

Intellectual Property

Intellectual Property includes:

- Copyrights: A copyright protects the tangible expression of an idea, not the idea itself (e.g., a book, a research article, or a videotape).
- Patents: A patent protects the idea and gives the creator the right to exclude others from using the idea (e.g., a patent may be awarded to anyone who invents a new machine or a new way of manufacturing something, etc.). In order to receive the patent, the creator must disclose in detail how to make his invention work and its use.
- Trademarks: A trademark identifies and distinguishes an idea, written words, pictures, or products from those of competitors (e.g., the Coca Cola script name is a registered trademark that immediately identifies the product).
- Trade Secrets: A trade secret refers to information that is not publicly known, that produces economic benefit to the owner, and that the owner maintains as secret.

Who owns your “intellectual property”?

For these situations, what kind of intellectual property is involved and who owns it?

A professor gives an off-the-cuff lecture and you take notes.

A professor reads a passage from his book and you copy it exactly.

In the lecture you took notes on, he describes a recent patented invention of his.

For the University Policy, see

http://regents.umn.edu/sites/default/files/policies/Commercialization_IP.pdf

Authorship

To merit authorship, three things must usually be present (though different journals or fields may have specific guidelines). Generally:

1. All authors must make a significant contribution to research, such as conceptualization and design, collection of data, or analysis and/or interpretation of results.
2. All authors must contribute to drafting and/or revising important parts of the manuscript.
3. All authors must have final approval of the manuscript and accept responsibility for its integrity.

Consider the following situation. Who should be an author? Who should be acknowledged? Who does not merit formal recognition?

Bob Powell, a postdoctoral fellow in biochemistry, has just completed a manuscript detailing the results from the first project in which he has taken a leading role. The focus of his project has been to discern the ways in which humans metabolize sulfites, a class of chemicals commonly used to preserve wines and dried fruits. Although he had developed the rough outlines of the project on his own, he owes much to individuals both inside and outside his lab. The assistance he received from others includes the following:

- A colleague at another university, a toxicologist specializing in food additives, shared with Bob his previous work on the *in vivo* activity of sulfites, information that allowed Bob to choose the ideal animal model for the experiment—the Abyssinian field mouse.
- A friend of his, who happened to be a wildlife specialist, provided Bob with much advice on rearing and maintaining a colony of Abyssinian field mice such that he would have a stable pool of animal subjects.
- A highly experienced technician in the lab gave Bob advice on modifying an assay he had been using, which finally allowed him to measure successfully sulfite metabolites in mouse urine. This technician also assisted in writing up the methods section of the paper.
- The number of assays that Bob had to conduct was quite sizable and more than he could manage on his own, given other demands of the project. Thus, an undergraduate college student collected most of the urine samples and conducted the assays yielding the data.
- Finally, a senior researcher in a neighboring lab who took an interest in Bob's career offered to review the initial drafts of Bob's paper. By the end of the writing process, this researcher had helped Bob outline the paper, suggested a few additional experiments that strengthened the paper's conclusions, and made a number of editing changes in the penultimate draft that enhanced the paper's clarity.

Everyone who does 1,2,3 should be an author, and all authors should do 1,2,3, but not all authors are created equal. How is order of authorship decided?

Conflicts of Interest

The University is committed to having its employees conduct themselves in accordance with the highest standards of integrity and ethics, and in compliance with applicable state and federal laws related to conflict of interest and objectivity in research. This information is taken from http://www.research.umn.edu/ethics/curriculum/conflict_interest.html.

Although the legal definition varies from state to state, conflict of interest basically involves any situation in which an individual exploits his or her position for personal or financial gain. This is probably the most important type of conflict because of its visibility and the potential for damage to the reputation of the University and all concerned.

Types of Conflicts of Interest

There are many areas in which a potential conflict of interest may arise. These include the following. (See Scientific Integrity by F. L. Macrina for a more detailed discussion.)

Financial conflict of interest: When a researcher has a significant financial interest in the outcome of the research.

Scientific conflict of interest: Participation in review panels or other groups that make decisions regarding the allocation of resources or the publication of papers, when that can affect the success and prestige of their own research.

Conflict of commitment or effort: When an employee participates in outside activities relating to their field that require considerable time and effort and could lead to a significant decrease in the time and effort devoted to the employer.

Conflict of conscience: When an individual's personal convictions (e.g., religious, ethical, or moral) are so strong that they influence the decision being made.

Personal relationships/nepotism: When related individuals make employment choices regarding each other, or perhaps even are employed in the same unit.

Have you had a conflict of interest? What kind was it? If not, think of an example you've heard of or could imagine.

Managing Potential Conflicts

There are several ways to manage potential conflicts, including:

Disclosure: This allows others to assess the work in light of the potential conflict of interest. Knowing this perhaps helps the researcher to be more objective.

Monitoring of research: Research being done for a commercial company or sponsoring agent could be monitored by an independent body to ensure that undue influence is not being exerted on the results.

Modification of research plan: The proposed research may have to be carried out in such a way so as to avoid conflict, bias, or undue influence.

Removing the conflict: In some cases, the only way to manage a conflict of interest is to remove it altogether. This can include divestiture of financial interests, resignation from management positions or government boards or other severance of relationships, or abstaining from participating in either in the decisions or research programs.

How might the conflicts of interest you discussed before be managed?

Objectivity in Statistical Analyses

How can we hope for objectivity in our statistical analyses?

Name: _____

What interesting thing did you learn today about authorship, intellectual property, or conflicts of interest?

Name: _____

What interesting thing did you learn today about authorship, intellectual property, or conflicts of interest?
