



Cornell University

2015 Winter Responsible Conduct of Research (RCR) Symposium: Authorship January 16, 2015

INTRODUCTION

The goal of this symposium is to promote discussion of authorship. Questions that the individual groups should consider include these: *What are the ethical considerations that underlie authorship decisions? What are the criteria typically used in making authorship decisions? In a list of authors, what is the significance of the order of names in the list? How can conflicts regarding authorship be avoided? If conflicts about authorship do arise, what are the available paths to resolve those conflicts?* It is not essential that each group discuss all of the cases or all of the scenarios in each case. For some of the questions that may come up, clear ethical and professional considerations may be apparent that should lead one to a straightforward answer. In other cases variations in practices may occur across disciplines, or a spectrum of answers may be acceptable, depending on the circumstances, and therefore no one “right” or “wrong” answer is obvious.

In discussing the cases, focus on why an action is acceptable or unacceptable:

- Who has a stake in the action?
- What might be the consequences of the action?
- What might be the obligations of the protagonist?
- What professional norms and values might give rise to those obligations?

At the end of the 90 minute discussion period, each group should formulate one to three questions that they think would be of general interest for the panel to discuss. The panel moderator will select a few of these questions and address them to the panelists.

After the symposium, each of the graduate student or postdoc participants is expected to lead or facilitate a discussion in his/her own research group, similar to the one in which the student or postdoc participated in the symposium. The Principal Investigator for the research group, and Director of Graduate Studies (or someone designated by the DGS), may want to record which research groups carried out such discussions, and may want to collect feedback on how successful this exercise turns out to be. Such data may be useful for NIH Training Grant applications.

CASE STUDIES

Case 1: What kinds of contributions warrant co-authorship?

(Modified from: [U.S. Dept. of Health & Human Services, Office of Research Integrity](#))

** NOTE THAT THIS CASE HAS THREE DIFFERENT HYPOTHETICAL SCENARIOS (A, B, and C). THINK ABOUT EACH SCENARIO INDEPENDENTLY, FOCUSING ON HOW EACH ILLUMINATES DIFFERENT ASPECTS OF AUTHORSHIP.

Lisa holds a PhD from a prestigious American state university and has become an expert in certain aspects of neurobiology. Lisa was originally trained in Malaysia and English is her second language. She has some difficulty writing scientific papers in appropriate and nuanced English; hence, she typically asks colleagues to review and edit her writing. Lisa has taken a senior postdoctoral fellowship in a large laboratory at a famous institution. She enjoys collaborating with colleagues in her lab by sharing ideas and supporting them in their research. She sometimes asks for help with her writing and is happy to acknowledge that assistance in her papers.

[Scenario A] One of Lisa's postdoc colleagues in her lab makes substantial changes related to use of the English language in one of her manuscripts and then returns the manuscript to her with his name included in the list of authors. Lisa is stunned; although the colleague clearly spent a lot of time improving the writing, he did not substantially contribute scientific ideas or contribute to the execution of the experiments. A similar situation occurs with a second manuscript, involving a different colleague from the lab. Although she sometimes feels that her two colleagues should not be entitled to be co-authors, and feels that she is being taken advantage of, Lisa does not confront them about authorship. She feels blessed with an opportunity to work on intellectually exciting projects at this world-class university. She does not want to do anything to jeopardize that opportunity, and so what she views as primarily her papers end up having multiple authors.

[Scenario B] Lisa's lab boss (PI), Prof. Henry Hathaway, gives his senior postdocs almost full independence to pursue the research that they want, as long as it falls under the general theme of one of his several NIH grants. In fact, he has had almost no input into Lisa's experiments for the paper she is now writing. Also, Lisa has come with her own funding, not only for her postdoc fellowship itself, but also for her research expenditures. When she shows the PI the manuscript that she wrote, he says that it looks fine, makes minor corrections, and returns it to her with his name as the senior author (last author, corresponding author). Lisa does not believe that Hathaway deserves credit as a co-author on this paper. She talks with him in an oblique manner about it, but does not clearly ask for an explanation or request that he not be listed as an author.

[Scenario C] After several years there, Lisa leaves the Hathaway lab, taking an independent teaching and research position as Assistant Professor at a university. She plans to submit her first NIH grant proposal on a topic that follows up on the research that she had carried out in Hathaway's lab. While working on this grant proposal, she happens to meet a good friend who has recently served on an NIH study section. She tells her friend the title of her proposal and outlines for him the experiments that she proposes to carry out, which in part are straightforward extensions of her previous research (the "bread and butter" experiments that typically comprise part of successful grant proposals), and in part are innovative approaches that she hopes will put the grant into the fundable category. The ideas for the innovative new research are her own, but she had discussed them with people in the Hathaway lab, including the PI himself, in her last year there. Lisa's friend shows consternation and

hesitation on hearing her description, but then confidentially relates to Lisa that in the recent study section on which he served, a grant proposal from Hathaway was reviewed with a title very similar to the one she plans for her proposal, and with many of the same proposed experiments, including the innovative ones she is so proud of. Lisa is shocked and crestfallen.

Discussion Questions:

- What are the essential differences in the roles of Lisa's co-authors in scenarios [A], [B], and [C]?
- Do you agree with Lisa that her colleagues or PI did not have the right to be co-authors on the paper? Why or why not?
- What would you advise Lisa to do in these three hypothetical examples?
- Fundamentally, what is the difference between authorship on a paper and authorship on a grant proposal (PI, Co-PI, Co-I)?
- What additional ethical issues, besides authorship itself, are involved in [C], compared with [A] and [B]?
- How might the problems Lisa experienced have been avoided, or at least mitigated, in these three cases?

Case 2: Who is an appropriate author?

(Modified from: Case Study #1, [Columbia University Center for New Media Teaching & Learning](#))

**** NOTE THAT LIKE CASE 1, THIS CASE HAS THREE DIFFERENT SCENARIOS (A, B, and C). THINK ABOUT EACH HYPOTHETICAL SCENARIO INDEPENDENTLY, FOCUSING ON HOW IT ILLUMINATES DIFFERENT ASPECTS OF DECISIONS ABOUT AUTHORSHIP.**

Larry Jones is a PhD student at a small university. As the last part of his dissertation, and with the approval of his thesis advisor, he sets up a six-month internship at a prestigious larger institution in order to learn some new molecular biological techniques. Larry contacts the laboratory leader, Dr. Henry Morgan, a world-renowned scientist, to learn these techniques, which are relevant for his research, and also to foster a relationship with Dr. Morgan, who is well-connected in his field of biochemistry.

When Larry comes to Dr. Morgan's laboratory, he is greeted warmly as a member of the team. Dr. Morgan, the graduate students, the postdoctoral fellows, and the technicians include Larry in the weekly laboratory meetings, in which everyone participates in a free exchange of ideas about the ongoing projects in the laboratory, as is typical for research groups. In the meetings, Larry finds some of the ideas helpful but others less so, and gives his point of view concerning the ongoing projects. In addition, he meets weekly, one-on-one, with Dr. Morgan, who provides significant scientific advice and one or two specific recommendations, which advance his work and move him in a slightly different direction. He discusses the results of his research with his mentor back at his home college, Dr. Cynthia Marquette, by weekly e-mails and occasional phone calls, interactions that also push ahead the thesis project that he has been working on in her lab for three years.

Larry makes good progress during the six months he spends in Dr. Morgan's laboratory, and he drafts a paper incorporating some of the findings. Larry puts himself down as first author, Dr. Morgan as second author, and Dr. Marquette as last author on the paper. At the end of the paper, he writes an acknowledgment to a postdoc, Karen Lombardy, who showed him several techniques and worked with him on a few experiments.

Larry based his listing of authors on his understanding of the guidelines put forth by the International Committee of Medical Journal Editors (ICMJE), which say that an author is someone who (a) has made significant contributions to the conception and design, or to the acquisition of data, or to the analysis and interpretation of data; (b) was involved in drafting the article or revising it critically for important intellectual content; (c) provided final approval of the version to be published; and (d) agrees 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. The guidelines, which are followed by approximately 500 medical journals, say that all four criteria must be met for authorship.

[Scenario A] Larry gives Dr. Morgan and Dr. Marquette a draft of his manuscript for review, asking them to give feedback in the next week. Dr. Marquette sends several comments by e-mail to Larry, who is pleased that his thesis mentor is basically very positive about the draft and whose comments are easy to incorporate into a revised draft. Dr. Morgan sends his comments back to Larry as well, and they also are basically positive and are straightforward for him to address. But in addition, Dr. Morgan changes the authorship list to include not only Larry as first author and himself and Dr. Marquette, but also Karen, the postdoc in the lab who helped Larry with some techniques.

Larry is shocked that Dr. Morgan added Karen Lombardy as an author. Larry responds to the PI by reciting the ICMJE guidelines, as he understands them, maintaining that the major intellectual and physical work in preparing the paper was done by him and by Dr. Marquette and Dr. Morgan. Dr. Morgan is equally surprised by Larry's feelings, responding that Larry benefited from the input of all the other lab members and in particular Karen. Dr. Morgan adds that a graduate student in the laboratory is writing a paper that is based on some exciting findings for which Larry contributed interpretative insight, and that he intends that Larry will be included in the list of authors.

Dr. Morgan insists to Larry that the contributions of the postdoc who he added to the list of authors were sufficient to satisfy the ICMJE guidelines. Further, he adds that the idea of a scientist acting as an independent entity is an outdated concept, and that in the present era those who contribute theoretical or practical ideas and suggestions that improve the final story as it is written are expected to be co-authors with the caveat that an author has the choice to remove their name from a paper.

[Scenario B] Suppose Karen Lombardy not only helped Larry in the modest way described above, but that she obtained the data for three of the six figures in the manuscript. Realizing that these figures are important parts of the paper, Larry includes Karen's name in the list of authors, placing Karen's second, after his own which is first. Dr. Morgan reads and makes minor corrections on the manuscript, same as in [A]. But in this scenario, he puts an asterisk after Larry's name and after Karen's name, with the notation that "these authors contributed equally to this work", in other words indicating that they are "co-first authors". Larry is upset at this change, since in his view, the project was mostly thought out by him, with help from his thesis mentor Dr. Marquette.

[Scenario C] Larry gives Dr. Morgan and Dr. Marquette a draft of his manuscript for review, asking them to provide feedback. Dr. Morgan sends his comments back to Larry, and they are basically positive and are straightforward to address. In addition, Dr. Morgan changes the order of the authors so that Morgan now is last in the list of authors, and Marquette is listed next-to-last. Marquette is unhappy with this change, but does not want to confront Morgan, given his stature in the field.

Discussion Questions:

- What are the differences in the issues underlying scenarios [A], [B], and [C]?
- Who, in the end, is in charge of making decisions about authorship?
- In a multi-author paper, how important (perceived and actual) is the order of the authors?
- Do you agree with Larry in scenario [A]? Scenario [B]? Why or why not?
- How might the differences in opinions about authorship in scenarios [A] and [B] be resolved?
- (a) What special significance is conventionally assigned to the last author in the list of authors? (b) Do you agree with Morgan's choice of authorship order in scenario [C]? Why or why not? (c) What do you think Marquette should do?
- If you were Larry and were unwilling to accept Morgan's authorship decisions, what recourse would you have here at Cornell?

Case 3: How do judgments on “quality” of research influence decisions about authorship?

(Modified from: [Online Ethics Center for Engineering and Science](#))

Upon entering the graduate program, Gary Ferguson decided to start working in the laboratory of Dr. Alex Small. He started on a project that consisted of administering and evaluating the effects of an anti-malarial agent using an animal model. Gary presented his data at weekly laboratory meetings attended by all members of the laboratory.

Ferguson and Small did not get along very well. Small believed that although he was a hard worker, Ferguson required more supervision than should be required of a PhD student, and that he was not an independent thinker. Ferguson, on the other hand, believed that Small expected too much from his students, especially those in their early years of grad school, and that the PI failed to provide adequate direction. Therefore, after completing the project, which took approximately one year, Gary decided to leave the lab. He picked a new thesis advisor in the same department, and began working in that laboratory. His lab book remained in Small’s lab, as is required in such cases. When Gary left, Small told him that his results were not sufficiently solid to merit publication.

Approximately one year later, Gary was told by a fellow student that data similar or identical to those he himself had obtained the previous year in Small’s lab had been published. The paper did not list him as an author. Gary was unhappy not to receive formal credit for what he thought was his work.

Discussion Questions:

- How should Gary proceed? If he believes that he was wronged, what avenues could he pursue to argue his case?
- Assume that the published study reported some of the data that Gary generated, but that substantial additional data also were included, and that some of Gary’s experiments needed to be repeated in order for the conclusions to be convincing. Should Gary be a co-author? Why or why not?
- What are appropriate criteria for a lab head to use in deciding the minimum “quality” of data in order for the data to be included in a paper?