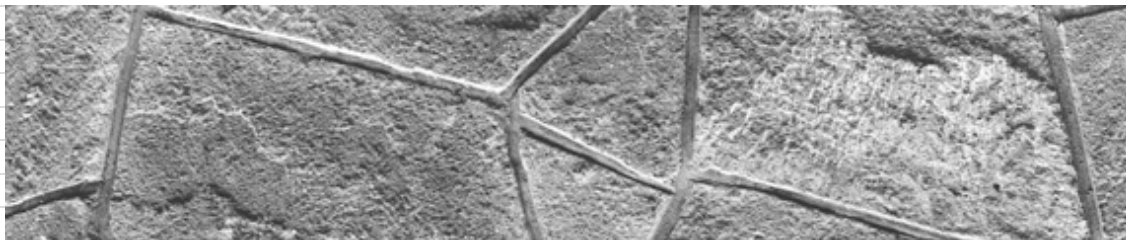


Please read this "clean" version of each case and reflect upon the different issues they contain. Upon completion of the cases, we hope that you will continue directly on to the Q & A section.

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»Case Studies«

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»Case Study 1: Who is an Author?«

Susan Jacobs, a Ph.D. student from a small university, sets up, as part of finishing her dissertation, a six-month internship at a prestigious larger institution in order to learn a new molecular-biological technique. Ms. Jacobs contacted the laboratory leader, Dr. Marvin Frank, a world-renowned scientist, in the hope of developing new skills for her research and also to foster a relationship with Dr. Frank, who is well connected in her field of biochemistry.

When Ms. Jacobs comes to Dr. Frank's laboratory, she is greeted warmly as a member of the team. Dr. Frank, the graduate students, the postdoctoral fellows, and the technicians include Ms. Jacobs in the weekly laboratory meetings, in which everyone participates in a free exchange of ideas about the ongoing projects in the laboratory, and which last for hours. In the meetings, Ms. Jacobs finds some of the ideas helpful but others less so, and gives her point of view concerning the ongoing projects. In addition, she meets weekly, one on one, with Dr. Frank, who provides significant scientific advice and one or two recommendations, which advance her work and move her in a slightly different direction. She discusses the results of her research with her mentor, Dr. Melissa Seabrook, back at her home college, by weekly e-mails and occasional phone calls, interactions that also push ahead the project she started in Dr. Seabrook's lab three years ago.

Ms. Jacobs makes great progress during the six months she spends in Dr. Frank's laboratory, and she writes a paper reflecting some important findings. Ms. Jacobs puts herself down as first author, Dr. Frank as second author, and Dr. Seabrook as last author on the paper. At the end of the paper, she gives an acknowledgment to a technician who showed her

several techniques and worked with her on a few experiments.

Ms. Jacobs based her listing of authors on her understanding of the guidelines put forth by the International Committee of Medical Journal Editors (ICMJE), which say that an author is someone who has made significant contributions to the conception and design, or to the acquisition of data, or to the analysis and interpretation of data; was involved in drafting the article or revising it critically for important intellectual content; and provided final approval of the version to be published. The guidelines, which are followed by approximately 500 medical journals, say that all three criteria must be met for authorship. Ms. Jacobs would like to send her manuscript to a journal that follows ICMJE guidelines as soon as possible, because of what she feels is the importance of her results.

Ms. Jacobs gives Dr. Frank and Dr. Seabrook a draft of her manuscript for review on a Friday, hoping for feedback by Monday. Dr. Seabrook sends her comments by e-mail to Ms. Jacobs. Dr. Frank sends his comments back to Ms. Jacobs and changes the authorship listing to include Ms. Jacobs, the technician, two postdocs in his lab, two graduate students in the lab, himself, and Dr. Seabrook. Dr. Frank also gives a copy of the draft to all the members of his laboratory for discussion at the next meeting.

Ms. Jacobs is shocked that Dr. Frank added the other laboratory members to the draft, explaining to him the ICMJE guidelines and maintaining that the major intellectual and physical work in preparing the paper was done by her and by Dr. Seabrook and Dr. Frank. Dr. Frank is equally surprised by Ms. Jacobs's feelings, responding that he and Ms. Jacobs benefited from the input of all the other lab members. Dr. Frank adds that a graduate student in the laboratory, Lisa Bain, is writing a short paper that is based on some very exciting preliminary findings, and that Ms. Jacobs would be included in the list of authors. Dr. Frank says that the results of Ms. Bain's research would need further elaboration in the laboratory and that a second paper using the same data and additional studies would be more comprehensive, and that Ms. Jacobs would be included on the second one, too.

Dr. Frank insists to Ms. Jacobs that the contributions of all the laboratory members were sufficient to satisfy the ICJME guidelines for both papers, adding that the idea of a scientist acting as an independent entity is an outdated concept and that those who work around a scientist contribute significantly, helping him or her to function.

Ms. Jacobs tells Dr. Frank that she does not want to be included on Ms. Bain's paper, feeling that she did not contribute adequately. Dr. Seabrook, who follows ICMJE guidelines but was intimidated by Dr. Frank's stature, advises Ms. Jacobs not to rock the boat, to use Dr. Frank's revisions and some of the changes suggested during the laboratory review and to submit the paper to the journal with the authorship he suggested.

[Acknowledgement](#)



»Case Study 2: What is Responsible Peer Review?«

Dr. John Leonard is one of very few molecular biologists working in a particular field. Dr. Leonard receives a paper to review, about a protein called survivin, which he and a graduate student in his laboratory are researching. The article was submitted by Dr. Mark Morris to *Protein Interactions*, a medium-impact journal, and the editor asked Dr. Leonard and two other experts in the field to review the paper. The article suggests a new interaction between survivin and the protein GFX and provides evidence for the fact that both proteins are necessary for the full survival-promoting function of survivin in a cell. The article also describes, though, that if there is too much survivin inside cells they die.

But the paper is fraught with problems: poor controls, inconsistent data in figures, and alternative explanations are not considered and claims are overstated. Dr. Leonard gives the paper to his graduate student Melissa Zane, who gives it a detailed critique and recommends significant revisions. Ms. Zane has never reviewed an article before, and Dr. Leonard thinks that doing so would be a good educational experience for her. Ms. Zane notes the finding about too much survivin being toxic to cells, a problem she has had working with the protein, and discusses it with Dr. Leonard. Both agree that they should lower the dosage of survivin in her experiments; the cells actually survive for a week, longer than her experience before, and then they die.

Dr. Leonard submits Ms. Zane's and his own comments about the research to the editor, suggesting that the paper be accepted only after a few more experiments are performed to validate some of the conclusions. One of the other reviewers has comments similar to Dr. Leonard's, and the editor asks Dr. Morris, the author, to make the revisions before he will accept the paper.

But in the next few weeks the interaction between GFX and survivin that is discussed in the paper remains in Dr. Leonard's mind. GFX was not a line of inquiry that Dr. Leonard and Ms. Zane were following in their research. They were focusing on other stimulatory proteins, but unsuccessfully. Dr. Leonard suggests to Ms. Zane that she add a compound to the cell culture system that stimulates the cell to produce its own GFX, a method that is somewhat different from what was in the paper by Dr. Morris that is under review. The enhancement method works. The cells live for a month.

Ms. Zane and Dr. Leonard draft a paper based on the results, which includes appropriate controls. *Science*, a prestigious journal, accepts the paper. Several months later, *Protein Interactions* publishes a revised paper from the laboratory of Dr. Morris. But after Dr. Morris sees the article in *Science* he suspects that Dr. Leonard, who was an anonymous peer reviewer on the paper, might have taken some of the ideas for the *Science* article from his paper under review. Dr. Morris knows that Dr. Leonard hadn't been working on GFX because it was hard to purify, and deduces that he used material in the unpublished manuscript to stimulate GFX activity.

»Case Study 3: Peer Review and Controversial Research«

Dr. Marie Rolands is a tenured professor of psychology at a major university. She has published widely in her field of industrial psychology, teaches undergraduates and graduates, attends conferences, and runs several research projects. Recently, she has decided to pursue an area of research that challenges an established way in which certain worker-motivation studies are performed. The main proponents of the conventional paradigm are two investigators, Dr. Stephen Jones and Dr. Claude Marcus, who work at a prestigious university.

Dr. Rolands has performed experiments and collected evidence of what she perceives are the myriad flaws in the Jones-Marcus method. She wrote a paper that offered her research findings, analysis, and critiques, and she submitted it to the *Journal of Industrial Psychology*. The editor of the journal sent the paper to Drs. Jones and Marcus and two other investigators for peer review. Drs. Jones and Marcus both provided a lengthy response to Dr. Rolands' paper, challenging her disagreement with their method on several points. As a result, they both recommended that the editor reject the paper. The third and fourth reviewers were split as to whether it should be published.

The editor rejected the paper but sent Dr. Rolands a copy of the reviewers' comments, which were signed openly and forthrightly by Drs. Jones and Marcus. Although peer review is often considered anonymous in psychology, some reviewers sign their names to reviews.

Dr. Rolands took issue with each of the points that Drs. Jones and Marcus made and performed a series of follow-up experiments to point out what she believed were the flaws in their arguments. A few months later, she drafted another paper, in which she mentioned the criticisms of Drs. Jones and Marcus as part of the publication. She was concerned about submitting the manuscript, because she was fearful that Drs. Jones and Marcus would suppress her findings again. She felt that she could not resubmit it to the first publication, because she knew that the editor was friendly with Drs. Jones and Marcus socially and also because she felt that the editor probably had a status-quo view of their method.

She sent it to another journal, *Applied Industrial Psychology*. Knowing that Drs. Jones and Marcus might get upset if she used and cited their peer-review comments with their names as the foundation of a revised paper, she explained her actions and the history of the paper to the editor of *Applied Industrial Psychology* and sent a copy of the article to Drs. Jones and Marcus. Dr. Rolands asked the editor if it might be possible to send the paper to neutral parties so that she could get a more balanced review of her work. The editor, however, said that he felt he would have to send it to Drs. Jones and Marcus, because they were the most qualified to understand the inner workings of the model. The paper was rejected again.

Continue to the next section: [→ Questions & Answers](#)

