



## Guidelines for Abstract and Paper Development

### Summary:

The IMRAD structure format is recommended for submission of abstracts and papers, guidance on IMRAD can be found in Section 1. Please find a abstract builder template that was developed based on the IMRAD format on the conference website.

Furthermore, there is also guidance on title creation in section 2.

Finally, for other guidance, please refer to the NTNU academic writing page which has been developed to support authors in developing their writing skills. Please find more information on <https://www.ntnu.edu/viko>.

### **1. IMRaD - How to structure your text**

(source: <https://www.ntnu.edu/sekom/imrad>).

In some fields, bachelor's and master's theses and scientific research articles usually have a structure that follows the IMRaD model. IMRaD stands for

- [Introduction](#)
- [Material and method](#)
- [Results](#)
- and
- [Discussion](#)

#### **Introduction**

In the introduction, you place yourself within a scientific field and demonstrate that you are knowledgeable about previous research. The introduction should introduce your readers to what they already know, and what they do not know. You do this by:

- presenting the problem or phenomenon you set out to study
- presenting other research conducted within the same field
- indicating gaps in information that you seek to fill out
- presenting the research questions or hypotheses you intend to investigate

Towards the end of the introduction, you could also explain briefly your text is structured, as a short guide to the reader.

#### **Material and method**

In this section, you should describe your method and your material. Then, you should explain how you conducted your research, and how you analysed your findings. In so doing, you show that the



results were generated in a reliable, valid manner. If your research had to be approved by an ethical committee, you should also mention this.

## Results

You should present your results as objectively as possible. You do this by presenting, explaining and evaluating them. For example, if your results are inconsistent with other studies, you should include this information.

## Discussion

In the discussion, you should explain and interpret your results.

- How do the results correspond with your research questions?
- What are the implications of these results?

A good tip is to revisit your research questions to remind your reader of that they were.

You should also compare your results to existing results from other studies:

- What did these studies find?
- How do your findings relate to theirs?
- How reliable and relevant are your findings?

You should also demonstrate how important your findings are, and to whom.

You should look back at your research and evaluate its reliability and validity.

- What could you have done differently?
- Does it have any particularly strong or weak points?

You could, for example, critically evaluate the methods you have used, and explain what you could have done differently.

The discussion should also offer suggestions for future research based on your findings. Perhaps there are some aspects that should be studied more closely? You can also suggest practices that need changing or call for action.

Finally, your discussion should offer a conclusion or summary of your findings.



## 2. Writing a Scientific Paper: TITLE

(source: <https://guides.lib.uci.edu/c.php?g=334338&p=2249904>)

### Other Hints for Writing a Title

- Whenever possible, use a declarative rather than a neutral title
- Don't end your title with a question mark?
- Begin with the keywords
- Use verbs instead of abstract nouns
- Avoid abbrev. in the title

From: How to Write and Illustrate a Scientific Paper (2008)

### What is a "good" title?

The title will be read by many people. Only a few will read the entire paper, therefore all words in the title should be chosen with care. Too short a title is not helpful to the potential reader. However too long a title can sometimes be even less meaningful. Remember a title is not an abstract. Also a title is not a sentence.

### Goals:

- Fewest possible words that describe the contents of the paper.
- Avoid waste words like "Studies on", or "Investigations on"
- Use specific terms rather than general
- Watch your word order and syntax
- Avoid abbreviations and jargon

"Title Checklist" from: How to Write a Good Scientific Paper. Chris A. Mack. SPIE. 2018.

### Title

- The title should be clear and informative, and should reflect the aim and approach of the work.
- The title should be as specific as possible while still describing the full range of the work. Does the title, seen in isolation, give a full yet concise and specific indication of the work reported?
- Do not mention results or conclusions in the title.
- Avoid: overly clever or punny titles that will not fare well with search engines or international audiences; titles that are too short to be descriptive or too long to be read; jargon, acronyms, or trademarked terms.