



Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Mentoring and publication responsibility**
- Mentor help to supervise, to advise students and researchers, and to promote their capacity to make their own decisions.
- Expert mentor junior researchers is a right but it is up to the researchers to not abuse mentoring relationship.
- Both mentor and trainee are responsible for the success of the process of conducting a research which transmit ethical standards of professional conduct.
- Mentoring imply that one person's knowledge or skill is greater than another's.
- Publishing gives; opportunities for collaboration, increase your visibility, credibility and trust, inspiration for future research, and contribution to the field in question.
- Publish in order to develop research and possible scholarship, not to develop just your own career.



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Ethical Scientific Research Guidelines:

Giving Credit where it is Due

- The author must give credit to those who contributed to the research.
- Violation of this guideline can be **not giving enough** credit or **giving too much** credit.

Claiming a breakthrough without acknowledging previous work leading to some famous controversies over priority.

e.g: Isaac Newton, though he modestly spoke of standing on the shoulders of giants, was not always so generous to living rivals. If he didn't like a certain researcher, he wouldn't cite him in an article any more than was absolutely necessary. This is unethical but is fairly common practice among researchers even today.

(<https://www.enago.com/academy/publication-ethics-giving-credit-credit-due/>: accessed March 1st 2024).

Military scientists of the USSR did not get enough credit because of sensitivity of their researchs.



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Ethical Scientific Research Guidelines:

Giving too much credit

- Giving abundant and unnecessary citations to a colleague or naming him as a coauthor when he had contributed nothing to the content of the paper is more scandalous, especially if the colleague is a superior.
- The **alpha-beta-gamma paper** a flagrant example of unjustified credit occurred in 1948 when PhD student Ralph Alpher and his adviser George Gamow prepared a paper on “The Origin of Chemical Elements,” arguing that the Big Bang would have created all the elements found in the early universe. Before sending it off to Physical Review, Gamow added the name of his friend Hans Bethe as coauthor even he hadn’t really contributed to the work, but the paper contains a **significant scientific discovery**. His justification for doing this was nothing more than “It seemed unfair to the Greek alphabet to have the article signed by Alpher and Gamow only.” Get it? Alpha, beta, gamma—(Alpher, Bethe, Gamow).
- Alpher, as a PhD student struggling to make a name for himself, objected to the addition, fearing that the name of the famous Bethe would overshadow his own, reducing the credit he received for his crucial contribution to an important piece of research. But Gamow published it with Bethe’s name, despite Alpher’s objections.
(<https://www.aps.org/publications/apsnews/200804/physicshistory.cfm>)



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Ethical Scientific Research Guidelines:

Conflict of interest

- Papers review that have data or results which directly overlap with your work will be subject to conflict of interest.
- Accepting gratuities or special favors (as Lab manager) from companies sponsoring one's research at the University.
- Using students to perform services (beside the internship) for a company in which you have a financial interest.
- Accepting a paid consultancy with a company or laboratory having an interest in your research.
- Accepting gifts from students or parents of students whom they are under your evaluation.
- Disclosure of research results and findings, at the request of a sponsor or financially interested company.