Kirby lab authorship guidelines

Authorship credit:
Authorship on published, peer-reviewed manuscripts is an essential marker of productivity and success on a scientific CV. A scientist’s authorship record will be used to evaluate them at every stage of career, for employment, funding, program admission, conference invitations etc. All papers published by the Kirby lab will follow a set of guidelines based on the International Committee of Medical Journal Editors guidelines for determining authorship inclusion. The goal of following these guidelines is to assure that authorship has meaning and is meritoriously and fairly awarded.

In the Kirby lab, authorship on a paper requires the following 4 criteria be met:

1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
2) Drafting the work or revising it critically for important intellectual content as appropriate for your training level; AND
3) Final approval of the version to be published; AND
4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

For point 4, this does not mean you swear to the absolute accuracy of others’ work. Rather the ICJME describes this responsibility as:

“In addition to being accountable for the parts of the work he or she has done, an author should be able to identify which co-authors are responsible for specific other parts of the work. In addition, authors should have confidence in the integrity of the contributions of their co-authors.”

If a potential author meets criteria 1, they will be given ample opportunity to meet criteria 2 and 3. However, if at submission time, an author becomes unresponsive, their authorship credit may be removed. Authorship is not guaranteed based solely on past contributions prior to publication. You must continue to contribute to manuscript preparation as appropriate for your role and training level until it is published. For undergraduates, this usually means that you understand the experiments you participated in and review/approve the final manuscript. For graduate students and postdocs, more critical reading of manuscripts is generally expected based on your more advanced training level.

Authorship order:
Authorship order on published manuscripts matters a great deal in bioscience careers. Generally, the first author is the person who drives the work forward, taking charge of the project design, execution and presentation. This is typically a graduate student or postdoc, but not always. The last author is generally the person who oversaw the project direction as a whole, providing guidance, mentorship, key ideas and perhaps the initial idea for the project. This is typically the PI, but not always. Note, the training level or job description of an individual does not change their eligibility for any level of authorship. Authorship is based on effort expended and the publishable nature of the final product, not lab seniority, job title or need for a publication. Specific criteria for different authorships are below:

First author is the person who best meets all of the following criteria:

1) Drove the work forward consistently through most of the project’s lifespan, but with particular emphasis on bringing the project to the publishable state (i.e. the moneyball principle of scientific publishing)

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1This is an adaptation of an idea from baseball that claims that resources are best focused on specific traits that are statistically validated to yield success, not just ones that seem glamourous or popular. In science, I view this idea as supporting the notion that the most useful aspect of scientific performance is final publication. Three world-changing projects that linger at 90% done are worth less than an incremental advance that is published promptly.
2) Participated in every aspect of the project, including:
   a. design
   b. experimental execution
   c. data analysis
   d. manuscript preparation
3) Primarily responsible for writing the manuscript and formatting for journal specifications
4) Primarily responsible for guiding revisions, if necessary
5) Primarily responsible for reformatting/rewriting for resubmission at new journals, if necessary
6) May have provided vision and big picture context for the project

Second author is the person who, aside from the first author, participated most completely in design, experimental execution, data analysis, and manuscript preparation for the project as a whole. Toward this end, this person may have:

1) contributed whole figures or panels independently, OR
2) substantially contributed to many figures or panels while working with someone else (typically the first author), OR
3) taken charge of revisions for a paper begun by a first author who is unwilling or unable to complete them.
   a. Depending on the nature and extent of the revisions, this may also be a case that warrants co-first authorship, or assumption of first author position.

Last author is the person who best meets the following criteria:

1) Provided vision and big picture context for the project
2) Provided guidance, mentorship and resources throughout the lifespan of the project
3) Participated heavily in manuscript preparation, including storyline brainstorming and editing/writing
4) Helped guide journal selection
5) Communicated with editors as an active advocate for the work during submission and revision
6) Created opportunity for fruitful collaborations that substantially advanced the project’s aims

Middle authors: In the case of manuscripts with more than 3 authors, middle authors are those that meet the 4 authorship criteria but are not the best fit for first, second or last authorship. These middle authors are ordered roughly according to time/effort/value of product for the manuscript.

Corresponding author: Credit as corresponding author is independent of author order, though it typically aligns with the last author/PI. Corresponding author implies a PI-like role in the intellectual foundations and guidance of a project. The corresponding author is also responsible for communicating with editors throughout the submission and revision process. In special cases, a particularly independent, advanced trainee may qualify for corresponding or co-corresponding authorship on a manuscript that arose from their own ideas and that they pursued largely independent of guidance from the PI. In such cases, the trainee may still be best situated as first author but with an attribution of (co)corresponding author. The trainee may also be best situated as a last and (co) corresponding author, particularly if they have completed and submitted the work in their own, independent lab. In either case, such a trainee is typically an advanced postdoc in transition to an independent position elsewhere. Corresponding or co-corresponding designations will be agreed upon by the PI and the other author at submission time, taking in to account the above description.

Shared authorship: This is a scenario to be avoided, if at all possible. The primary reason is that, despite attempts to denote “equal” contribution, many employers, funding agencies and colleagues still perceive
a meaningful difference based on the order names are listed. However, in some unique cases, more than one person will amply meet all the criteria for a certain level of authorship, typically first authorship.

One of the most common examples is when someone leaves the lab and another member adopts the project, including substantial revisions. Ideally, authorship level will be discussed with all affected authors and the PI (me) before a new author begins any work and an agreement will be made about what effort level will warrant what level of authorship. If a shared authorship is going to be pursued, an explicit agreement about author order within the shared authorship should be reached before work is begun.

The second most common example is when two projects with two different leaders join together to make a single larger manuscript, one that would supposedly have much greater impact than either project standing alone. In this case, projects will only be joined and first authorship will be shared only if both first authors and the PI agree on the merger and also agree on an author order within the shared authorship. If an agreement cannot be reached, the projects will be published separately.

If you have a shared authorship listed on your CV, it is most prudent to list the author order as it is listed on the published paper. While some researchers consider it acceptable to reverse the order of a shared authorship to put your own name first on your own CV, there are some researchers that consider such a change to be dishonest and potentially fraudulent. It is not worth creating doubt about your integrity to make that change. List the names as they appear in the publication and add a symbol to denote equal authorship.

Authorship disagreements: If you are worried about the authorship situation on a project you are currently working on, let me know as soon as possible. Settling authorship before substantial work is done, including re-negotiating when the scope of work requires changes, is far better than trying to make a decision after everyone has already contributed their full effort. If, at publication time, a disagreement about authorship order arises, I will consult with each affected author and then make a final decision of authorship order based on my best effort to apply the lab authorship criteria.

Collaborations: During the course of a publication, if a collaborator is added to a study, the lead author or corresponding author will explain to other Kirby co-authors the reasoning behind their addition. When we publish with collaborators, as PI, I will do my best to adhere to our lab guidelines for authorship. However, I cannot always control other PIs, particularly if they have different policies that they feel strongly about. Though I may not be able to assure that non-Kirby lab authors meet our authorship guidelines, I will defend the authorship positions of Kirby lab members to the best of my ability.

Final decisions on authorship: The PI, as the funder and chaperone of the project, has ultimate say in authorship and reserves the right to add authors to advance the project’s aims and to render final decisions on all authorship/authorship order disputes.