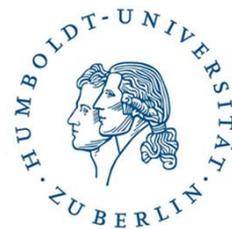


Seminars on Research Integrity



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Goal

The goal is to make graduate students and early career researchers aware of how they could inadvertently become involved in research integrity violations in three broad areas: plagiarism, image manipulation, and data falsification.

The seminars involve small group discussions with discipline-specific examples



Method

The primary approach is discussion, not lecture. People typically think that they are not at risk if their intentions are good, and forget how easily good intentions fall victim to adjustments, minor corrections, and unconscious borrowing.

Participants ask questions based on their own work and their own discipline.



Results #1



The result of some seminars in the last year is an increased awareness about potential risks involving research integrity, and active discussions using examples from the participants' own work are more persuasive than abstract recommendations.



Results #2 Plagiarism

Many participants equate research integrity with plagiarism, because of the public emphasis and because detection is relatively efficient with modern tools. Plagiarism is not necessarily deliberate, and can result from not knowing that the boundary between direct quotes, paraphrasing, and using similar vocabulary has shifted over time.



Results #3 Data

The public focus on plagiarism has had the effect of downplaying issues involving data and images, which are more damaging because flawed evidence affects all subsequent works built on it. Awareness is key, especially under circumstances where intentional fraud is rare but researchers are unaware of how carelessness can grow into research malpractice.



Results #4 Negligence

Negligence can be a problem. For example, chemicals are contaminated or datasets wrongly described.

In 1966, a geneticist and professor at the University of Washington proclaimed that cells he was working with appeared to be contaminated. In 2015, Christopher Korch looked into the issue, and concluded that “nearly 5,800 articles in 1,182 journals may have confused HeLa for HEP-2, and another 1,336 articles in 271 journals may have mixed up HeLa with INT 407”.

Source: Oliver, Tamlyn. “Combating Misidentified and Contaminated Cell Lines.” *Biocompare*, June 11, 2018.



Results #4 Exclusion

Even leaving out information matters.

For the humanist it can mean leaving out a source.

For others it may mean dropping data points or cropping images excessively.



Conclusion

The time spent discussing actual problems can be revealing. The more participants are willing to describe cases in their own research, the more they get from the discussion. Small groups with mutual trust matter. The seminar leaders can offer guidance in order to point participants in a useful direction.

