Author, author!

My principal investigator (PI) was preparing a manuscript for publication and had planned to submit it to a high impact journal. After people in the department were made aware of the project and of its novelty, it was thought that the manuscript would likely be accepted.

At that point, my PI was approached by numerous clinicians and postdocs claiming that they had contributed significantly to this work and should be considered manuscript authors. Having worked closely with the first author of the project, granting authorship to these presumptive authors struck me as ridiculous. One of them claimed authorship because he had provided a common dye reagent. Another, whom we hardly ever saw in our lab, claimed it was his idea to do certain experiments that were published in the manuscript—a claim that no one could remember. And there were others.

Although my PI knew these authorship demands were unfounded, he clearly felt pressure as a nontenured faculty member to cooperate with certain postdocs because they had worked in highly productive labs of prominent tenured researchers, and my PI did not want to sour those relationships. Ultimately, there were a lot of backroom negotiations and discussions and two additional authors were added to the manuscript. In my opinion, however, they had contributed nothing to the manuscript.

The paper was eventually accepted in a very influential journal. So it was quite ironic to have our Medical School, a few months later, publish an editorial chastising the increasing number of "phantom" authors on papers that were being published by the School's researchers.

Expert Opinion

Anyone who has been in a research environment for more than a year has probably observed or been involved in some sort of authorship dispute. As academic 'currency,' authorship is the way credit is assigned. It has become the primary way researchers are judged and careers are made. A major contribution (often indicated by first or last authorship) on an important paper (as rated by colleagues in the field) in a high–impact journal (as measured by citation rates) can have a significant and lasting effect on a person's career. It is no wonder that one of the first things budding scientists learn is "publish or perish."

Given the importance we have assigned to authorship, many researchers feel pressure to make sure their name appears on as many papers as possible. But being listed as an author on a paper without having made a significant contribution to the work does a disservice to the field, to the general scientific community, and to the public.

To combat 'phantom' or 'ghost' authorship, the International Committee of Medical Journal Editors (ICMJE) prepared "Uniform Requirements for Manuscripts

Submitted to Biomedical Journals."[1] In the document, the ICMJE recommends explicit and stringent criteria for bestowing authorship, including

> • Authorship credit should be based on 1) substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content; and 3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3.
>
> • Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.

The ICMJE recommendations are not binding, so journals have established their own guidelines for determining who should be an author, Some, like the *Journal of the American Medical Association*[2], have adopted the ICMJE guidelines and require each author to indicate what her contribution was to the work. Others, like *Nature*[3], *Science*[4], and *Cell*[5], simply remind corresponding authors of the responsibilities of submission and dispute resolution. But the adoption of guidelines does not guarantee their use or enforcement. So what is an ethical scientist to do?

- **Read the authorship guidelines** for the journal to which you plan to submit your manuscript. Read the guidelines for all the journals in your fields. Talk about them with you colleagues.
- **Talk early and often about authorship** of your future papers. When you first plan a research path, talk about who the authors might be. Revisit that conversation frequently as your research progresses.
- **Model good behavior.** This is particularly important for deans, department chairs and other influential researchers who help set the standards of behavior for the scientific community. The "top-down" approach helps protect junior professors who may not want to risk their careers by refusing ghost authorship.
- **Remember that authorship is a responsibility.** This responsibility applies when credit is given for good work, when explanations about the work are needed, and when blame is assigned for inaccurate or unethical work. Authors should be prepared to accept responsibility for the work under all these circumstances.

Regarding the above scenario, the ICMJE guidelines explicitly state that "Acquisition of funding, collecting of data, or general supervision of the research group, alone, does not justify authorship." [1] Thus, the time-honored practices of bestowing authorship simply because so-and-so is the lab director, or has supplied a reagent, or is a noted authority in the field whose name as an author might accelerate acceptance of the article are unethical. Authors must make a "substantive intellectual contribution" to the article

and either drafted or revised it. Otherwise, their contribution might be acknowledged at the end of the article, but it does not qualify them as authors.

Finally, consider the case of Gerald Schatten, a University of Pittsburgh professor. He was a senior author on a 2005 *Science* paper from the lab of Hwang Woo-Suk, a stem cell researcher, who was later shown to have fabricated much of his published data. According to the *San Francisco Gate*, "Schatten did not contribute to the science but was listed as senior author and shared in the ensuing fame for serving as an 'adviser'… He recently tried to extricate himself from the disaster by asking *Science* to take his name off the paper. Science declined, saying that senior authors have a responsibility to know what is going on.[6]"

1. http://www.icmje.org/ - International Committee of Medical Journal Editors, Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication
2. http://jama.ama-assn.org/misc/ifora.dtl - *JAMA* authorship guidelines
3. http://www.nature.com/authors/editorial_policies/authorship.html - *Nature* authorship guidelines
4. http://www.sciencemag.org/about/authors/prep/gen_info.dtl - *Science* authorship guidelines
5. http://www.cell.com/misc/page?page=authors - *Cell* authorship guidelines
6. http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2005/12/24/MNGBOGD4GF1.DTL - "Stem cell field rocked by scam of star scientist," *San Francisco Gate*, December 24, 2005