273 A Ethics in Science

Meets weekly
2 units for coming and participating, 4 units for giving a lecture

1. Introduction Jan 11

PKD lecture on Value systems

2. Cheating through history – 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?

3. Philosophy: ideals and reality

how science is supposed to work

Popper, Platt and Chamberlain: hypothesis testing

Feyerabend: Anything goes.

Self-deception and problems of "theory ladenness"

4. Mentoring (student – professor)

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

5. Accountability and Academic intellectual property

Citations and soft cheating

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C. Use of ideas from unpublished sources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

Ownership and retention of data

6. Academic reward systems (citation practice and reviewing)

Manuscript reviewing

Proposal reviewing

Competitors exposing their best ideas, extremely vulnerable
Mediocrity chokes creativity – is it ok to be nice with poor proposals/manuscripts?
One-person race?

7. Academe-Industry conflicts

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?
Consulting? Proprietary information - Exxon Valdez situation common
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.ucop.edu/ott/faculty/tech.html

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

8. Environmental conflicts

"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"

9. Animal Rights and NAGPRA

1. Animal rights
2. Indian rights

10. Solutions.

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