Manuscript LaTeX Template

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Abstract

The abstract should be a single paragraph written in plain language that a general reader can understand. Do not include citations, figures, tables, or undefined abbreviations in the abstract. The length should be 200 words and not exceed 250 words, to include:

1 INTRODUCTION

The manuscript should start with a brief introduction that lays out the problem addressed by the research and describes the paper's importance. The scientific question being investigated should be described in detail. The introduction should provide sufficient background information to make the article understandable to readers in other disciplines and provide enough context to ensure that the implications of the experimental findings are clear.

Citations of references in the text should be identified using numbers in square brackets e.g., "as discussed by Cui [1]" or "as discussed elsewhere [1, 2]." All references should be cited within the text and uncited references will be removed.

As an example, this template includes a "sample.bib" file containing the references in BibTeX.

2 MATERIALS AND METHODS (or METHODS)

The materials and methods section should provide sufficient information to allow replication of the results. This section should be broken up by subheadings. Under exceptional circumstances, when a particularly lengthy description is required, a portion of the materials and methods can be included in the Supplementary Materials.

2.1 Experimental Design

Begin with a section titled Experimental Design describing the objectives and design of the study as well as prespecified components.

2.2 Statistical Analysis

If applicable, include a section titled Statistical Analysis that fully describes the statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the results. The values for N, P, and the specific statistical test performed for each experiment should be included in the appropriate figure legend or main text.

2.3 Human and Animal Research

For investigations on humans, a statement must be including indicating that informed consent was obtained after the nature and possible consequences of the study was explained.

For authors using experimental animals, a statement must be included indicating that the animals' care was in accordance with institutional guidelines.

3 RESULTS

The results should describe the experiments performed and the findings observed. The results section should be divided into subsections to delineate different experimental themes.

- All data should be presented in the Results. No data should be presented for the first time in the Discussion. Data (such as from Western blots) should be appropriately quantified.
- Subheadings must be either all complete sentences or all phrases. They should be brief, ideally less than 10 words. Subheadings should not end in a period. Your paper may have as many subheadings as are necessary.
- Figures and tables must be called out in numerical order. For example, the first mention of any panel of Fig. 3 cannot precede the first mention of all panels of Fig. 2. The supplementary figures (for example, fig. S1) and tables (table S1) must also be called out in numerical order.

4 DISCUSSION

The results should describe the experiments performed and the findings observed. The results section should be divided into subsections to delineate different experimental themes.

- All data should be presented in the Results. No data should be presented for the first time in the Discussion. Data (such as from Western blots) should be appropriately quantified.
- Subheadings must be either all complete sentences or all phrases. They should be brief, ideally less than 10 words. Subheadings should not end in a period. Your paper may have as many subheadings as are necessary.
- Figures and tables must be called out in numerical order. For example, the first mention of any panel of Fig. 3 cannot precede the first mention of all panels of Fig. 2. The supplementary figures (for example, fig. S1) and tables (table S1) must also be called out in numerical order.

5 CONCLUSION

Include a Discussion that summarizes (but does not merely repeat) your conclusions and elaborates on their implications. There should be a paragraph outlining the limitations of your results and interpretation, as well as a discussion of the steps that need to be taken for the findings to be applied. Please avoid claims of priority.

Acknowledgments

Anyone who made a contribution to the research or manuscript, but who is not a listed author, should be acknowledged (with their permission). Note that Research Articles require author contributions, funding, and competing interest statements. Types of acknowledgements include:

Author Contributions

Describe contributions of each author to the paper, using the first initial and full last name.

Examples:
"S. Zhang conceived the idea and designed the experiments."
"E. F. Mustermann and J. F. Smith conducted the experiments."
"All authors contributed equally to the writing of the manuscript."

Funding

Name financially supporting bodies (written out in full), followed by the funding awardee and associated grant numbers (if applicable) in square brackets.

Example:
"This work was supported by the Engineering and Physical Sciences Research Council [grant numbers xxxx, yyyy]; the National Science Foundation [grant number zzzz]; and a Leverhulme Trust Research Project Grant."

Data Availability

A data availability statement is compulsory for all research articles. This statement describes whether and how others can access the data supporting the findings of the paper, including 1) what the nature of the data is, 2) where the data can be accessed, and 3) any restrictions on data access and why.

References

[1] V. Mannam, "Super-resolution (SR) Fluorescence Microscopy dataset," Feb. 2021. DOI: 10.7274/24732666.v1. [Online]. Available: https://curate.nd.edu/articles/dataset/Super-resolution_SR_Fluorescence_Microscopy_dataset/24732666.

[2] T. Albuquerque, L. Rosado, R. Cruz, M. J. M. Vasconcelos, T. Oliveira, and J. S. Cardoso, "Rethinking low-cost microscopy workflow: Image enhancement using deep based extended depth of field methods," *Intelligent Systems with Applications*, vol. 17, p. 200 170, 2023, ISSN: 2667-3053. DOI: https://doi.org/10.1016/j.iswa.2022.200170. [Online]. Available: https://www.sciencedirect.com/science/article/pii/S2667305322001077.

Supplementary Materials may include additional author notes—for example, a list of group authors.