Author's Commentary on "Left in the Dark"

Commentary On
Left in the Dark

This case raises at least four major ethical issues: data fraud, authorship, the mentor-student relationship, and journal editors' responsibility. Each of these issues is faced by many, if not all, researchers at some stage in their scientific careers and if not handled properly, can result in serious consequences. I will address each topic as it pertains to this particular case and tie in some insight to the discussion questions.

Honesty is an important part of research. All research grants are based on previous work that has been published in scientific journals. Falsification or fabrication of data can lead others astray and prevent them from fulfilling the expectations of their grants, as well as leading science as a whole in the wrong direction. Falsification and/or fabrication of data is the primary basis for the definition of research misconduct and, in a newly recommended definition by the Commission on Research Integrity, it falls under the category of "misrepresentation." (Commission on Research Integrity, 1995)

In this case, Conway is feeling pressure since, even though he has established himself as a good scientist, he has not published a manuscript in quite a while. He makes a couple of mistakes. First, he decides to try to publish preliminary data. No matter how convinced a primary investigator (PI) is that his student or postdoc's data is correct, he has to be sure that it is reproducible. In many cases, the PI is not working at the bench and is not aware of how good his researchers are at the technical level.

Second, Conway decides to publish a manuscript without the consent of his student, Elizabeth, whom he lists as the primary author. For many peer reviewed journals, if not all, this procedure is contrary to policy. In this case, Conway submits the paper to *Molecular and Cellular Biology*. Under the editorial policy and the instructions to

authors section, this journal's website states: "All authors must have agreed to its submission and are responsible for its content." (*Molecular and Cellular Biology*)

Elizabeth should discuss his authorship policies with Conway, to avoid such problems in the future. It is quite common in labs for individuals to be left off the list of authors although they feel they have contributed enough to be included. It is also common for individuals to receive credit for authorship when they have contributed little to the manuscript. Authorship policies vary from laboratory to laboratory. However, in general, an author is one who made a substantial contribution to the overall design and execution of the experiments.

In this case, Elizabeth is in a relatively tough situation. On one hand, if her findings turn out to be erroneous, her career could suffer. Furthermore, if another laboratory bases a project on her results, another person's career could suffer. On the other hand, when students begin graduate school they begin to feel pressure to produce results and publish. Since Elizabeth is at an early stage in her graduate career, she will benefit from a publication, which will demonstrate her ability as a scientist and provide further benefits as she completes her degree and looks for a job and/or applies for fellowships. Nonetheless, Elizabeth needs to confront Conway about his publishing her preliminary work without her consent, since these actions are not good scientific practice. In the meantime, she could continue to work on the reproduction of her results. In most cases, the paper will come back from peer reviewers with a demand for revisions and by that time, her results may be much less preliminary. Please note that Conway's approach is not a suggested route for submitting manuscripts. If something like this does happen, the best practice would be for Elizabeth or Conway to call the *MCB* editor and withdraw the manuscript from review.

At first glance, it seems that Conway monitors his lab very closely. However, through his relationship with Elizabeth as illustrated by this case, Conway demonstrates that he considers himself superior to her and doesn't feel that she needs to know everything that goes on, even if it relates to her work. What are Conway's responsibilities to Elizabeth? What are Elizabeth's responsibilities to Conway? As a thesis adviser, Conway is responsible for training Elizabeth to be a good scientist and teaching her how the world of academia works. Elizabeth is responsible for working hard and contributing as much as possible to the overall scientific advancement of the lab. Since Elizabeth is early in her career, she needs to decide if Conway is still the person that she wants to work for. She might find that another

advisor would better suit her. However, the longer she waits, the more involved in her research she will become, and the harder it will be for her to just drop it and start fresh. Furthermore, it will take her longer to complete the PhD.

Another issue that is raised by this case is editorial responsibility and peer review. Question 4 asks, "Is it justifiable for researchers to recommend a friend to edit or peer review their manuscripts?" An editor's responsibility probably varies a little from field to field. In biochemistry and molecular biology, the editor has the final decision on whether a paper will be published. A manuscript is submitted to a particular editor (or one is chosen) and that editor identifies two or three appropriate referees. On the basis of the reviews, the editor decides he whether the manuscript is appropriate for publication in that particular journal. In this case, Conway decides to send his paper to an *MCB* editor that he knows and is friendly with, personally and professionally. It can be inferred that Conway acts in this way to help the chances that his paper will be published. It is probable that if the reviews are marginal, then the editor's decision will favor publication, which will be a biased decision based on his relationship with Conway. Such conflicts of interest should be avoided at all times, to enhance fairness in evaluating research for publication. However, such cases do occur, and all scientists should be aware of this problem. Conflict of interest cases are also very common in the peer review process, which can also cause the advancement of many labs to suffer.

References

- Commission on Research Integrity. "Definition of Research Misconduct and Other Professional Misconduct" in *Integrity and Misconduct in Research: Report of the Commission on Research Integrity to the Secretary of Health and Human Services, the House Committee on Commerce, and the Senate Committee on Labor and Human Resources*. Washington, D. C.: U.S. Department of Health and Human Services, 1995.
- *Molecular and Cellular Biology*. http://mcb.asm.org/misc/ifora/shtml.