Impact of Academic Publication and Motivation to Publish in High Impact Factor Journal

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Editor-In-Chief: Journal of Mechanical Engineering and Sciences, Scopus Index, CiteScore: 1.86, Rank: #5/38)

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WORKSHOP ON ACADEMIC PUBLICATION AND IMPACT (SERIES-I) 19-20 DECEMBER 2016
PART 1 - Introduction to Impact of academic publication
  ■ Hands-on practice (Special task)
PART 2 - What do editors look for?
  ■ Criteria for high quality journal manuscript.
PART 3 - Manuscript Content
PART 4 - How to handle reviewers /editors comments?
PART 5 - Using checklist to improve manuscript
PART 1
INTRODUCTION TO IMPACT OF ACADEMIC PUBLICATION
PUBLICATION BY Subject Area IN UMP

- Computer Science
- Mathematics
- Physics and Astronomy
- Chemistry
- Chemical Engineering
- Materials Science
- Energy
- Environmental Science
- Biochemistry, Genetics and Molecular Biology
- Medicine
- Social Sciences
- Other
- Engineering
## RESEARCH PRIORITY AREAS 2016 - 2020

### Additional Proposed RMK 11 Research Priority Areas

- Malaysia 2050 (Strategic Research)
  - Nationhood, B40 and Societal Wellbeing (Values-based)
    - Tropical Disease
    - Islamic Finance

### National Priority Area (NPA) vs. Research Clusters

<table>
<thead>
<tr>
<th>National Priority Area (NPA)</th>
<th>Research Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation &amp; Urbanization</td>
<td>Pure and Applied Science</td>
</tr>
<tr>
<td>Environment &amp; Climate Change</td>
<td>Technology &amp; Engineering</td>
</tr>
<tr>
<td>Healthcare &amp; Medicine</td>
<td>Social Science</td>
</tr>
<tr>
<td>Bio Diversity</td>
<td>Information &amp; Communication</td>
</tr>
<tr>
<td>Water Security</td>
<td>Clinical &amp; Health Science</td>
</tr>
<tr>
<td>Food Security</td>
<td>Arts &amp; Applied Arts</td>
</tr>
<tr>
<td>Energy Security</td>
<td>Natural and Cultural Heritage</td>
</tr>
<tr>
<td>Plantation Crops</td>
<td></td>
</tr>
<tr>
<td>Cyber Security</td>
<td></td>
</tr>
</tbody>
</table>

*Applicable for LRGS, FRGS, TRGS, PRGS, ACE-GS*
THE World University Rankings — [http://www.timeshighereducation.co.uk/world-university-rankings/](http://www.timeshighereducation.co.uk/world-university-rankings/)
Published since 2010 by the Times Higher Education
Broke away from the QS-partnered rankings prior to 2010 edition

**Teaching:** the learning environment (30%)
- Academic reputation survey: reputation for teaching (15%)
- Staff to student ratio (4.5%)
- Ratio of doctoral to bachelor’s degrees awarded (2.25%)
  (Field-weighted) number of doctorates awarded per staff FTE (6%)
- Institutional income per staff FTE (2.25)

**Research:** volume, income and reputation (30%)
- Academic reputation survey: reputation for research excellence (18%)
  (Field-weighted) research income per staff FTE (6%)
  (Field-weighted) research output per staff FTE (6%)

**Citations:** research influence (30%)
  (Field-weighted) citations in 2006-11 to papers published 2006-10

**Industry income:** innovation (2.5%)
- Income from industry per staff FTE

**International outlook:** staff, students and research (7.5%)
- Ratio of international to domestic students (2.5%)
- Ratio of international to domestic staff (2.5%)
- (Field-weighted) proportion of research papers with international co-authors (2.5%)

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**Workshop on Academic Publication and Impact (Series-I) 19-20 December 2016**
Published since 2004 by Quacquarelli Symonds
Formerly (until 2009) produced with Times Higher Education as THE-QS World University Rankings

- **Academic reputation (40%)**
  - From QS Global Academic Survey with almost 63,700 responses for 2014/15

- **Employer reputation (10%)**
  - From QS Global Employer Survey with 28,800 responses for 2014/15

- **Citations per faculty (20%)**
  - Citation counts from last five years considered
  - Citation data source: Scopus
  - Author self-citations excluded
  - Normalised by staff FTE figures

- **Faculty/student ratio (20%)**
  - FTE values used for faculty and students

- **International students (5%)**
  - Proportion of students that are international

- **International faculty (5%)**
  - Proportion of faculty that are international

WORKSHOP ON ACADEMIC PUBLICATION AND IMPACT (SERIES-I) 19-20 DECEMBER 2016
### Malaysia

<table>
<thead>
<tr>
<th>Ranking</th>
<th>World Rank</th>
<th>University</th>
<th>Del.</th>
<th>Presence Rank*</th>
<th>Impact Rank*</th>
<th>Openness Rank*</th>
<th>Excellence Rank*</th>
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<tr>
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<td>568</td>
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<td>818</td>
<td>586</td>
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<td>8</td>
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<td>International Islamic University of Malaysia</td>
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<td>675</td>
<td>2224</td>
<td>2229</td>
<td>1550</td>
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<td>10</td>
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<td>Universiti Malaysia Pahang</td>
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<td>2196</td>
<td>2325</td>
<td>1598</td>
<td>1526</td>
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<tr>
<td>11</td>
<td>1423</td>
<td>Multimedia University</td>
<td></td>
<td>3850</td>
<td>2273</td>
<td>1301</td>
<td>1524</td>
</tr>
</tbody>
</table>
Why we need to publish?

- To attract more students
- To generate new ideas
- To get a job
- Get funding
- Disseminate Knowledge
- Get postgraduate students?
- Get Promoted?

However, Editors, Reviewers and the Research Community don't care about these reasons.

Enhanced author prestige
Personal satisfaction
Get comments from reviewers / editors

WORKSHOP ON ACADEMIC PUBLICATION AND IMPACT (SERIES-I) 19-20 DECEMBER 2016
Value of unpublished work

Who benefits?
- Possibly, person/persons who did the work
- Nobody

Who is deprived?
- Other researchers
- Funding agency / University

Your paper is worthless if no one reads, uses, or cites it
Where to publish?

Indexed Journal
Non Indexed Journal
Conference
Book chapter

Level of difficulty
Low
Coverage
High
Quality
Low/high

Web of Science (ISI)
Elsevier (Scopus)
DOAJ
Google Scholar

Scopus index
www.scimagojr.com
ISI (Web of Knowledge)
Journal citation reports

Indexed Journals
Scopus Indexed Journals

ISI Indexed Journals (Normally with Impact Factor)

ISI journals
Scopus journals

ISI (Q1, Q2, Q3, Q4, Non tier)

SCOPUS

NON-SCOPUS/NON-ISI
International
Regional
Local

Q1: Top 25%
Q2: Top 50%

WORKSHOP ON ACADEMIC PUBLICATION AND IMPACT (SERIES-I) 19-20 DECEMBER 2016
Why it is important to publish in high impact factor journals?

- **Publish or Perish**
- **Greater visibility** of research findings
- **Increase chances of citations**
- **More recognition** among peers
- **Benefits** such as **promotions**, productivity allowances (Cendekia Bitara), etc
CITATION DATABASES

- Web of Science (WOS)
  - Journal Citation Reports (Impact factor)
  - h-index

- Scopus
  - CiteScore (Impact factor)
  - SNIP (Source Normalized Impact per Paper)
  - SJR (www.scimagojr.com)
  - h-index

- Google Scholar
  - h-index
  - g-Index
  - Total citations
  - i10-index

- ISIHighlyCited.com
Why publish if nobody cites your work?

- Government research assessments and academic promotions increasingly focus on citation impact.

Why would you want to know if your work is cited?

- To prepare for confirmation / promotion / yearly performance appraisal (KPI).
- To know who is building on your work:
  - They might be future collaborators.
  - It is exciting to see how others are using your research.
  - You might get new ideas through it.
- “To get an personality boost, to know someone has (apparently) read your work.”
For Checking SCOPUS index Journal
http://www.scimagojr.com/

For Checking WOS /ISI index journal
http://ezproxy.ump.edu.my/
Access to e-journals from a range of publishers, including Routledge and Taylor & Francis; with bibliographic information and abstracts. Also provides full-text access, free-of-charge, where SOAS subscribes to the journal.

Web of Science provides access to the Science, Social Sciences, and Arts & Humanities Citation Index. It enables users to search multidisciplinary information from over 8,500, high impact research journals in the world. It also provides unique cited reference searching.

Journal Citation Reports offers a systematic, objective means to evaluate the world’s leading journals, with quantifiable, statistical information based on citation data. By compiling articles’ cited references, JCR Web helps to measure research influence and impact at the journal and category levels, and shows the relationship between citing and cited journals. Available in Science and Social Science edition.

Perpetual access 2014 & 2015 for 37 ejournals titles.

Backfiles access;

• International Journal of Innovation and Technology Management
Perpetual access 2017 - 2015
# Applied Energy

**ISSN:** 0306-2619

ELSEVIER SCI LTD
THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND ENGLAND

Go to Journal Table of Contents  Go to Ulrich's

## Key Indicators

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cites</th>
<th>Journal Impact Factor</th>
<th>Impact Factor Without Journal Self Cites</th>
<th>5 Year Impact Factor</th>
<th>Inmediacy Index</th>
<th>Citable Items</th>
<th>Cited Half-Life</th>
<th>Eigenfactor Score</th>
<th>Article Influence Score</th>
<th>% Articles in Citable Items</th>
<th>Normalize Eigenfactor Score</th>
<th>Average JIF Percentile</th>
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</thead>
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<tr>
<td>2015</td>
<td>34,966</td>
<td>5.746</td>
<td>4.264</td>
<td>6.222</td>
<td>1.288</td>
<td>1,189</td>
<td>3.3</td>
<td>5.2</td>
<td>0.07051</td>
<td>1.285</td>
<td>97.16</td>
<td>8.72092</td>
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<tr>
<td>2014</td>
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<td>5.613</td>
<td>3.753</td>
<td>6.330</td>
<td>1.643</td>
<td>1,260</td>
<td>3.1</td>
<td>5.4</td>
<td>0.05761</td>
<td>1.297</td>
<td>99.05</td>
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<td>2013</td>
<td>15,437</td>
<td>5.362</td>
<td>3.514</td>
<td>5.597</td>
<td>1.231</td>
<td>952</td>
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<td>5.6</td>
<td>0.04036</td>
<td>1.127</td>
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<tr>
<td>2012</td>
<td>9,318</td>
<td>4.781</td>
<td>3.378</td>
<td>4.783</td>
<td>0.986</td>
<td>739</td>
<td>2.8</td>
<td>5.9</td>
<td>0.02723</td>
<td>1.033</td>
<td>98.78</td>
<td>Not ...</td>
</tr>
</tbody>
</table>
THE h-INDEX

- Performance measurement tool for scientific authors
- The H-index is the highest number of papers a scientist has that have at least that number of citations. [Ref. Nature (2005)]

- Meaningful when compared to others within the same discipline area.
- Researchers in one field may have very different h-indices than researchers in another (e.g. Life Sciences vs. Physics).
The g-index

- Given a set of articles ranked in decreasing order of the number of citations that they received,
- The g-index is the (unique) largest number such that the top g articles received (together) at least $g^2$ citations.

Accounts for the performance of author's top articles

This index is very similar to the h-index, and attempts to address its shortcomings.

It aims to improve on the h-index by giving more weight to highly-cited articles.
THE h-INDEX

- It could be used for an specific Author:
  - Evaluate the Research Performance of Author
  - Evaluate the Impact of the group of special papers
- A value for h-index of about 10-12 might be a useful guideline for tenure decisions at major research universities.
- A value of about 18 could mean a full professorship, 15–20 could mean a fellowship in the American Physical Society, and 45 or higher could mean membership in the United States National Academy of Sciences.
WAYS FOR IMPROVING CITATIONS

- Use A **Unique Name** Consistently
- Use a **standardized institutional affiliation and address**
- Repeat **key phrases in the abstract** while writing naturally.
- Assign **keyword terms** to the manuscript
- Make a **unique phrase** that reflects author's research interest and use it throughout academic life.
- Conferences, **attend & talk to people**
  - volunteer for **session chair, committee member**
- Publish in **journal with high impact factor**
- Email, ask for papers and send yours in return
  - Don’t be shy to send your papers, most academics appreciate it
WAYS FOR IMPROVING CITATIONS

- Collaborate
  - It often leads to **better quality research**
  - Co-authored **papers are cited more**
- Keep **your professional web pages and published lists up to date** (Google scholar, Scopus, ORCID, ResearcherID, ResearchGate and others)
- Open Access **increases citation rate**
- Deposit paper in **Open Access repository**
  - **Upload UMPIR**
- Publish **with international authors**
- Publish a **longer paper**
WAYS FOR IMPROVING CITATIONS

- Publish papers with renowned researchers/ Nobel laureates
- Start blogging
- Join academic social networking sites
  - Academica
  - Citeulike
  - ResearchGate
  - Linkedin
- Write a review paper
- Avoid to select a question type of title
WAYS FOR IMPROVING CITATIONS

- Publish across disciplines
- Present a working paper
- Publicize yourself - link your latest published article to your email signature/ Facebook / others social media
- Publish your work in a journal with the highest number of abstracting and indexing
- Make an online CV
  - ORCID
  - ResearcherID
  - ISNI ID
Hands-on task

www.orcid.org
www.researcherid.com
www.researchgate.com
https://scholar.google.com
www.scopus.com
www.isni.org
PART – 2
What do Editors look for?
(Criteria for high quality journal manuscript)
What Does Reviewers Check?

- Concise summary of the work
- Clear objectives or not
- Language
- Flow of materials
- Appropriate number of figures and tables
- References/figures/tables are cite properly or not (mismatch?)
- Introduction too lengthy / no objectives
What Does Reviewers Check?

- Clarity of expressions throughout the manuscript
  - Readability,
  - Organization,
  - Conciseness and
  - Theoretical/technical quality of the manuscript
- Latest related work and comparing with others work
- Clear photograph/ quality of graph
- Interest for international readers
- Within scope of the journal or not
- Generate new knowledge
- Technically sound or not
What Does An Editor Check?

- **Scope** of the work
- **Originality** / **Novelty** of the work
- **Citation of the journal** papers
- **Content similarity**
- **Clarity of writing:**
  - Readability, organization, conciseness and theoretical/technical quality of the manuscript
- **Format**
- **Submission requirements**
- **Language**
- **Copyright**
What editors don’t like?

- Unclear objectives; too many, over-ambitious, un-focused
- Incomplete/overdone literature review; not critically evaluated
- Conclusions that do not arise from the discussion
- No data, no research, failure to address objectives
- Excessive assumption; failing to follow the evidence
- Confusing correlation with causation
- Unsuitable length; should be 5-8k words
- No story; uninteresting, boring
- Trivial, irrelevant, no problem, done before
- Poorly constructed, weakly argued
- Ethical concerns; previously published, submitted elsewhere
Why papers are rejected?

- Rejection **before review**
- Rejection **after review**
- **Other reasons** for rejection
Rejection before review

- Papers doesn’t fit to the scope journal
- Paper does not make a contribution to new knowledge in the discipline
- Paper does not meet established ethical standards
- The paper is poorly written
- Paper has not been prepared according to the journal’s guidelines for presentation
Rejection after review

- Paper describes a **poorly conducted study**
- The research **conducted was inadequate**
- The **literature review is inadequate**
- The paper has **methodological problems**
- The data have been **interpreted poorly**
- The **analysis is weak**
- The paper **duplicates other work/does not report on anything new**
Problems with writing/presentation

- The paper is **poorly written**
- The **author guidelines have not been followed**
- The paper is **over the journal’s limit**
- The paper has been **carelessly prepared** (editor may view that if the author is careless in writing, he/she must be careless also while conducting the research)
Other reasons

- The content of the paper may not be timely (up to date)
- The paper cannot compete with the high quality of other papers submitted (especially for high impact journals)
- The journal may have recently published another paper on the subject
- Publication bias (editor/reviewers subjective reasons)
CRITERIA THAT EDITORS/REVIEWERS USUALLY USED

- Contribution to knowledge
- Innovativeness and originality
- Meets journal objectives
- Clarity of writing
- Use of literature
- Quality of arguments
- Research methodology and data analysis
- Research implications
PART 3

Manuscript Content
It is not (only) the Impact Factor, it is (mainly) the right audience!

Consult the Journal homepage to learn:

- Aims and scope
- Accepted types of articles
- Readership
- Current hot topics
  - go through the abstracts of recent publications
  - **TIP:** Articles in your references will likely lead you to the right journal.

**DO NOT** gamble by submitting your manuscript to more than one journal at a time.
Consult the journal homepage

Desalination

The International Journal on the Science and Technology of Desalting and Water Purification

Desalination is the premier international journal dedicated to communicating the latest developments in desalination including theoretical and applied research, technological and industrial development...

View full aims and scope

Editor-in-Chief: Nidal Hilal
View full editorial board

Guide for Authors
Submit Your Paper
Track Your Paper
Order Journal
View Articles

Impact Factor: 3.041
5-Year Impact Factor: 2.751
Imprint: ELSEVIER
ISSN: 0011-9164

Publish your article
Open Access in Desalination

Journal Insights

Discover this journal’s metrics

Most Downloaded Articles

1. Technical review and evaluation of the economics of water desalination: Current and future challenges for better water supply sustainability
Noreddine Ghaffour | Thomas M. Missimer | ...

2. Nano-enhanced reverse osmosis membranes
M.G. Buonomenna

3. Membrane distillation: A comprehensive review
Apply the **Guide for Authors** to your manuscript, even to the **first draft** (text layout, paper citation, nomenclature, figures and table, etc.). It will **save your time**, and the editor’s.  

All editors **hate wasting time** on poorly prepared manuscripts.
Language editing services

- American Journal Experts (www.journalexperts.com)
- Proofreading service (http://www.proof-reading-service.com/)
- Asia Science Editing (www.asiascienceediting.com)
- Diacritech Language Editing Services (www.languageedit.com)
- Edanz Editing (www.edanzediting.nl)
- International Science Editing (www.internationalscienceediting.com)
- ScienceDocs Editing Services (www.sciencedocs.com)
- SPI Publisher Services (www.prof-editing.com)
Save your editor and reviewers the trouble of guessing what you mean.

Complaint from an editor:

“[This] paper fell well below my threshold. I refuse to spend time trying to understand what the author is trying to say. Besides, I really want to send a message that they can't submit garbage to us and expect us to fix it. My rule of thumb is that if there are more than 6 grammatical errors in the abstract, then I don't waste my time carefully reading the rest.”
Challenges in Language

- Very long or too short sentence
- Grammar and spelling
- Clarity
- Incorrect vocabulary

Solution to overcome language problems

- Proof reading service
- Friend with good IELTS/English spoken
- Collaboration with potential authors
- Don’t write too much and unnecessary stuffs.
- Write less but with key points/contents
- Chop-up long, complicated sentences
- Make shorter sentences out of the points.
- Use WhiteSmoke/ Grammarly.com to check initially grammar and spelling
Before submitting...

- Proof read,
- Proof read, again, &
- Proof read yet again
- Then format
Working as a Networking

A Model Team

- Student
- Own group within institute
- Local team members
- International Team Members
- Postdoctoral Fellows
Getting it published

- Be careful to follow the instructions for authors
- Focus the article on one finding
- Prepare one figure that shows or illustrates the main finding
- Explain your new finding in the abstract, the discussion AND the conclusions
- Delete any irrelevant results or those that are not explained
- Distinguish clearly between the results from your study and those of others
- Generate new knowledge from your findings
- Read your article at least 5-6 times before submitting it
- Make sure your manuscript is written in good English
PUBLISHING ETHICS

- No **duplicate submissions** permitted
- Appropriate identification of **prior research** / researchers

- Appropriate identification of co-authors
  - Include **all co-workers** involved
  - Obtain **permission from co-authors** before submitting paper

- Must be **original research**
  - not a **rewritten version of previous paper**

- **Accurate results** (not interpretations)

NOTE: Industry wide software “**crosscheck**” being rolled out to detect plagiarism, or dual submissions.
Plagiarism detection

Elsevier is participating in 2 plagiarism detection schemes:

- **Turnitin** (aimed at universities)
- **Ithenticate** (aimed at publishers and corporations)

Manuscripts are checked against a database of more than 20 million peer reviewed articles which have been donated by 50+ publishers, including Elsevier. All post-1009 Elsevier journal content is now included and the pre-1995 is being steadily added week-by-week.
Some factors to consider before article submission ...

- Aims and scope
- Publishing frequency
- Target audience
- Open access or subscriber
- Prestige
- Cost
- Publication type

Which factor is most important to you?
How *new* are your results compared with those already published?

New findings

- Incremental advances
  - Low to medium impact factor
- Conceptual advances
  - Medium to high impact factor
What do journal editors and reviewers want?

- Is the manuscript **sufficiently novel**?
- Is the manuscript of **broad enough interest**?
Length of the manuscript:

- 25-30 pages is the ideal length for a submitted manuscript, including ESSENTIAL data only.
  - Title page
  - Abstract 1 paragraph
  - Introduction 1.5-2 pages
  - Methods 2-4 pages
  - Results and Discussion 10-12 pages
  - Conclusions 1-2 pages
  - Figures 6-8 (10)
  - Tables 1-3 (5)
  - References 20-50 papers

- Letters or short communications have a stricter limitation of the length. For example, 3000 words with no more than 5 illustrations.
What is Peer Review Process?

• Exciting the reviewer’s mind is far more important then exciting the reader’s mind.

• It is likely that no one will ever read your paper more thoroughly than the reviewer.

• Suggest referees that appreciate your work

Most scientists regarded the new streamlined peer-review process as ‘quite an improvement.’

www.weirdscience.ca
Peer review improves your manuscript

- Few papers are accepted without revision
- Rejection and revision are integral to the peer review process
Structure of a typical journal paper

Introduction

- Literature Review
- Problem statement

Objective

- Methodology

Experimentation

- Simulation

Results & Discussion

Conclusion

LOGICAL FRAMEWORK

- INTRODUCE THE TOPIC
- RELATE TO CURRENT KNOWLEDGE
- INDICATE THE GAP
- INTRODUCE YOUR WORK
- STATE RESEARCH QUESTIONS AND OBJECTIVES
HIGHLIGHTS

- May be mandatory for your journal
- 3-5 bullets that convey the core findings of the article
- Maximum 85 characters (including spaces) per bullet point
GRAPHICAL ABSTRACTS

• May be mandatory for your journal
• Summarize article content in a concise, pictorial form
Should be **SIMPLE, CONCISE, EXPRESSIVE AND INFORMATIVE**

Should **BE SPECIFIC** in describing the study

Should contain the **fewest possible words** that adequately describe the content

**ACCURATELY REFLECT** the investigation

Should be **LABEL, NOT A SENTENCE**

**SELECT THE WORDS** in title carefully for clarity and accuracy

Avoid **ABBREVIATIONS AND TECHNICAL JARGON IF POSSIBLE**

Avoid **PHRASES**
Affiliation: Give the **whole address** when writing the affiliation of each author.

E-mail address is also very useful (increasingly required by journals)

Sometimes Phone and Fax number also important

Write out first names or only use initials?

- Check the guidelines of the journal you propose to publish in.
- Full name is of advantage if
  - There is another scientist with your Surname and first initial
  - You are a woman in a male-dominated field. Specially important if you are the only author, so that your work isn’t cited.
ABSTRACT

Good Abstract

- Aim/ Objectives/ purposes of study (C) [1-2 sentences]
- Scope of the research/ significance of study [2-3 sentences]
- Describe the methodology used (C) [2-3 sentences]
- Summarize most important results (c) [2-3 sentences]
- Conclusion, practical implications, and recommendation (C) [1-2 sentences]
- Avoid acronyms and mathematical symbols

(Follow the rule of 12)

Write a very strong abstract!
ABSTRACT

- **SELF-CONTAINED**
- Not include **NEEDLESS INFORMATION**
- A clear abstract will **STRONGLY INFLUENCE** if your work is considered further
- Length limits are strict: (100-200 words)
- Only include **INFORMATION AND CONCLUSIONS** that are contained in the main paper
- Avoid include **MATHEMATICAL EQUATION OR FORMULA**
- Avoid **LONG INTRODUCTORY OR EXPLANATORY** material

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**Structured Abstracts**

- **A structured abstract** – in 250 words or less (no more than 100 in any one section)
- **Purpose** – Reasons/aims of paper
- **Design** – Methodology/’how it was done’/scope of study
- **Findings** – Discussion/results
- **Research limitations/Implications** (if applicable) – Exclusions/next steps
- **Practical implications** (if applicable) – Applications to practice/’So what?’
- **[NEW] Social implications** (if applicable) – Impact on society/policy
- **Originality/value** – Who would benefit from this and what is new about it?
KEYWORDS

• Usually included under the title or abstract.

• Should be three to six words, which headline the subject matter.

• There are very important but often added as after thought.

• Must get them right if we want our paper to be found in searches, read and cited.

• When writing keywords, think about the subject matter and categories we might use in a literature search of this topic.
INTRODUCTION

Should introduce the subject area – generally

Should include:

- Background of the study
  - Bring the reader from what is commonly understood to the point of appreciating the questions your research attempts to answer.

- Literature review
  - Provide detailed background knowledge of earlier work
  - Covering the latest development in the field.
  - Provide an critical evaluation of methodologies used.
  - Introduce the ideas that led to the present work.

- Objectives or scope
  - Normally at the end of this section and rationale that lead you to do this research.
INTRODUCTION

- Clearly state the:
  - Problem being investigated
  - Background that explains the problem
  - Reasons for conducting the research
- Summarize relevant research to provide context
- State how your work differs from published work
- Identify the questions you are answering
- Explain what other findings, if any, you are challenging or extending
- Briefly describe the experiment, hypothesis(es), research question(s); general experimental design or method
- Don’t try to show readers that you have read everything
- Short, short, and short

LOGICAL FRAMEWORK

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12 GUIDING QUESTIONS for Literature review

4-3-4-1 TECHNIQUES

**CONCEPTUAL/THEORETICAL QUESTIONS**
- What is **ALREADY** **KNOW** in the immediate area of concern?
- What are the **EXISTING THEORIES** that help explain the fact?
- What are the **CHARACTERISTICS OF THE KEY CONCEPTS** or the **MAIN FACTORS OR VARIABLES**?
- What are the **RELATIONSHIPS BETWEEN THESE KEY CONCEPTS, FACTORS, OR VARIABLES**?

**EMPIRICAL QUESTIONS**
- How do **WE KNOW** what we know?
- **WHAT RESEARCH APPROACHES** have been used to study the event?
- What are the **METHODOLOGICAL STRENGTHS, SHORTCOMINGS / LIMITATIONS**?

**ASSESSMENT QUESTIONS**
- Where are there **INCONSISTENCIES** or other **SHORTCOMINGS** in our knowledge and understanding?
- What views **NEED TO BE (FURTHER) TESTED**?
- What **EVIDENCE IS LACKING, INCONCLUSIVE, CONTRADICTORY OR TOO LIMITED**?
- Why **STUDY (FURTHER)** the research problem?

**FOCUS QUESTIONS**
- What **CONTRIBUTION CAN THE PRESENT STUDY** be expected to make to the knowledge base?
METHODS AND MATERIALS

METHODS

- **EXPERIMENTAL**
  - Equipment, materials and method
- **MODELING**
  - Assumption, mathematical tools and method
- **COMPUTATION/NUMERICAL**
  - Inputs (B.C and I.C.), computational tools and method

Explain what is **ESPECIALLY DIFFERENT ABOUT METHOD**

Give **SUFFICIENT DETAIL** that the reader can reproduce

For well-known methods: **NAME OF METHOD, CITATION OF REFERENCE**

For methods previously described but not well known: **BRIEF DESCRIPTION OF METHOD, CITATION OF REFERENCE**

For methods that you develop: **RELATIVELY DETAILED DESCRIPTION**
Should be written in **past tense**

May include tables and figures—
- **Flowcharts**
- **Diagrams of apparatus** (adopted form)
- Tables of **Experimental conditions**

How will you demonstrate that your **experiment design or methodological approach** is
- thoroughly and accurately,
- valid and
- relevant to your research?
METHODS AND MATERIALS

Documents **ALL METHODS PERFORMED** in your study

Summarize in **your OWN WORDS** what you did

Describe in **DETAIL HOW THE RESULTS** were obtained so that a peer can repeat procedure

It should be **REPRODUCIBLE**

For materials considered following **THREE IMPORTANT POINTS**
- Exact technical specification
- Quantities
- Preparation method and source

For industrial products, **AVOID TRADE NAMES** unless the nature of the product differ from one to another company

Use **SCIENTIFIC NOMENCLATURE**

Try to **MAKE SUB-HEADINGS** of the section consistent with the result
METHODS AND MATERIALS

Methodology need to be DESCRIBED IN DETAIL. More details is required for UNUSUAL AND INNOVATIVE PROCEDURES.

Remember that this section SHOULD DESCRIBE THE METHOD ONLY. It should NOT PRESENT THE RESULTS.

Statistical analysis must be certain and thorough enough TO ENSURE THE ACCURACY OF THE CONCLUSIONS.

DEGREE OF FREEDOM, LEVEL OF CERTAINTY should be reported in order TO FACILITATE EVALUATION OF CONCLUSIONS.

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RESULTS

**RAW DATA ARE NEVER INCLUDED** in scientific paper unless they are needed to **GIVE EVIDENCE FOR SPECIFIC CONCLUSIONS** or summation of the data.

**ANALYSIS EXPERIMENTAL DATA** then **present them in the FIGURE/TABLE** and/or **descriptions of the OBSERVATIONS**

**FIGURES ARE PREFERABLE TO TABLES** and **TABLES ARE PREFERABLE TO STRAIGHT TEXT**

Present the converted data, **MAKE A POINT CONCISELY AND CLEARLY**. The **TABLE AND FIGURE SHOULD THEN BE PRESENTED, COMPLETE WITH TITLE**.
RESULTS

Avoid **EXCESSIVE PRESENTATION DATA**/RESULTS WITHOUT ANY DISCUSSION

Discuss how data **COMPARE OR CONTRAST WITH PREVIOUS RESULTS**

**CITES EVERY ARGUMENT** with previous work

Do **NOT DRAW CONCLUSIONS** in the results section

The most common mistakes in this section are the inclusion of **UNNECESSARY DATA AND THEIR DOUBLE PRESENTATION**
RESULTS

Only those **VARIABLES THAT REFLECT RESULTS** should be **GIVEN IN TABLES OR GRAPHS**.

If data do **NOT CONFORM TO A CLEAR TREND**, it can be stated in a **FEW WORDS OR SENTENCES**.

Write **CONCISELY**. Scientific papers should enable **FAST COMPREHENSION OF THE RESEARCH** and not present **LENGTHY DISCUSSIONS OR OPINIONS**.

Select **ONLY MEANINGFUL DATA** from the collection, present them only once in either **TEXT OR TABLE OR FIGURE**.
K-promoted Pd/MgO
calcined
uncalcined

K-promoted Pd/Al2O3
calcined
uncalcined
## RESULTS

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Gravel (%)</th>
<th>Sand (%)</th>
<th>Mud (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3.42%</td>
<td>81.41%</td>
<td>15.17%</td>
</tr>
<tr>
<td>50</td>
<td>2.5%</td>
<td>58.42%</td>
<td>39.08%</td>
</tr>
<tr>
<td>100</td>
<td>0.0%</td>
<td>32.5%</td>
<td>67.5%</td>
</tr>
</tbody>
</table>

---

**Revision of the table**

<table>
<thead>
<tr>
<th>Water depth (m)</th>
<th>Gravel (%)</th>
<th>Sand (%)</th>
<th>Mud (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3.4</td>
<td>81.4</td>
<td>15.2</td>
</tr>
<tr>
<td>50</td>
<td>2.5</td>
<td>58.4</td>
<td>39.1</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
<td>32.5</td>
<td>67.5</td>
</tr>
</tbody>
</table>
DISCUSSION - At a Glance

- What might it mean?
- What is an overall finding?
- What are the strengths and weaknesses of the study in relation to other studies?
- Why might we have got different results?
- What might the study mean?
- What questions remain unanswered and
- What next?
Answer **RESEARCH QUESTION**

Give **SUMMARY OF FINDINGS**

**UNEXPECTED FINDINGS**

Establish **NEWNESS (NEW KNOWLEDGE)**

Explain **DISCREPANCIES**

**FURTHER RESEARCH AND IMPLICATIONS**

(A GOOD ARTICLE IS THE ONE THAT IS READER READ AND CITED)
In conclusion, our results obtained with mice increase the knowledge on CPF-induced adverse effects, up to now limited to rats. They seem to suggest that not all the CPF effects measured in rats and the related doses can be directly extrapolated to mice, which seem to be more susceptible at least to acute treatment. Even though many questions still remain open, our findings show that the mouse could be considered a suitable experimental model for future studies on the toxic action of organophosphorus pesticides focused on mechanisms, long term

Contribution to the particular area
Practical significance
Future work clearly stated
Conclusions are **NOT A WORDY SUMMARY** of the study.

It is **SHORT, CONCISE STATEMENTS** of the conclusions that you have made.

It helps to organize these as **SHORT NUMBERED PARAGRAPHS**.

Ordered from **MOST TO LEAST IMPORTANT**.

All conclusions should be **DIRECTLY RELATED TO THE RESEARCH QUESTION**.
NOMENCLATURE

• Define all symbols, specialized terms or abbreviation used.

• Introduce the symbols, specialized terms or abbreviation a long phrase that we are going to use many times

• Give full name the first time you use it (only for the first time)
• Should consider to acknowledge any help and assistance, such as research grant, scholarship, special permission, people who helped to review, comments, etc.
REFERENCES

- Relevant and recent
- Be highly selective
- Read the references
- Do not misquote
- Use correct style for journal
COMMON DRAWBACKS IN WRITING PAPERS

Ethical Aspect:

- **Plagiarism**
  - Any text in the paper.
  - Tables, figures.
  - Zero tolerance.

- **Self-plagiarism**
  - Is this paper look similar to your previous one?
  - Copy-and-paste.

- **Quotation and Paraphrase.**

- **Plagiarism** checking tools.
Modern electronic tools for writing manuscripts

Use EndNote for references

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Final Step is Revision and Proofreading

The best way to get a
you focus on the
you’re
Revision and Proofreading

- Proofreading All authors should participate

- Grammar and spelling errors
  - Consistent verb tense
  - Vocabulary
  - Tighten the sentences
  - spell-check
  - Punctuation
  - typos

- Technical terms
  - Scientific symbols
  - Reaction scheme
  - Chemical structures/names
  - references
PART 4

How to handle reviewers/editors comments?
Don’t Panic!

They’ve sat in your seat.
They will help you find what changes (if any) are needed to make this the required quality.
What are Challenges?

- Need to be **committed**, patient, **never give up**
- Challenging comments from editors and reviewers
- Identify alternative
- Lack of **expertise**
- Poor writing and language
- Writing a **cover letter**
- No cooperation/help from group members
- Takes **very long time** to review
- Challenges when rejected many times
- Working in a **silo**
- Limited **literatures/databases**
Reviewer’s comments

- Take every comment seriously.
- First, thank the reviewers.
- Number all comments and respond.
- Indicate that you are doing everything possible.
- If you cannot follow the demands, thank the referee for the suggestion, explain why they are beyond the scope of the paper or why it is not possible at the time.
Reviewer’s comments

- Differentiate comments and responses in the letter file using different font styles.
- Identify major revisions in the text made in response to peer review comments with highlighting, underlining, and strikethrough fonts or as requested by the editor.
- Start with small changes.
- Biggest mistake authors make is planning to respond too much.
- Don’t get overwhelmed—do a little every day.
Response to Reviewers

Don’t:

■ Use aggressive or defensive tone.
■ Use one reviewer’s response against another.
■ I am right because the reviewer is wrong!
■ Say things like “we agree” or “this is excellent ..” if you are going to change the paper as suggested by reviewers.

■ Referring back for similar comments
  ■ “See my response to comment X above..”
■ Submit same version to other journals.
Do Not Attack Reviewers

Generally, it is not a good idea to attack the reviewers.

- Do not say: "The referee's idea is bad, but mine is good."
- Better to say, “the referee has an interesting idea, but the proposed idea is also good, particularly because of this or that fact.”
- If the referee makes a good point (you can almost always find conditions under which the referee's points are good), explain why you are not pursuing that strategy in the paper.
Write a cover letter

- Address to the editor personally
- Include title and authors name
- Give a brief background, rationale and description of your results/findings
- Explain the importance of your findings and why they would be of interest to the journal’s target audience
- Highlight novelty
- Indicate its not published/considered for publication elsewhere
- Sometimes list of reviewers
- Sometimes biography of all authors
- Statement of conflict of interest
Cover letter: things to include

Dear Editor,

Please find enclosed our manuscript, [manuscript title] by [first author's name] et al., which we would like to submit for publication as a [publication type] in [name of the journal].

To our knowledge, this is the first report showing...

We believe our findings would appeal to the readership of [journal name]...

Possible referees we would suggest...

Please address all correspondence to:
We look forward to hearing from you at your earliest convenience...

The basics:
- Letter format
- Title of the research paper
- Intended submission type (article, report, letter, review etc.)

The background:
- Very brief background on the research field (what are the open questions, and why are they important?)
- A brief about the paper’s objectives and findings
- Why is the study relevant?

The contact details:
- Referee suggestions and exclusions
- Details about the authors and their affiliations
- Contact information for the corresponding author

Source: Taken from Nature publishing group
Cover letter: things to include

All cover letters should contain these statements:

- “We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal”.
- “All authors have approved the manuscript and agree with its submission to [name of journal].”
- “The authors have no conflict of interest to declare” or “The authors have a conflict of interest to declare”...

Source: Taken from Nature publishing group
Example cover letter – physics

Dr Nghi Q. Lam
Editor
Applied Physics Letters

November 3, 2010
Dear Dr Lam,

Please find enclosed our manuscript entitled “Tailoring hole spin splitting and polarization in nanowires” by Dan Csortos et al., which we would like to submit for publication in Applied Physics Letters.

The continuing drive to miniaturize device features on integrated circuits is fast approaching a realm where the microscopic quantum-mechanical properties of charge carriers determine electric transport. Spintronics (short for spin electronics) aims to capitalize on quantum effects by using the intrinsic spin of electrons, instead of their charge, as the principal carrier of information. To realize that aim, efficient means to encode, transport, store and manipulate electron spins need to be devised.

In this paper we demonstrate that the spin of holes – the positive mobile charge carriers in p-type semiconductors – can be sensitively manipulated when confining them to move in just one spatial dimension, as in a nanowire. Our analytical and numerical quantum mechanical calculations reveal surprising qualitative differences in the hole spin properties (such as spin splitting and polarization) of nanowires depending on the spin-orbit (SO) coupling strength as well as the degree of spatial confinement (the lateral dimensions of the wire).

The theoretical results suggest the possibility of engineering of hole spins for spintronic applications, using as building blocks, for example, nanowires which can be readily grown by self-assembly.

Source: Taken from Nature publishing group
Competition for publication space and for editors’ attention is very high

It may not be enough to send a cover letter to a journal editor like this:

Dear Editor-in-Chief,

I am sending you our manuscript entitled “Techniques to detect circoviruses in Indian bird species” by Raye et al. We would like to have the manuscript considered for publication in *Virology Methods Online*.

Please let me know of your decision at your earliest convenience.

Sincerely yours,

Daniel McGowan, PhD
THE PRINCIPLES OF STYLE

- Short words
- Short sentences
- Short paragraphs
- No jargon
- No abbreviations
- Prefer nouns and verbs to adjectives and adverbs
- Cut all duplicities/falseness/double standard
Motivation

Manage skills,

enjoy!

Scientific Writing
Thank you for your Kind Attention

The End—And the Beginning

Always practice to backup all your documents

Questions?

Email: mustafizur@ump.edu.my