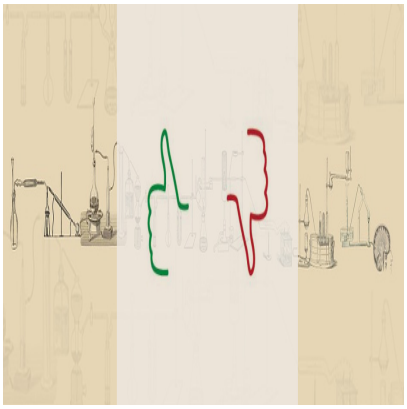

Description

Although there are many researchers who are deeply committed to the highest standard of ethics, there are others who take advantage of the system and engage in scientific misconduct. This is partly because the scientific community has become increasingly competitive, both with regard to accomplishments and publishing studies in journals.

Indulging in a manipulation of data or fabricating a study not only leads to mistrust in the overall publication process, but it also has negative impacts on the overall industry and society as a whole. There are steps continuously being taken to overcome such misconduct and data misrepresentation through processes like peer review. Since scientific misconduct has become of concern to everyone in the academic community in today's "publish-or-perish" environment, this issue is being discussed in multiple forums.

What is Scientific Misconduct?

Scientific misconduct has to be both willful and intentional. There are several different examples of scientific misconduct. These can include altering data, adjusting calculations, or not being completely truthful about the scientific process that you are engaged in. The implications of such misconduct can be significantly damaging to public health, and publication of dubious research findings can affect the professional scientific community in a negative manner.

Ethical Behavior in Professional Scientific Research

In order to understand the nature of scientific misconduct, it is necessary to understand the general guidelines associated with research in the field. Some of the universal ideas incorporated into the umbrella of thought about ethics and scientific research include:

- Maintaining the highest level of integrity for all research and experiments
- Appropriate treatment of human subjects
- Publishing results and research in journals and other forms of media
- Granting access to others in order to reproduce the testing results
- Acknowledging the contributions of others

These are the most important factors that should be incorporated into a general understanding of appropriate ethical behavior in scientific research. The responsibility of scientific journals for recording and reporting scientific research is critical and has been recognized by the Committee on Publication Ethics (COPE). Recently, in the last two decades, there have been multiple cases in which journals have had to retract papers after publication. There has also been a significant increase in cases where image fraud has been detected; this has led to publishers requiring authors to specify the extent of photo manipulation when papers are sent for publication.

What to Do if You Suspect Scientific Misconduct?

If you believe that someone else has engaged in scientific misconduct, then it would be best to gather evidence and evaluate the extent of content you would have to share before giving this material to the ethics committee at your university/research institute. Scientific misconduct is a serious charge and one that should only be undertaken when you believe that you have evidence to support this allegation.

Accusing someone of scientific misconduct is such a serious matter that it could impact their reputation, their career, and their future. Recently, Dr. Paolo Macchiarini, who was once considered to be a pioneer in regenerative medicine and credited with the creation of the world's first windpipe that was partially made from a patient's own stem cells, was charged with falsifying his resume and accused of scientific misconduct and misrepresenting his work. At present, he has been fired from Karolinska Institute for breaching the "fundamental values" of the institute and damaging its reputation, and his case is still under investigation. So, if you are accusing someone of misconduct, you need to be relatively confident in your findings before presenting them to someone else. Also, you can consider requesting that the individual move forward with a formal retraction of any scientific article rather than taking the case forward with a committee.

Avoiding Scientific Misconduct

Although scientific misconduct is generally intentional in nature, it is a good idea for early stage researchers to review the general guidelines and ethical standards before engaging in any scientific research project. This helps to ensure the quality of your data and your results, as well as increases the awareness of publication ethics among the entire scientific community. In today's publish-or-perish environment, scientific and academic misconduct is increasingly being noticed with the continuous increase in the number of retractions and the prevalence of "predatory" publishers. Work with integrity and promote valuable results by upholding standards in your own work and also reporting concerns if you suspect another person is engaging in scientific misconduct.

What do you think makes researchers resort to scientific misconduct in academic research? Do let us know your thoughts in the comments below!

Category

1. Publishing Research
2. Understanding Ethics

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