Authorship

When doing any collaborative work, discussing research plans and expected contributions early and frequently is essential to avoid problems down the road. This is particularly the case when doing interdisciplinary research, as different fields have different vocabularies, norms about authorship and sets of target journals.

General Guidelines

1. The following are the minimum standards to qualify for authorship:

    a. ***Contribute meaningfully to the research***: All authors should have contributed substantially to the reported research. This can be understood broadly, as per *Nature*'s guidelines, where authors are expected to contribute:

        • To the conception or design of the work;

        • To the acquisition, analysis, or interpretation of data; or

        • To the creation of new software.

    b. ***Contribute to the writing of the manuscript***: Authors should also all participate in the drafting and editing process. The extent to which a given author should be expected to contribute is up to the discretion of the first author. Researchers who contribute meaningfully to the research but who do not contribute to the writing process should be listed in the Acknowledgement section.

2. Be inclusive! Err on the side of including contributors as authors. When you make your writing plan, think about how where each prospective author could be expected to contribute and how to engage them in the writing process. If they decline, drop out of touch, or actively ask to not be included for authorship, then remove them from the author list. And it's bad practice to drop an author without a discussion among the entire team (including the potentially dropped author).

3. Papers are dynamic until they are submitted, and the scope of a manuscript is likely to evolve from first outline to final draft. As a result, the author list is never truly final until the paper is ready to be submitted. Authors may be added or dropped as needed, but as with the previous point, it is good practice never to drop an author without a discussion with all authors.

4. The junior researcher who leads the research will be first author unless they decline to take on the associated responsibilities. The first author:

   - Drafts the outline and paper contract; and

   - Makes final decisions about the author line, scope of the paper, writing, and figure design;

   - Leads the revision process.

5. The first author will usually also be the corresponding author, as they led the research and are likely to have the best overall understanding of the methods and results. The corresponding author is highlighted as the point of inquiry about the paper. Additionally, the corresponding author:

   - Submits the paper and any revisions;

   - Places a preprint on an appropriate preprint server and updates as new revisions are made;

   - Makes postprints available if the paper was not published in an open-access channel;

   In certain cases where the first author may not want to take on these responsibilities, a different author can be selected as corresponding author (likely Vivek). This could be, *e.g.*, if the first author intends to go into industry and does not want to have to answer emails about the research in addition to their job responsibilities. If the first author does not want to be the corresponding author, they should bring this up to the author team as soon as they have made that decision. However, the first author will still be responsible for leading the revision process for any needed resubmissions.

6. Have an open discussion about the placement of other authors on the author line. Vivek will likely (but not always) be the senior author for research coming out of the group, and therefore listed last. For other authors, inquire about author-line placement norms in the relevant field, and try to place authors in a spot which will be helpful to them and which accurately reflects their contributions to the research. Senior authors will typically be listed towards the back, and authors who do more active research on the project will be listed earlier on.