My PhD Journey

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Outline

- **Introduction**
  - Introduction to the Session

- **Acceptance and Admission**
  - NZ Acceptance System, DELNA, Provisional Year Review

- **New Zealand Higher Education System/ Institutes**
  - PhD System, Rights, PhD Evaluation System, University of Auckland

- **The Fabulous New Zealand**
  - Renewable Energy in NZ, NZ as a Paradise
Fabulous New Zealand
Fabulous New Zealand
Fabulous New Zealand
Higher College of Technology
Department of Engineering

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Outline

- Introduction
  - Introduction to the session, Why IEEE

- Preparing a Paper
  - Steps

- Paper / Journal Standard Format
  - Format, Structure

- Conclusion
  - Common Mistakes
IEEE Organization:

- A non-profit society
- Founded in 1884
- World’s largest technical membership association with over 450,000 members in 160 countries
- Five core areas of activity, Publishing, Conferences, Standards, Membership and E-learning
Introduction

Why IEEE:

- IEEE covers all areas of technology:
  - SMART GRID
  - AEROSPACE
  - COMMUNICATIONS
  - OPTICS
  - SIGNAL PROCESSING IMAGING SEMICONDUCTORS
  - CIRCUITS
  - BIOMEDICAL ENGINEERING NEXT GEN WIRELESS
Introduction

- ELECTRONICS
- NANOTECHNOLOGY
- CLOUD COMPUTING
- CYBER SECURITY
- HUMAN-CENTERED INFORMATICS
- MACHINE LEARNING
- ELECTROMAGNETICS

- In General: More than just electrical engineering & computer science BIG DATA/ BIG LIBRARY
Introduction

- Membership gives you the Full access to technology
- More than 3,4 million full text documents
- 174 IEEE journals & magazines
- 1400+ annual IEEE conferences + 43 VDE conferences
- More than 2800 IEEE Standards (active, archived and redlines)
IEEE Journals:

- #1 in Automation and Control
- #1 in Artificial Intelligence
- #1 in Computer Hardware
- #1 in Cybernetics
- #1 in Electrical Engineering
- #1 in Information Systems
- #1 in Measurement
- #1 in Theory and Methods
- #1 in Telecommunications
- #2 in Aerospace Engineering
- #2 in Robotics
IEEE Quality (IEEE Publications):

- 18 of the top 20 journals in Electrical and Electronic Engineering
- 18 of the top 20 journals in Telecommunications
- 8 of the top 10 journals in Computer Science, Hardware & Architecture
- 7 of the top 10 journals in Cybernetics
- 3 of the top 5 journals in Automation & Control Systems
- 3 of the top 5 journals in Artificial Intelligence
- 2 of the top 5 journals in Robotics
Writing a Paper Techniques:

- **Topic**: Decide whether it’s worth your efforts
- **Aims**
- **Objectives**
- **Literatures**
- **Deal with a subject which is important**
- **Prevent duplicate work/ already published**
Writing a Paper

 правила

▪ Identify the audience
▪ Interest your audience
▪ Keep what you feel important in mind

шаги

➢ Pick up a title
➢ Prepare your abstract
➢ Write the first draft
➢ Conduct the final detail check: Grammar, Spelling, … etc
➢ Get a help from colleagues
Organizing a Paper

- Title and Author
- Abstract
- Keywords
- Introduction/ Background
- Objectives of the research
- Procedure
- Results and Discussion of Results
- Acknowledgment
- References
IEEE Format

IEEE/IEEE PES Format

- The Title: Paper titles should be written in uppercase and lowercase letters.

- Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "Nd–Fe–B")

- Full names of authors are preferred in the author field, but are not required.

- Put a space between authors’ initials.
Abstract: Italic, 9-Point Font Size and Bold

Keywords: 5 Words are fine

Define all symbols used in the abstract. Do not cite references in the abstract

Introduction:

- Latin numerals: I, II, III, ... etc.
- Literature what have been covered
- Objectives of your research in some details
- 10-Point Font Size
Abbreviations and Acronyms

I. Define abbreviations and acronyms the first time they are used in the text.

II. Abbreviations such as IEEE, SI, ac, and dc do not have to be defined.

III. Abbreviations that incorporate periods should not have spaces: write “C.N.R.S.,” not “C. N. R. S.”

IV. Do not use abbreviations in the title unless they are unavoidable (for example, “IEEE” in the title of this article).
Other Recommendations:

- Avoid dangling participles, such as, “Using (1), the potential was calculated”, [It is not clear who or what used (1).] Write instead, “The potential was calculated by using (1),” or “Using (1), we calculated the potential”

- Use a zero before decimal points: “0.25,” not “.25.”

- Indicate sample dimensions as “0.1 cm × 0.2 cm,” not “0.1 × 0.2 cm²”

- The abbreviation for “seconds” is “s,” not “sec.”

- Use “Wb/m²” or “webers per square meter,” not “webers/m².”
Avoid contractions; for example, write “do not” instead of “don’t.”

Passive instead of active: (“it is observed that ...” or “it has been observed that ...” instead of “I observe that ...”)

Equations: Number equations consecutively with equation numbers in parentheses flush with the right margin, as in (1)

First use the equation editor to create the equation. Then select the “Equation” markup style.

\[
\int_{0}^{r_2} F(r, \phi) \, dr \, d\phi = \left[ \sigma r_2 / (2\mu_0) \right] \cdot \int_{0}^{\infty} \exp(-\lambda |z_j - z_i|) \lambda^{-1} J_1(\lambda r_2) J_0(\lambda r_i) \, d\lambda \quad (1)
\]
Be sure that the symbols in your equation have been defined before the equation appears or immediately following:

(T might refer to temperature, but T is the unit tesla)

Refer to “(1),” not “Eq. (1)” or “equation (1),” except at the beginning of a sentence: “Equation (1) is ... .”

SI units are strongly encouraged
**Figures and Tables:**

- Figure axis labels are often a source of confusion. Use words rather than symbols.
- As an example, write the quantity “Magnetization,” or “Magnetization $M$,” not just “$M$.”
- Do not label axes only with units. As in Fig. 1, for example, write “Magnetization (A/m)” or “Magnetization (A/m),” not just “A/m.”
- Multipliers can be especially confusing. Write “Magnetization (kA/m)” or “Magnetization (10³ A/m).” Do not write “Magnetization (A/m) \times 1000”
IEEE Format

- Define your Figures/Graphs before appearing

- Graphs and Figures Title: Underneath the figure/graph with font size 8 and writing in lowercase letter.

- Use Figure or Fig.: Figure 1 or Fig. 1

- Table Title: Above the table, Font size 8 and Writing in uppercase letter.

- Discuss your Table before appearing

- Use Table 1 or Table. 1

- Check the figure size, figure format and resolution
Fig. 1. Magnetization as a function of applied field. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Phi$</td>
<td>magnetic flux</td>
</tr>
<tr>
<td>$B$</td>
<td>magnetic flux density, magnetic induction</td>
</tr>
<tr>
<td>$H$</td>
<td>magnetic field strength</td>
</tr>
<tr>
<td>$m$</td>
<td>magnetic moment</td>
</tr>
<tr>
<td>$M$</td>
<td>magnetization</td>
</tr>
<tr>
<td>$4\pi M$</td>
<td>magnetization</td>
</tr>
<tr>
<td>$\sigma$</td>
<td>specific magnetization</td>
</tr>
<tr>
<td>$j$</td>
<td>magnetic dipole moment</td>
</tr>
<tr>
<td>$J$</td>
<td>magnetic polarization</td>
</tr>
</tbody>
</table>
Conclusion, Appendix and Acknowledgment

A conclusion section is not required for a journal whereas it is crucial for a conference paper.

- Although a conclusion may review the main points of the paper: do not replicate the abstract as the conclusion.
- Appendix, if needed, appears before the acknowledgment.
- The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.”
- Thanks who help you by a way or another in the acknowledgment.
Avoid expressions such as “One of us (S.B.A.) would like to thank ... .” Instead, write “F. A. Author thanks ... ”

Appendices: Necessary to contain information which is essential to the report, but which would impede reading of the main text

Examples

- Extensive tables of results.
- Lengthy mathematical derivation

Recommended in a Journal paper not a conference one
Reference: A numbered list of all the important references cited in the work should appear at the end of the report by using bracket number e.g. [1].

It should be written by using the format recommended by standard organizations (IEEE, IEEE PES, IET, Cigre....)
Examples

A. Conference Paper


B. Journal or Magazine

C. Books


D. Electronic publication


Some Common Mistakes

- The word “data” is plural, not singular
- The subscript for the permeability of vacuum $\mu_0$ is zero, not a lowercase letter “o.”
- Use the word “micrometer” instead of “micron.”
- The word “alternatively” is preferred to the word “alternately” (unless you really mean something that alternates)
- Use the word “whereas” instead of “while” (unless you are referring to simultaneous events)
Common Mistakes

✓ Do not use the word “essentially” to mean “approximately” or “effectively”

✓ Do not use the word “issue” as a meaning for “problem”

✓ Be aware of the different meanings of the homophones “affect” (usually a verb) and “effect” (usually a noun),… “discreet” and “discrete”,… principal investigator”) and “principle” (e.g., “principle of measurement”).

✓ Prefixes such as “non,” “sub,” “micro,” “multi,” and “ultra” are not independent words; they should be joined to the words

✓ The abbreviation “i.e.,” means “that is,” and the abbreviation “e.g.,” means “for example”
Submission: To submit your paper

Read about:

- Copyright Form
- and PDF express

IEEE - PDF eXpress® and PDF eXpress® Plus: The IEEE Conference...
https://www.ieee.org › Conferences
References

[1] Eszter Lukács IEEE Client Services Manager Europe, “How to write a basic technical paper for the IEEE”, Berlin


[3] Preparation of papers for IEEE transactions and journals - IEEE Xplore

pemclab.cn.nctu.edu.tw

https://www.ieee.org/publications_standards/publications/conferences/2014_04_msw_a4_format.doc
The End

Many Thanks
Higher College of Technology
Department of Engineering

Scientific Research Paper/ Journal
IEEE- IEEE PES Format

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Questions ??

HCT – Muscat