




# PLOS template

Name1 Surname<sup>1,2</sup>, Name2 Surname<sup>2</sup>, Name3 Surname<sup>2,3</sup>, Name4 Surname<sup>2</sup>, Name5 Surname<sup>2</sup>, Name6 Surname<sup>2</sup>, Name7 Surname<sup>1,2,3\*</sup>, with the Lorem Ipsum Consortium<sup>†</sup>

- 1 Affiliation Dept, Institution Name, City, State, Country,
- 2 Affiliation Center, Institution Name, City, State, Country,
- 3 Affiliation Program, Institution Name, City, State, Country,

These authors contributed equally to this work.

▣Current Address: Dept/Program/Center, Institution Name, City, State, Country

†Deceased

¶Membership list can be found in the Acknowledgments section.

\* correspondingauthor@institute.edu

## Abstract

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur eget porta erat. Morbi consectetur est vel gravida pretium. Suspendisse ut dui eu ante cursus gravida non sed sem. Nullam sapien tellus, commodo id velit id, eleifend volutpat quam. Phasellus mauris velit, dapibus finibus elementum vel, pulvinar non tellus. Nunc pellentesque pretium diam, quis maximus dolor faucibus id. Nunc convallis sodales ante, ut ullamcorper est egestas vitae. Nam sit amet enim ultrices, ultrices elit pulvinar, volutpat risus.

## Author summary

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur eget porta erat. Morbi consectetur est vel gravida pretium. Suspendisse ut dui eu ante cursus gravida non sed sem. Nullam sapien tellus, commodo id velit id, eleifend volutpat quam. Phasellus mauris velit, dapibus finibus elementum vel, pulvinar non tellus. Nunc pellentesque pretium diam, quis maximus dolor faucibus id. Nunc convallis sodales ante, ut ullamcorper est egestas vitae. Nam sit amet enim ultrices, ultrices elit pulvinar, volutpat risus.

## General guidelines for this Quarto template

This template shows how to use PLOS template from <https://plos.org/resources/writing-center/>. Each journal has a submission guideline page; please refer to it.

- PLOS Biology
- PLOS Climate
- PLOS Digital Health
- PLOS Computational Biology
- PLOS Genetics
- PLOS Global Public Health

- PLOS Medicine
- PLOS Neglected Tropical Diseases
- PLOS ONE
- PLOS Pathogens
- PLOS Sustainability and Transformation
- PLOS Water

This template file contains some guidelines and recommendation initially given in `plos_latex_template.tex` that can be found in [https://github.com/quarto-journals/plos/blob/main/style-guide/plos\\_latex\\_template.tex](https://github.com/quarto-journals/plos/blob/main/style-guide/plos_latex_template.tex)

## Metadata

### About journal id field

This is an identifier for the target journal. It can be derived from <https://plos.org/resources/writing-center/> following submission guidelines link, the identifier is the part of the URL after `https://journals.plos.org/<id>/s/submission-guidelines`

Journal	id
PLOS Biology	plosbiology
PLOS Climate	climate
PLOS Digital Health	digitalhealth
PLOS Computational Biology	ploscompbiol
PLOS Genetics	plosgenetics
PLOS Global Public Health	globalpublichealth
PLOS Medicine	plosmedicine
PLOS Neglected Tropical Diseases	plosntds
PLOS ONE	plosone
PLOS Pathogens	plospathogens
PLOS Sustainability and Transformation	sustainabilitytransformation
PLOS Water	water

Example :

```
format:
  plos-pdf:
    journal:
      id: water
```

### Once your paper is accepted for publication,

Do not include track change in LaTeX file and leave only the final text of your manuscript. PLOS recommends the use of `latexdiff` to track changes during review, as this will help to maintain a clean tex file. Visit <https://www.ctan.org/pkg/latexdiff?lang=en> for info or contact us at [latex@plos.org](mailto:latex@plos.org).

*This should not be a problem using Quarto but still a recommendation from the journal*

There are no restrictions on package use within the LaTeX files except that no packages listed in the template may be deleted.

Please do not include colors or graphics in the text. Color can be used to apply background shading to table cells only.

The manuscript LaTeX source should be contained within a single file (do not use `\input`, `\externaldocument`, or similar commands).

Please contact [latex@plos.org](mailto:latex@plos.org) with any questions submission guidelines. For anything Quarto related, please open an issue in <https://github.com/quarto-journals/plos>. If this is related to the LaTeX template, this could also be a good idea to contact PLOS directly.

## Figures and Tables

Please include tables/figure captions directly after the paragraph where they are first cited in the text.

### Figures

However, do not include graphics in your manuscript

- Figures should be uploaded separately from your manuscript file.
- Figures generated using LaTeX should be extracted and removed from the PDF before submission.
- Figures containing multiple panels/subfigures must be combined into one image file before submission.

**This means that, depending on how you create your figure, a manual post processing will be required.**

For figure citations, please use “Fig” instead of “Figure”. This has been made the default in this Quarto format:

```
crossref:  
fig-title: Fig
```

Also, place figure captions after the first paragraph in which they are cited.

See PLOS figure guidelines at <https://journals.plos.org/plosone/s/figures> and in your specific journal guideline.

### Tables

Tables should be cell-based and may not contain:

- spacing/line breaks within cells to alter layout or alignment
- do not nest tabular environments (no tabular environments within tabular environments)
- no graphics or colored text (cell background color/shading OK)

See PLOS table guidelines at <http://journals.plos.org/plosone/s/tables> and in your specific journal guideline.

For tables that exceed the width of the text column, use the `adjustwidth` environment as illustrated in the example table in text below. If you are in this case, you’ll either need to manually post process the `.tex` file and recreate the PDF, or you need to include LaTeX tables directly.

Also, place tables after the first paragraph in which they are cited.

## Equations, math symbols, subscripts, and superscripts

Below are a few tips to help format your equations and other special characters according to our specifications. For more tips to help reduce the possibility of formatting errors during

conversion, please see our LaTeX guidelines at <http://journals.plos.org/plosone/s/latex>

- For inline equations, please be sure to include all portions of an equation in the math environment. For example,  $x^2$  is incorrect; this should be formatted as  $x^2$  (or  $x^2$  if the romanized font is desired).
- Do not include text that is not math in the math environment. For example, CO<sub>2</sub> should be written as  $\text{CO}_2$  instead of CO<sub>2</sub>.
- Please add line breaks to long display equations when possible in order to fit size of the column.
- For inline equations, please do not include punctuation (commas, etc) within the math environment unless this is part of the equation.
- When adding superscript or subscripts outside of brackets/braces, please group using  $\{ \}$ . For example, change "[U(D, E,  $\gamma$ )]<sup>2</sup>" to " $\{ [U(D, E, \gamma) ] \}^2$ ".
- Do not use  $\text{\texttt{\textbackslash cal}}$  for caligraphic font. Instead, use  $\text{\texttt{\textbackslash mathcal}}$

## Title and headings

Please use “sentence case” for title and headings (capitalize only the first word in a title (or heading), the first word in a subtitle (or subheading), and any proper nouns).

PLOS does not support heading levels beyond the 3rd, meaning no 4th level headings. Header 4 levels ##### is used for the *Supporting information* section

## Abstract and author summary

Abstract must be kept below 300 words.

Author Summary must be kept between 150 and 200 words and first person must be used.

For PLOS ONE, author summary won’t be included as it is not valid for submission.

## Supplementary information syntax

Use this markdown syntax to create the supplementary information block with a custom block of class .supp

```
::: {.supp}
## SI TYPE {#id}
```

First paragraph is a title sentence that will be bold. (required)

Optionnaly, add descriptive text after the title of the item. No third paragraph is allowed

```
:::
```

They need to be referenced in text using `nameref` by using this syntax `[id](.nameref)` where `id` will be the id used on the header.

## References

Within Quarto, `natbib` will be used with `plos2015.bst`, which expect numeric style citation. Use brackets for references, e.g `[@ref]`.

## Quarto features limitation

Some features are not working with this format in PDF:

- Callouts
- Code highlighting customization (border left, background color)

---

Following content of this document is from the LaTeX template content to demo journal style.

---

## Introduction

Lorem ipsum dolor sit [?] amet, consectetur adipiscing elit. Curabitur eget porta erat. Morbi consectetur est vel gravida pretium. Suspendisse ut dui eu ante cursus gravida non sed sem. Nullam Eq 1 sapien tellus, commodo id velit id, eleifend volutpat quam. Phasellus mauris velit, dapibus finibus elementum vel, pulvinar non tellus. Nunc pellentesque pretium diam, quis maximus dolor faucibus id. [?] Nunc convallis sodales ante, ut ullamcorper est egestas vitae. Nam sit amet enim ultrices, ultrices elit pulvinar, volutpat risus.

$$P_Y = \underbrace{H(Y_n) - H(Y_n|\mathbf{V}_n^Y)}_{S_Y} + \underbrace{H(Y_n|\mathbf{V}_n^Y) - H(Y_n|\mathbf{V}_n^{X,Y})}_{T_{X \rightarrow Y}} \quad (1)$$

## Materials and methods

### Etiam eget sapien nibh

Nulla mi mi, Fig 1 venenatis sed ipsum varius, volutpat euismod diam. Proin rutrum vel massa non gravida. Quisque tempor sem et dignissim rutrum. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi at justo vitae nulla elementum commodo eu id massa. In vitae diam ac augue semper tincidunt eu ut eros. Fusce fringilla erat porttitor lectus cursus, vel sagittis arcu lobortis. Aliquam in enim semper, aliquam massa id, cursus neque. Praesent faucibus semper libero.

**Figure 1. Bold the figure title.** Figure caption text here, please use this space for the figure panel descriptions instead of using subfigure commands. A: Lorem ipsum dolor sit amet. B: Consectetur adipiscing elit.

## Results

Results and Discussion can be combined.

Nulla mi mi, venenatis sed ipsum varius, Table ?? volutpat euismod diam. Proin rutrum vel massa non gravida. Quisque tempor sem et dignissim rutrum. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi at justo vitae nulla elementum commodo eu id massa. In vitae diam ac augue semper tincidunt eu ut eros. Fusce fringilla erat porttitor lectus cursus, S1 Video vel sagittis arcu lobortis. Aliquam in enim semper, aliquam massa id, cursus neque. Praesent faucibus semper libero.

% Place tables after the first paragraph in which they are cited.

““

Table 2. Table caption Nulla mi mi, venenatis sed ipsum varius, volutpat euismod diam.

Heading1				Heading2			
cell1row1	cell2 row 1	cell3 row 1	cell4 row 1	cell5 row 1	cell6 row 1	cell7 row 1	cell8 row 1
cell1row2	cell2 row 2	cell3 row 2	cell4 row 2	cell5 row 2	cell6 row 2	cell7 row 2	cell8 row 2
cell1row3	cell2 row 3	cell3 row 3	cell4 row 3	cell5 row 3	cell6 row 3	cell7 row 3	cell8 row 3

Table notes Phasellus venenatis, tortor nec vestibulum mattis, massa tortor interdum felis, nec pellentesque metus tortor nec nisl. Ut ornare mauris tellus, vel dapibus arcu suscipit sed.

LOREM and IPSUM nunc blandit a tortor

3rd level heading

Maecenas convallis mauris sit amet sem ultrices gravida. Etiam eget sapien nibh. Sed ac ipsum eget enim egestas ullamcorper nec euismod ligula. Curabitur fringilla pulvinar lectus consectetur pellentesque. Quisque augue sem, tincidunt sit amet feugiat eget, ullamcorper sed velit. Sed non aliquet felis. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris commodo justo ac dui pretium imperdiet. Sed suscipit iaculis mi at feugiat.

- 1. react
- 2. diffuse free particles
- 3. increment time by dt and go to 1

Sed ac quam id nisi malesuada congue

Nulla mi mi, venenatis sed ipsum varius, volutpat euismod diam. Proin rutrum vel massa non gravida. Quisque tempor sem et dignissim rutrum. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi at justo vitae nulla elementum commodo eu id massa. In vitae diam ac augue semper tincidunt eu ut eros. Fusce fringilla erat porttitor lectus cursus, vel sagittis arcu lobortis. Aliquam in enim semper, aliquam massa id, cursus neque. Praesent faucibus semper libero.

- First bulleted item.
- Second bulleted item.
- Third bulleted item.

Discussion

Nulla mi mi, venenatis sed ipsum varius,see Table ?? volutpat euismod diam. Proin rutrum vel massa non gravida. Quisque tempor sem et dignissim rutrum. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi at justo vitae nulla elementum commodo eu id massa. In vitae diam ac augue semper tincidunt eu ut eros. Fusce fringilla erat porttitor lectus cursus, vel sagittis arcu lobortis. Aliquam in enim semper, aliquam massa id, cursus neque. Praesent faucibus semper libero [? ].

Conclusion

CO<sub>2</sub> Maecenas convallis mauris sit amet sem ultrices gravida. Etiam eget sapien nibh. Sed ac ipsum eget enim egestas ullamcorper nec euismod ligula. Curabitur fringilla pulvinar lectus consectetur pellentesque. Quisque augue sem, tincidunt sit amet feugiat eget, ullamcorper sed velit.

Sed non aliquet felis. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris commodo justo ac dui pretium imperdiet. Sed suscipit iaculis mi at feugiat. Ut neque ipsum, luctus id lacus ut, laoreet scelerisque urna. Phasellus venenatis, tortor nec vestibulum mattis, massa tortor interdum felis, nec pellentesque metus tortor nec nisl. Ut ornare mauris tellus, vel dapibus arcu suscipit sed. Nam condimentum sem eget mollis euismod. Nullam dui urna, gravida venenatis dui et, tincidunt sodales ex. Nunc est dui, sodales sed mauris nec, auctor sagittis leo. Aliquam tincidunt, ex in facilisis elementum, libero lectus luctus est, non vulputate nisl augue at dolor. For more information, see S1 Appendix.

## Supporting information

- S1 Fig. Bold the title sentence.** Add descriptive text after the title of the item (optional).
- S2 Fig. Lorem ipsum.** Maecenas convallis mauris sit amet sem ultrices gravida. Etiam eget sapien nibh. Sed ac ipsum eget enim egestas ullamcorper nec euismod ligula. Curabitur fringilla pulvinar lectus consectetur pellentesque.
- S1 File. Lorem ipsum.**
- S1 Video. Lorem ipsum.** Maecenas convallis mauris sit amet sem ultrices gravida. Etiam eget sapien nibh. Sed ac ipsum eget enim egestas ullamcorper nec euismod ligula. Curabitur fringilla pulvinar lectus consectetur pellentesque.
- S1 Appendix. Lorem ipsum.** Maecenas convallis mauris sit amet sem ultrices gravida. Etiam eget sapien nibh. Sed ac ipsum eget enim egestas ullamcorper nec euismod ligula. Curabitur fringilla pulvinar lectus consectetur pellentesque.
- S1 Table. Lorem ipsum.** Maecenas convallis mauris sit amet sem ultrices gravida. Etiam eget sapien nibh. Sed ac ipsum eget enim egestas ullamcorper nec euismod ligula. Curabitur fringilla pulvinar lectus consectetur pellentesque.

## Acknowledgments

Cras egestas velit mauris, eu mollis turpis pellentesque sit amet. Interdum et malesuada fames ac ante ipsum primis in faucibus. Nam id pretium nisi. Sed ac quam id nisi malesuada congue. Sed interdum aliquet augue, at pellentesque quam rhoncus vitae.

## References