273 A Ethics in Science

Meets weekly
4 units

1. Introduction April 6

PKD lecture on Value systems

2. Cheating through history April 13

– feet of clay

Many of the greatest scientists cheated: Ptolemy, Galileo, Newton, Dalton, Bernoulli, Millikan. Only Einstein who did not collect data and god-like Neils Bohr are missing from the Pantheon of cheaters.

Is it ok to cheat if you are right? What if the activity was not considered cheating at the time? How do we evaluate an intent to deceive?

3. Philosophy: ideals and reality April 20

how science is supposed to work

Popper, Platt and Chamberlain: hypothesis testing

Feyerabend: Anything goes.

Lerner: "The Truth Fades"

Self-deception and problems of "theory ladenness" Is there a rational limit to skepticism (consider the book Merchants of Doubt)

4. Mentoring (student – professor) April 27

Professor-student issues:

Abuse of power (training to be creative peer/competitor or apprenticeship/stable)
Proper credit relationships (where do the ideas come from?)
The Matthew Effect and authorship
Multiple authors, the Slutsky story

5. Academe-Industry conflicts May 4

Classified research in Academe? Open information and secrecy. The very ideal of academe is open communication of knowledge.

Military? Not allowed (Mansfield Act), but is there a place for it? Think of national security. It is important and some academics can contribute

Consulting? Proprietary information - Exxon Valdez situation common in which the data are locked up for decades due to litigation.

Corporate-academic agreements

Examples of the success of openness are rare.

http://www.nybooks.com/articles/22237

http://jama.ama-assn.org/cgi/reprint/297/11/1216

http://content.nejm.org/cgi/reprint/353/10/1060.pdf

http://www.nytimes.com/2008/12/03/business/03clinic.html?_r=1&scp=3&sq=reed%20abelson%20cleveland&st=cse

6. Animal rights and destructive experimentation May 11

This topic has a rocky history, but we think it belongs. We will work revise it asap

7. Accountability and Academic intellectual property May 17

Intellectual property laws, data ownership.

Citations and soft cheating

8. Academic reward systems (citation practice and reviewing) May 25

A. Plagiarism: deliberate presentation of another's text or ideas, as ones own with intent to deceive.
B. Allocation of credit
C. Use of ideas from unpublished sources
D. Delaying or inhibiting the progress of a rival

Manuscript and proposal reviewing

Competitors exposing their best ideas, extremely vulnerable

Mediocrity chokes creativity – is it ok to be nice with poor proposals/manuscripts?

Predatory journals; There is a slippery slope between outright citations for sale journals and for profit publishing companies such as Elsevier, Nature Inc, etc. where to publish?

9. Environmental conflicts June 1

"The right to search for the truth implies also a duty: one must not conceal any part of what one has recognized to be true." Einstein

Crying Wolf and the problems of a scientist with an agenda!

"Ye shall know the truth and the truth shall make you free" Even if the truth as you see it runs against your personal agenda?

10. Solutions. June 8

1. Responsibility of junior authors
2. Self-policing: random audits
3. Whistle blowing

Don't forget "Due Process" applies to anyone: presumption of innocence! Due process has three components or rights:

   a. Fully informed of accusations and sources. No star chambers
   b. Present and rebut evidence
   c. Cross examine witness

4. Use of courts
5. Retractions and verification
6. Institutional policies and procedures
7. Exaltation of our ideals

JDI: "There is no limit to what can be accomplished, if it does not matter who gets the credit." ANON