

Accepting offers

You applied for postdoctoral positions at several universities. You get an offer from University A with a short deadline that the department is not willing to extend. University A is not your first choice, but you do not receive any other offers before the deadline expires: in the end, you accept the position by writing an email to the chair.

Sometime later, you receive an offer from University B, your dream choice. What are your options, and what do you do? Does your answer depend on whether you have signed a formal contract with University A?

Honesty or Confidentiality?

Joe and Ira have the same thesis advisor, Rosa, and work in similar areas. They often discuss their work in progress, especially their difficulties. During one of these discussions, they realize that there is a mistake in the proof of the main theorem in Ira's thesis.

"Don't say anything to Rosa," Ira tells Joe. "I want to tell her myself."

"I won't say anything to anyone," Joe assures him.

A week later, before meeting with Rosa, Joe asks Ira whether he has said anything. Ira says that he hasn't. "I'm sure I can patch the hole, but I want to check the details before I talk to Rosa."

Joe knows that job application deadlines are coming up. He thinks that Rosa, who may be sending out letters of recommendation for Ira at any time, needs to know now about the problem with Ira's thesis. What should he do?

Suppose that Joe is also finishing his dissertation and applying for jobs. He and Ira are in direct competition for postdocs working with the best people in their area. How does this affect the situation? Does it change your answer?

Questions to think about:

- What are the ethical and professional issues involved? Has everyone acted appropriately up to this point? Could they have made better choices?
- Who will be affected by the decision to be made? (Consider groups and institutions as well as individuals.) What can they reasonably expect in this situation?
- Now, what should the person in question do? Are there other things you need to know about the situation to make an informed decision?

[Source for this case study: Marcia Groszek (Dartmouth College),
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Relationships

Gayle is a graduate student who works on her thesis in algebraic topology. Gayle is very interested in teaching and is delighted when the department chair offers her the opportunity to teach the department's undergraduate course on introductory topology, a one-time opportunity which is due to the shortage of instructors in the department in that semester. Gayle is in a relationship with Sam, a senior who majors in math. Sam tells Gayle that he has registered for this course as this will be his last opportunity to take this course before graduating. What should Gayle and/or Sam do?

Giving or taking credit?

A graduate student discovered a wonderful formula without substantial help from his thesis advisor. Yet his advisor insists that the announcement of the result be made jointly. According to the student, the advisor even went around giving talks about the formula, always mentioning the student, not always by name, but implying that the student had played a secondary role in the discovery. The advisor, on the other hand, feels that he had suggested the topic area to the student and had witnessed the progress of the discovery, freely giving suggestions about its proof. He acknowledged that the core insight was the student's but as the senior figure ultimately responsible for the correctness of the proof, as "director of the lab", he felt it was his prerogative to claim joint authorship.

Question: Discuss the ethical choices that the graduate student and the advisor face in this scenario. Do you have ideas for how this situation could be resolved, or could have been avoided?

[Original source for this case study: This case study is paraphrased, with permission, from a fictional case study appearing in the August 2017 version of manual for the American Mathematical Society's Committee on Professional Ethics.]

It Could be Publishable If. . .

Maria is in her first year as a postdoc. Her mentor, Li, is one of the top researchers in her area, and she feels lucky to work with him. One day, Li hands her a paper that he has been given by a journal to referee, and asks her to write a referee's report.

"You are working on similar questions," he says, "and the experience will be good for you."

Maria reads the paper carefully. She thinks that even if it were correct, it would not be a very strong paper, and she would not recommend publication in the top journal to which it was submitted. However, it is not even correct; the proof of the most significant result is wrong, and it's not a minor error that can be fixed easily. The main lemma is outright false.

Maria is pretty sure that she could prove the result with the techniques she has been working with, in a way that would be very different from anything in the paper. She also quickly sees a significant improvement to another result in the paper. These two changes would make the paper strong enough that she would recommend publication.

What should she do?

[Source for this case study: Marcia Groszek (Dartmouth College),
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Getting credit for suggestions by referees

Situation:

Greg submitted a manuscript to a leading peer-reviewed journal. He received a decision of "Revise and Resubmit" and the reviewers, along with the editor, provided over 10 pages of detailed commentary. In his revision, he draws heavily from these comments, including seeking out additional citations and extending his results based on detailed suggestions provided by the reviewers. Upon re-submission, the manuscript is sent out to some of the same reviewers and a new reviewer. The reviewer who had seen the paper previously contacts the editor, and claims that the author has not given proper credit to ideas.

Questions:

- Is the reviewer justified in taking such a position?
- What are the editor's options?

[**Source for this case study:** by permission, American Sociological Association)
(based on <http://www.asanet.org/ethics/detail.cfm?id=Case76>)]

Reviewing previously rejected manuscripts:

The editor of journal A asked you to review a manuscript. The paper does, in your view, not contain sufficiently original results, and you therefore recommend rejection. Several months later, you receive an email from the editor of journal B to review the same manuscript (that has apparently been rejected from journal A). What do you do?

Dual Submissions

You receive a paper from a mathematics journal for review. Two days later, you receive essentially the same paper from another journal for review. The theorems and proofs are identical, though the papers are written for slightly different audiences, and the examples discussed are different.

Questions:

- What would you do?
- If you decided to contact the editors, what should the editors do?

Organic Reactions I¹

Overlooked author?

Madge, an undergraduate research student, was really upset and angry as she described her problem to her roommate,

“I don’t think he even remembers I ever worked in his lab. All he was interested in was getting publications, getting tenure, and getting famous. When I was in the lab, he either ignored me totally or complained because I wasn’t getting enough done. I mean, like, that was the first time I was ever in a research lab and I had 17 credits that semester. Get real. What did he think I was—a graduate student? Then I busted my butt to synthesize a precursor that Joe needed for his thesis work, messed up on a couple of exams as a result, and even then I felt it wasn’t worth it. Now I am sure. At least they could have put an acknowledgment of my help in the paper, but no. It is Joseph Milktoast and Dr. I. M. Bigshot as coauthors and not a hint that they got any help. That’s why I complained to the chairman.”

What do you see as the issues here?

Does Madge have a legitimate complaint?

What determines authorship on a scientific publication?

How could this situation have been avoided?

¹ Written by H. B. White, Department of Chemistry and Biochemistry, University of Delaware
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Organic Reactions II

Overlooked author?

Madge, an undergraduate research student, filed a complaint with the department chairman that Prof. Bishop had not included her name on a paper that he had just published. That same day the chairman invited Prof. Bishop to his office to discuss Madge's allegations. Prof. Bishop was upset and angry as is indicated in his following comments.

"She didn't deserve to be a coauthor on that paper. She put in minimal time, followed a well-established procedure that had been done many times before in other laboratories, and still got terrible yields. To be sure, I had told her that if her work got published, she would become a coauthor. But this is not her work. The synthesis was not original. She didn't provide any new insights. And she wasn't involved in writing the paper. What does she expect? Another thing that is totally unrelated but it really bugged me was that I found out later she was using my research account on the departmental copier to copy things for her courses."

What do you see as the issues in this case?

Does Madge have a legitimate complaint?

What determines authorship on a scientific publication?

How could this situation have been avoided?

Helping Hand?

Written by H. B. White (with permission under the Creative Commons license)

Jill, a sophomore biology major, wants to do undergraduate research over the summer and has found Prof. Manson willing to have her work in his lab. Because Jill is on financial aid and really needs to make money over the summer, it is particularly important that she get funding from the Undergraduate Research Program. The URP application stipulates that students write their own short research proposals with the help and approval of their research supervisors.

Prof. Manson had discussed an interesting project with Jill. He gave her a copy of an NIH research proposal he had written recently along with a couple of reprints of articles from the lab to read. He told her he was happy to have her join the lab and then apologized that he would be extremely busy for the next week or so preparing a major symposium talk he would be giving at a national conference. Consequently, she would have to draft her application with the help of George, a graduate student, and submit it.

Jill had trouble understanding the proposal and papers. The application deadline was looming and she needed to study for two hourly examinations. When she talked to George, he told her to transcribe the relevant sections out of the NIH proposal. As he said, "It doesn't matter. You'll understand what you are doing after a week or two in the lab. Besides, the people who will look at your application won't understand it either." Jill felt uneasy about this, but figured this must be the way things are done. She submitted her application on time.

Discuss this situation with your neighbors. What action, if any, is appropriate?

Some useful questions to ask when thinking through an ethical dilemma.

[From on-line supplemental materials for *J. Chem. Educ.* 84, 952 (2007)]

- What is the action or inaction that is the cause for concern?
- Who or what may be affected?
- How will they be affected? (i.e., what are the possible consequences?)
- Are there any laws, regulations, or unwritten disciplinary standards that may apply?
- What actions might be taken and what would the consequences of those actions be?
- Can anything be done to prevent this from reoccurring or to minimize the severity of the consequences?

Helping Hand? Part II

Written by H. B. White (with permission under the Creative Commons license)

Members of the faculty award committee spent the weekend reviewing undergraduate research proposals. They had to decide which 40 among the more than 70 applicants would receive funding for the summer. There were always applications that clearly deserved funding and those that did not. The ones in the middle were tough to decide. That's where Jill's was. At their meeting Monday morning, the following conversation occurred.

Dr. Wolf: "This proposal from Jill reads really well in places, but it seems uneven."

Dr. McKinly: "Yeh, I noticed that too. Some of the sentence structure and terms just can't be hers. She hasn't been in the lab long enough to pick up some of the detail she describes. I doubt she wrote all of it. I suspect she lifted parts from some publication from the lab."

Dr. Brown: "But how do we know for sure? Are we going to decline her application based on our suspicion? Are we willing to investigate this and reprimand Jill and Prof. Manson? And besides, how do we know that all the other proposals were really written by the applicants? There were some other proposals I read, perhaps not so blatant, that seemed to me were cut and pasted together by the students from laboratory documents."

Dr. Wolf: "That is not the point. Are we simply going to ignore this and look the other way? What sort of message does this send to students?"

Dr. Brown: "Look, I don't want to make a federal case out of this even though it seems to be a problem. The students are just starting out. We should be thinking about education and not punishment. For me, the issue is what we can do to eliminate this problem, not through fear of being caught, but through understanding of what is proper conduct in research and why such standards exist."

Dr. Sharp: "Plagiarism or not, does this proposal measure up to the other proposals we are considering?"

After considerable discussion, the full committee voted 4 to 3 not to fund Jill's proposal. Jill received the rejection letter a week later and felt devastated.

Was the awards committee ethical in its decision to deny Jill an undergraduate summer research fellowship? Why or Why not?