Peer Review & Research Collaboration
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Smith-Kettlewell Eye Research Institute

Peer Review of Manuscripts & Grants:

• What is unbiased peer review?
  o Review by an expert vs. by a competitor
  o Avoiding personal critiques and personal bias

• What are the tenets of responsible peer review? ¹
  o Confidentiality
  o Constructive critique
  o Competence
  o Impartiality & Integrity
  o Disclosure of conflicts of interest
  o Timeliness

Scientific Collaboration

• Ethical handling of scientific collaboration
  o Data and resource sharing
  o Authorship
  o Collaborations and balance of power

• Communication between collaborators

• Personal qualities of a good collaborator: honesty, openness, fairness, industry, respect & reliability²

• Ending a collaboration: ethical considerations & pitfalls

² From: Bonetta, L. Making the Right Moves, 2nd Ed. Burroughs Wellcome Fund & Howard Hughes Medical Institute, 2006, p. 207
Case Study 1: Peer Review & Conflict of Interest

Over lunch one day, Dr. Watson tells Dr. Holmes that he is reviewing a paper unfavorably. He rationalizes that the group that is performing the work is in direct competition for funds with his group, and thus seeking to undermine the work would benefit the Watson-Holmes group. After all, funding is really tight. It is obvious to Dr. Holmes that Dr. Watson has put himself in a position of conflict of interest, and is not being fair in his review of an otherwise credible piece of scientific research. Dr. Watson further complicates the situation by asking for Dr. Holmes’ input, given that Dr. Holmes is also working directly on one important aspect of the work. He reads the paper, and finds it plausible.

Questions:

1. What should Dr. Holmes do?
2. Should Dr. Watson have accepted to review the paper in the first place?
3. Should Dr. Holmes had the opportunity to read the paper?
4. Which tenets of responsible peer review process are compromised?

Adapted from: Doss, H. & Popkin, G. Ethics Case Studies, Student Edition, American Physical Society, p. 55
Case Study 2: Presentation of Results

Dr. Li, a physician, has agreed to review a paper presenting a phase III clinical trial, testing a new treatment for cervical carcinoma. As she reviews the paper, she finds she has questions and concerns about the statistical analyses used in the paper. Dr. Li collaborates with an expert statistician in the design and analysis of her own trials and would like to seek his advice on the analyses in this paper.

Questions:
1. What issues should she consider before seeking the statistician’s advice?
2. Should the statistician be credited with helping on the review?
3. Should the journal’s editor be consulted?

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4 Adapted from Office of Research Integrity, US Department of Health & Human Services; Ethics of Peer Review Case Studies (CS 3). http://ori.hhs.gov/yale-university
Case Study 3: Communication in Collaboration

Dr. Ben Foster has had a radical idea regarding how to get eukaryotic cells to take up DNA fragments much more efficiently than was previously possible. He tells his colleague Mary Mitchell about his idea and how he plans on testing the hypothesis. Mary is not in Ben’s field of expertise, but he spends some time explaining to her the details of his study and the expected outcomes. Mary offers a number of unsolicited suggestions on how to improve the study. Because of her lack of experience, many of her ideas are not practical or are very elementary and part of his study anyway. However, Mary suggests some valuable control experiments involving DNA competition assays, which help make a compelling case for the novelty and efficiency of his method. Dr. Foster engages one of the postdocs in his lab, Anil Kapur, to perform the experiments as they have been outlined in the project plan.

Mary talks to Ben frequently about the project and comes to several of the lab presentations given by Anil describing the progressing project. She comments critically on Anil’s work and makes other suggestions, including the idea that Anil and Ben try different cell types to further build the case. She offers to try the method on several cell lines that are routinely maintained in her laboratory. Ben is reluctant to do this, but he suggests that she give him the cell lines so that Anil can do the experiments. She complies, and the experimental results obtained with her cells further support the hypothesis. Ben decides to submit a provisional patent application and then submit the exciting results as a short communication to a prestigious journal. Mary argues strongly that her name should be included as a co-inventor on the application and a coauthor on the manuscript.

Questions:

1. How could this situation have been avoided?
2. Could these experiments have benefitted from a formal collaboration?
3. How should Ben Foster respond to Mary’s request?
4. If Mary is not included, how can her and Ben Foster’s collegial relationship be maintained?

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Case Study 4: Collaboration & Publication

A collaboration is established between Dr. Holmes’ institution and another one halfway across the country, and so it will be a rare occasion that you will interact in person. Dr. Holmes’ group will be providing some much needed simulations to help understand their experimental results.

In working on the problem, Dr. Holmes discovers some important physics that has been overlooked by his collaborators, so fundamental that it really needs to be published immediately. He quickly writes a paper (with him as first author) on the subject with the colleagues at Dr. Holmes’ institution and uses the results from the experiment from his collaborators, then circulates the submission draft to the collaborators. The next morning Dr. Holmes receive a rather terse phone call from their lead scientist telling him that if he submits the publication, the collaboration will terminate there and then, and he will lose the collaborative grant: they are outraged that he is publishing their results with him as first author and with no prior discussion.

Questions:

1. How can this situation have been avoided?
2. How should Dr. Holmes deal with the situation: publish the important discovery and ruin the collaboration, or drop the matter?
3. Should he offer the collaborators the opportunity to be first authors on the paper?

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6 Adapted from: Doss, H. & Popkin, G. Ethics Case Studies, Student Edition, American Physical Society, p. 43