Research Cycle

IDEATION
Get your literature review done
Do a literature search

What is Researcher Unbound

LOTS of information
Organize and manage

WIDEN REACH

WRITE, PUBLISH and
PROTECT your idea
Outline:

Get Your Literature Review Done!

- Trace references
- Locate
- Search by topic
- Access
- Discover
- Complete literature review
- Evaluate
  - Authoritative?
  - Timely?
  - Relevant?
  - Theses
  - Scholarly journals
  - Patents
  - Etc.

Citation styles
Citation managers
Plagiarism prevention
Citation count
H-index
Journal ranking
An electric vehicle (EV) may be powered by electricity from batteries. I am interested to find the efficiency of wireless chargers in electric vehicles.
1- Identify Keywords/ Concepts

<table>
<thead>
<tr>
<th>Synonym/Keyword</th>
<th>Concept 1</th>
<th>Concept 2</th>
<th>Concept 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>efficiency</td>
<td>wireless chargers</td>
<td>electric vehicles</td>
<td></td>
</tr>
</tbody>
</table>
2- Select Sources – Search by Topic

Internet Sources
Search by Topic – Find It!@NUS Libraries

To set up Find It! @NUS Libraries, refer to: http://libguides.nus.edu.sg/findit
ISO 15118—charging communication between plug-in electric vehicles and charging infrastructure
A Heinrich, M Schweiger - Grid Integration of Electric Mobility, 2017
... authentication and billing • Secure: payment based on electronic certificates and signatures • Cost Efficient: pure SW ... signal for correct adjustment of Vehicle- and Ground Pad • Wireless Power Transfer with >90% efficiency Wireless communication with inductive charging ...
2- Academic Sources

Accessing Library Portal

Direct Access – lib.nus.edu.sg

NUS Homepage – nus.edu.sg

IVLE – ivle.nus.edu.sg
Search Process – Apply Search Techniques

**Broaden Search**
- Boolean OR
- Truncation Symbol (*)
- Wildcard Symbol

**Narrow Search**
- Boolean AND
- Boolean NOT
- Phrase Search (" ")
- Field Search
- Limiters

**Advanced Search Techniques**
- Adjacency/Proximity Operators e.g. (W/5)
- Combine/Nesting

Worksheet:
- Work on search statement #1
- Use Scopus Database
3- Construct Search Statement

<table>
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<td>wireless chargers</td>
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<td></td>
</tr>
</tbody>
</table>

Search Statement 1:

efficiency AND “wireless chargers” AND “electric vehicles”

Search attempt #1

efficiency
AND “wireless chargers”
AND “electric vehicles”
### Alternative terms or synonyms for each concept

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>efficient</td>
<td>wireless charger</td>
<td>electric vehicles</td>
<td></td>
</tr>
<tr>
<td>performance</td>
<td>wireless charging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wireless battery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wireless batteries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Search attempt #2

(efficiency OR efficient OR performance) AND
(“wireless chargers” OR “wireless charger” OR “wireless charging” OR “wireless battery” OR “wireless batteries”) AND
(“electric vehicles” OR “electric vehicle”)

192 document results
Search attempt #3

(efficien* OR performance)
AND
("wireless charg*" OR "wireless batter*")
AND
"electric vehicle*"

196 document results
Final Search attempt:

(efficien* OR performance)
AND
(wireless W/5 (charg* OR batter*))
AND
("electric vehicle*")

W/5 will retrieve articles:
wireless power charger
charging an electric vehicle wirelessly
4- Access Full-text & Export Citations
Scopus Search Results retrieved on 24 Jan 2017

4- Set Alerts

Search history

<table>
<thead>
<tr>
<th>Sentence</th>
<th>Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE-ABS-KEY (&quot;wireless charging&quot;)</td>
<td>738</td>
</tr>
<tr>
<td>TITLE-ABS-KEY (wireless W/5 charging)</td>
<td>1,031</td>
</tr>
<tr>
<td>TITLE-ABS-KEY (wireless AND charging)</td>
<td>2,423</td>
</tr>
</tbody>
</table>

 alerts

You will receive an alert each time one of these searches renders new results in Scopus.

<table>
<thead>
<tr>
<th>Saved on</th>
<th>Alert name</th>
<th>Search</th>
<th>Frequency</th>
<th>View</th>
<th>Get feed</th>
<th>Edit</th>
<th>Delete</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>24 Jan 2017</td>
<td>wireless charging</td>
<td>TITLE-ABS-KEY (wireless AND charging)</td>
<td>Every week</td>
<td>Check for new results since 24 Jan 2017</td>
<td></td>
<td></td>
<td>Active</td>
</tr>
<tr>
<td>3</td>
<td>24 Jan 2017</td>
<td>&quot;wireless charging&quot;</td>
<td>TITLE-ABS-KEY (&quot;wireless charging&quot;)</td>
<td>Every week</td>
<td>Check for new results since 24 Jan 2017</td>
<td></td>
<td></td>
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Tips Engineering Village

- Turn off the auto stemming feature to control where to truncate.
- Proximity search using NEAR/5 (instead of W/5)
- Do not use truncation within quotes (“electric car*”) 
- NEAR cannot be used with truncation or quotes (electric NEAR/5 car*).

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<td>efficiency</td>
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</tr>
<tr>
<td>Synonyms</td>
<td>efficient performance</td>
<td>wireless chargers</td>
</tr>
</tbody>
</table>

Search Statement 1: (AND + Phrase)
Efficiency AND “wireless charger” AND “electric vehicles”

Search Statement 2: (OR + Truncation)
(efficien* OR performance)

AND
($(“wireless charger” OR “wireless chargers”) OR
($(“wireless battery” OR “wireless batteries”))

AND
($(“electric vehicles” OR “electric vehicle”)

Search Statement 2:
(efficien* OR performance)

AND
($(“wireless charg*” OR “wireless batter*”))

AND
($(“electric vehicle*”))
Electric vehicle search in EV

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<td></td>
<td>wireless batteries</td>
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**Search Statement 3: (Proximity)**

(efficien* OR performance)
AND
((wireless NEAR/5 charger) OR (wireless NEAR/5 chargers) OR (wireless NEAR/5 battery) OR (wireless NEAR/5 batteries))
AND
("electric vehicles" OR "electric vehicle")

**Discover**

**Locate**

1. **Search by Topic**
   - Keyword Search
   - Information Search Process

2. **Trace References**
   - Backward Search
     - References (Reference List)
     - Author (Prior Works)
   - Forward Search
     - Citing Articles (Cited By)
     - Author (Subsequent Works)
1. You are required to look for this paper to read “High mobility, printable, and solution-processed graphene electronics”
Locate – Trace References

High mobility, printable, and solution-processed graphene electronics (Article)

Abstract
The ability to print graphene sheets onto large scale, flexible substrates holds promise for large scale, transparent electronics on flexible substrates. Solution-processable graphene sheets derived from graphite can form stable dispersions in solutions and are amenable to bulk scale processing and ink jet printing. However, the electrical conductivity and carrier mobilities of this material are usually reported to be orders of magnitude poorer than that of the mechanically cleaved counterpart due to its higher density of defects, which restricts its use in electronics. Here, we show that by optimizing several key factors in processing, we are able to fabricate high mobility graphene films derived from large sized graphite oxide sheets, which pave the way for all-carbon post-CMOS electronics. All-carbon source-drain channel electronics fabricated from such films exhibit significantly improved transport characteristics, with carrier mobilities of 365 cm²/V·s for hole and 281 cm²/V·s for electron.

Trace References– Backward Search

References (25)

1. Gao, W., Alemany, L.B., Cl, L., Ajayan, P.M.
   New insights into the structure and reduction of graphite oxide
   doi: 10.1038/nchem.281
   View at Publisher

2. Geim, A.K., Novoselov, K.S.
   The rise of graphene
   doi: 10.1038/nmat1849
   View at Publisher

   Large-scale pattern growth of graphene films for stretchable transparent electrodes
   doi: 10.1038/nature07719
   View at Publisher
Trace References – Forward and backward search

Reference List
25 references

Citing Articles (Cited By)
243 documents

High mobility, printable, and solution-processed graphene electronics
Access – Get Full-Text

• Printed Format

Access – Get Full-Text

• Document Delivery Service (DDS)
Search by Topic - Theses

Search by Topic - Theses (Foreign)

To find out more, refer to: http://libguides.nus.edu.sg/findthesis
EVALUATE
AUTHORITATIVE?
TIMELY?
RELEVANT?

THESSES
SCHOLARLY JOURNALS
BOOKS
PATENTS
...ETC.

Cite
Different Citation Styles

IEEE Citation Style

APA Citation Style

To find out more, refer to: http://libguides.nus.edu.sg/citation

Citation Managers

To find out more, refer to: http://libguides.nus.edu.sg/citationmanagers
Summary of what’s covered