

How to write an abstract.

Why is an abstract important?

Nowadays, the search for scientific publications has moved almost exclusively to the internet. However, online publication databases typically contain only abstracts. The abstract serves the function of **'selling' your work**, so it is vital to write a complete but concise description of your work to entice readers into purchasing your article or listening to your presentation.

Parts of an abstract

In addition to be concise, an abstract should include the following sections:

Motivation:

Why do we care about the problem and the results?

Articulate the importance of your work, the difficulties of the research area, and the impact your research might have.

Problem statement:

What problem are you trying to solve?

State the scope of your work (a generalized approach or for a specific situation). However, be careful not to use too much jargon.

Approach:

How did you go about solving or making progress on the problem?

Describe your methodology (simulation, analytical approach, prototype, experiment, etc.) and its most important parameters.

Results:

What is the answer?

Express your results in numbers whenever possible. Avoid vague expressions such as 'very', 'small' or 'significant'; use instead 'orders-of-magnitude', etc.

Conclusions:

What are the implications of your research?

Tell the reader if your work is going to change the world, is a significant step forward or simply serves as a road sign indicating that this path is a waste of time (all those results are useful). State also if your results are general or specific to a particular case.

Related to the theme:

Smarter materials and technologies are gradually becoming a part of our daily lives and our society. They help us manage a multitude of everyday tasks and help us resolve a plethora of problems. From individual health and security to sustainable environments and urban engineering, advancements in smart technology has improved multiple aspects of our lives. According to the theme of this year's PhD Symposium: "**Intelligent materials and technologies for a better life**", we would like to invite all Empa PhD students to think about how their research contributes to a more smarter and advanced future, for making everyday lives better.

Accordingly, we encourage you to include a small paragraph explaining how our society and the people can benefit from your research and innovations in the areas of advanced and functional materials, analytical science and technology, automation and artificial intelligence, and energy, health and environment.

Additional tips

- Think about search phrases and **keywords related to your work** and use them in your abstract.
- PhD students who just started their projects and do not yet have results may write their abstract based on the first three sections, namely: motivation, problem statement and planned approach
- Count your words! The word limit for the Empa PhD Symposium is **200 words**, which is a commonly used prescription. Please make sure that the abstract does **not exceed the limit**.
- **Optional:** You are free to add **one picture** along with your abstract if you think it is important for explaining your project. This could include a method or a result.

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Intelligent materials and technologies for a better life