

## Authorship Guidelines

Updated 23 June 2023

1. Authorship order is determined by intellectual contribution to the study in descending order, with the exception of the last author position. Intellectual contributions can include:
  - a. designing the project, including the general scientific question or specific methods
  - b. analyzing results
  - c. drafting the manuscript (usual first author responsibility)
  - d. providing feedback on the manuscript beyond normal review (e.g. revising)
  - e. Additionally, data collection may qualify a person for authorship if it is agreed to beforehand with the other authors of the study. If someone is compensated for data collection via course credit, money, or an exchange of labor (e.g. one person collects ants in exchange for frogs), authorship is not usually warranted.
2. If one of the authors plays a clear supervisory or critical organizational role, they often take the last author position, which is conventionally reserved for the principal investigator. It is recognized that the last author typically has a significant intellectual contribution.
  - a. When two people have contributed equally, sometimes one goes first and the other goes last, even if neither is technically the principal investigator.
3. If it is the consensus that two or more people have contributed equally and indispensably to a study and the last author position is already taken, those equal and indispensable contributors may share first authorship.
4. Shared first authors are listed in alphabetical order, or reverse alphabetical order, determined by coin flip.
5. Lead authorship.
  - a. Every paper needs to have a lead author who is actually in charge of getting the manuscript published, and who can make executive decisions about the direction of the paper.
  - b. The lead author is decided by consensus among all authors.
  - c. The lead author must be either a first or last author.
  - d. The lead author is responsible for the integrity of the manuscript.
  - e. The lead author ensures that all authors agree about the final manuscript.
  - f. The lead author must see a manuscript to the end of the publication process.
  - g. Traditionally, the corresponding author is the lead author, and the one who pays the page charges, although this is rarely adhered to and more often decided ad hoc depending on who has funding available and who will best be able to answer queries about the manuscript.
  - h. Sometimes lead authorship switches when someone can't devote the necessary time to finishing a manuscript (first authorship can sometimes switch too depending on how much additional work is done).

6. Graduate student authorship

- a. Students should agree with their mentors ahead of time what their role in a study will be, and what authorship level they will receive for it.
- b. When a student works on a project that someone else (other than their principle investigator) has already begun, they should be awarded authorship for it, but the level of authorship will depend on their intellectual contribution.
- c. When a student works on a project their PI has designed, if they take ownership of a project and see it through to its final publication, they should be first (and lead) authors.
- d. Students should be made corresponding author as a courtesy to advance their careers whenever possible, even if they cannot afford the page charges.

7. Undergraduate student authorship

- a. Guidelines are the same as for any other authorship, but typically it will be difficult for undergraduates to make intellectual contributions in their first semester or two of research. Instead, they will usually receive course credit or money, and training in research methods, as compensation for their work.
- b. Authorship at the undergraduate level is a significant accomplishment and dedicated students will be encouraged to pursue it once they have gained experience in research.