...' and a search icon. Below the search box is a link to 'FAQ'. A blue horizontal bar below the search box contains six icons with corresponding text: '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 three tabs for 'Undergraduate students' (selected), 'Graduate students', and 'Faculty'. Under the 'Undergraduate students' tab, there is a list of links: '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.', and 'More...'. To the right of these tabs is a section titled 'Today's opening hours >' with the following text: 'Webster Library: 24 hours', 'Vanier Library: 24 hours', and 'Grey Nuns: 9am to 9pm'. Below this is a link 'Look ahead >'.

Concordia University Library

Library

Library Research Skills Tutorial Live chat Log into ...

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

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

- 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...](#)

Today's opening hours >

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

[Look ahead >](#)

- 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

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

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

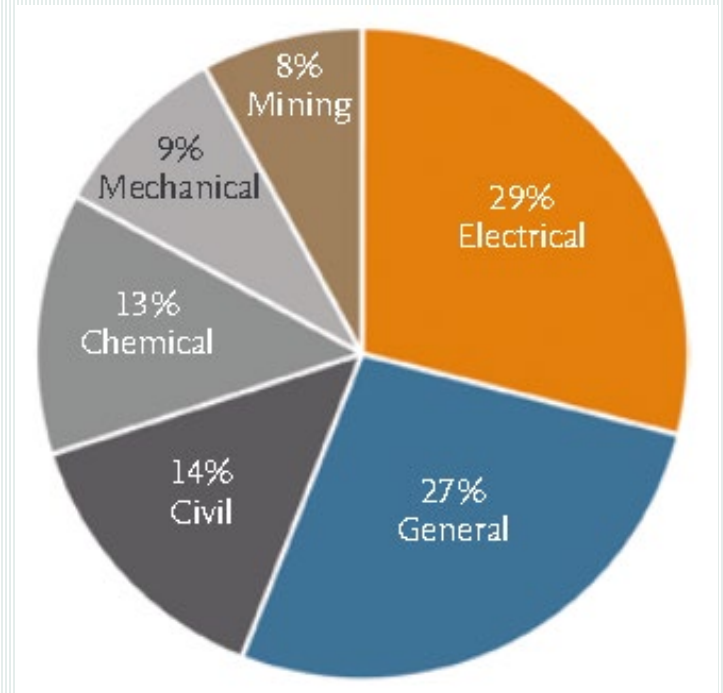
- A major platform for engineering literature
- Content from core engineering databases (e.g. Compendex, Inspec, Geobase)
- Carefully selected and indexed
- Types of information: Journals, conference proceedings, dissertations, technical standards, trade magazines, technical reports...



Engineering Village

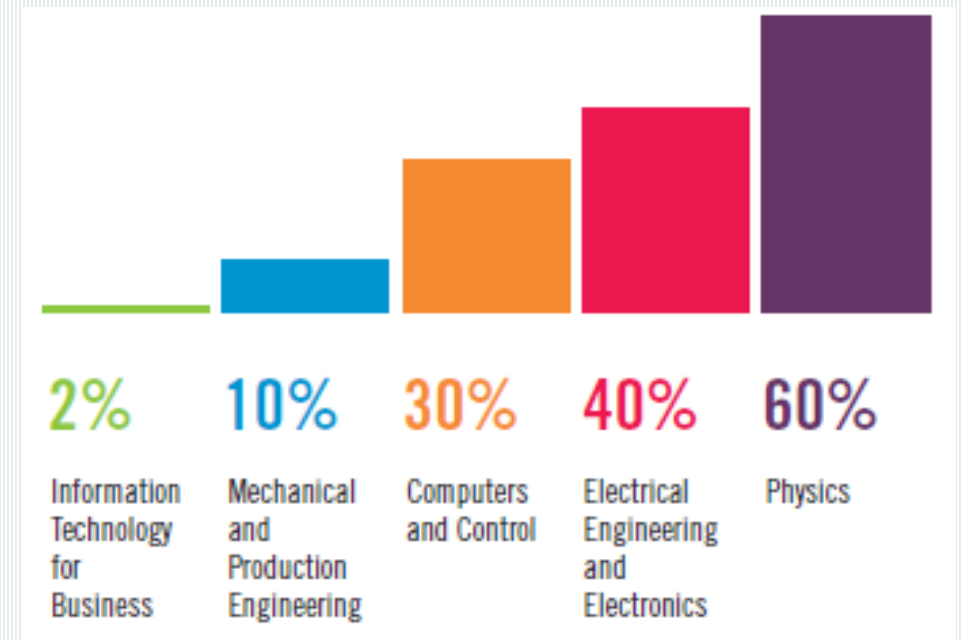
Compendex

- 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

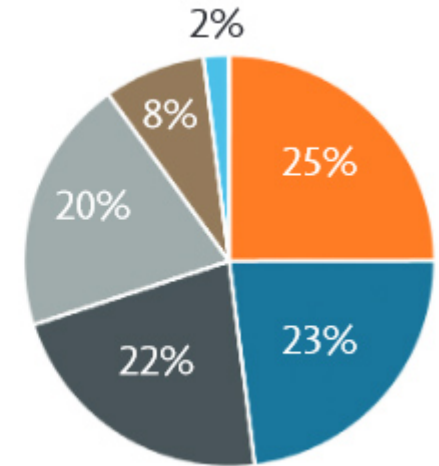
- Physics, electrical engineering and electronics, computers and control, mechanical, production engineering, information technology and more
- Around 837,000 records from 1898 to 1968
- Almost 16 million records since 1969
- Publications from over 95 countries



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

- Human Geography – 25%
- Environmental Sciences – 23%
- Physical Geography – 22%
- Geology – 20%
- Oceanography – 8%
- Geomechanics – 2%





Accessing Engineering Village

A few things to keep in mind:

- What's the difference between Quick Search and Expert Search?
- By default, is the function “AutoSuggest” turned on?
- Should I create an account?

Engineering Village: <https://clues.concordia.ca/record=e1000983>

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	e.g. (artificial intelligence OR intelligent computing) AND {social media}	
AND	▼	All fields	▼	for	e.g. (artificial intelligence OR intelligent computing) AND {social media} X
AND	▼	All fields	▼	for	e.g. (artificial intelligence OR intelligent computing) AND {social media} X
AND	▼	All fields	▼	for	e.g. (artificial intelligence OR intelligent computing) AND {social media} X

Starting the Search

Quick search

Search in: All fields ☐ for how does temperature affect rockets

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



4 results

Quick search

Search in: All fields ☐ for temperature OR thermal effects

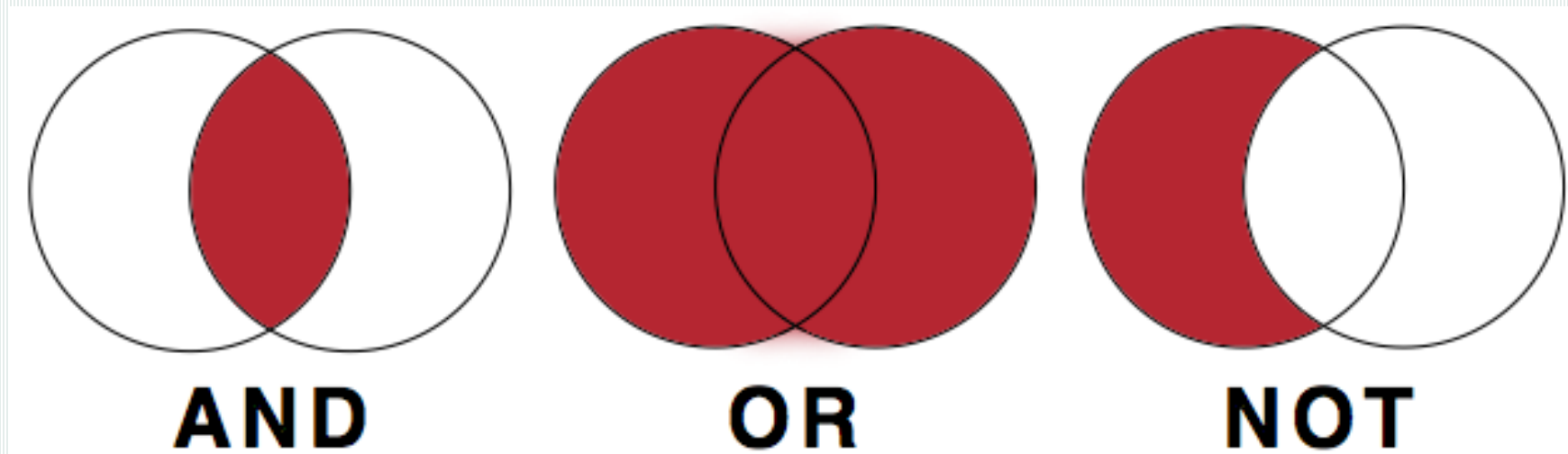
AND ☐ All fields ☐ for rocket engines

8715 results



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 library search interface. On the left, a sidebar menu is open, showing options: Quick, Expert, Thesaurus, and Engineering School Profile. The 'Thesaurus' option is selected. The main content area shows the search results for 'smart home'. At the top of this area, there is a search bar with 'smart home' entered and navigation links '< Previous' and 'Next >'. Below the search bar, the results are organized into two columns under the heading 'Term'. The left column lists: *Smart buildings*, ☐ *Smart cards*, ☐ *Smart city*, *Smart fabrics*, and *Smart houses*. The right column lists: *Smart materials*, ☐ *Smart meters*, ☐ *Smart power grids*, ☐ *Smart sensors*, and *Smart structures*. At the bottom of the interface, there is a navigation bar with various filters: Databases, Date, Language, Document type, Sort by, Browse indexes (which is highlighted with an orange line), 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 ▾ Date ▾ Language ▾ Document type ▾ Sort by ▾ Browse indexes Autostemming ▾ Discipline ▾ Treatment ▾

Author Author affiliation Controlled term Source title

Try it out

1. Pick a topic of your choice. Brainstorm some keywords. Try them out in Quick Search.
2. Go through the results, explore controlled terms that are relevant to your topic.
3. Branch out or narrow down your search using controlled terms/thesaurus.

Example topics:

- *How can nanotechnology make solar energy technology more efficient?*
- *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?*



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 tool for influencing public opinion. Currently, there are many definitions of fake news, but the professional community cannot fully agree on it, which creates a big problem for its detection. Many large IT companies, such as Google and Facebook, are developing their own algorithms for the falsification of information. At the same time, the lack of a common understanding regarding the essence of fake news makes the solution 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 results interface. On the left, a facet titled "Document type" lists five categories with their respective counts: Conference article (19,376), Journal article (9,513), Conference proceeding (891), Book chapter (303), and Article in Press (119). Each item has an unchecked checkbox. Below the list are icons for a bar chart and a download button, along with a "View more" link. On the right, a "Refine" panel contains two expandable sections. The first section, "Remove duplicates", includes a help icon and a downward arrow. The second section, "By physical property", includes a description: "Filter results by physical properties such as size, temperature, pressure and many more" followed by a link to "many more".

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**.

Inspection 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: Inspec

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 ↗](#) [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](#)

Try it out

1. For the same topic or a different topic, conduct a search (make use of the tips discussed).
2. Go through the results and identify 2 articles of interest. Are the full text available?
3. Set up an account to explore personalized options (e.g. create alerts, save searches, export/download results,)

Example topics:

- *How can nanotechnology make solar energy technology more efficient?*
- *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 [a guide on 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>

Tracking Research Impact

- There are metrics and indicators to help analyze research trends and impact
- Citation counts, h-index, journal impact factor, altmetrics...
- The 2 main citation databases: Web of Science, Scopus
- [Bibliometrics and research impact guide](#)

Tracking Research Impact

Web of Science InCites Journal Citation Reports Essential Science Indicators EndNote Publons Kopernio

Web of Science

Select a database Web of Science Core Collection

Basic Search Author Search^{BETA} Cited Reference Search Advanced Search

Find the articles that cite a person's work.

Step 1: Enter information about the cited work. Fields are combined with the Boolean AND operator.

* Note: Entering the title, volume, issue, or page in combination with other fields may reduce the number of

Example: oil spill* mediterranean Cited Title

Example: J Comp* Appl* Math* Cited Work

Select from Index View abbreviation list

Example: 1943 or 1943-1945 Cited Year

Web of Science InCites Journal Citation Reports Essential Science Indicators EndNote Publons Sign In Help English

InCites Journal Citation Reports Clarivate Analytics

Home

Go to Journal Profile Master Search

Compare Journals View Title Changes Select Journals Select Categories

ORGANIC
☐ CHEMISTRY, PHYSICAL
☐ CLINICAL NEUROLOGY
☐ COMMUNICATION
☒ COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE
☐ COMPUTER SCIENCE CYBERNETICS

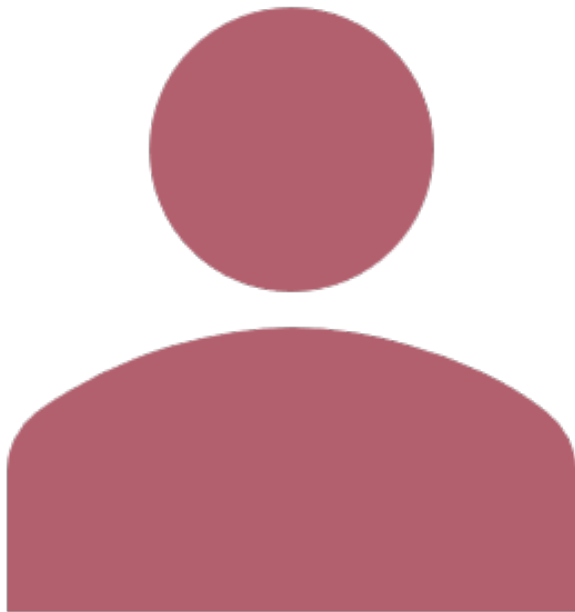
Journals By Rank Categories By Rank

Journal Titles Ranked by Impact Factor

Compare Selected Journals Add Journals to New or Existing List Customize Indicators

Select All	Full Journal Title	Total Cites	Journal Impact Factor	Eigenfactor Score
<input type="checkbox"/>	1 IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE	55,828	17.730	0.06883
<input type="checkbox"/>	2 IEEE Transactions on Neural Networks and Learning Systems	27,444	11.683	0.04021
<input type="checkbox"/>	3 Information Fusion	4,746	10.716	0.00836
<input type="checkbox"/>	4 IEEE Transactions on Cybernetics	13,561	10.387	0.04607
<input type="checkbox"/>	5 MEDICAL IMAGE ANALYSIS	7,694	8.880	0.01336
<input type="checkbox"/>	6 IEEE TRANSACTIONS ON FUZZY SYSTEMS	15,574	8.759	0.01843
<input type="checkbox"/>	7 IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION	12,841	8.508	0.00869

Getting help



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

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