

# 4. Professional Ethics

Most parts of this talk are borrowed from:

*"On being a scientist: responsible conduct in research"*  
National Academy of Sciences

# What is ethics all about?

**ethic** [Show phonetics](#)

noun [C usually plural]

a system of accepted beliefs which control behaviour, especially such a system based on morals:

*the (Protestant) work ethic*

*The ethics of journalism are much debated.*

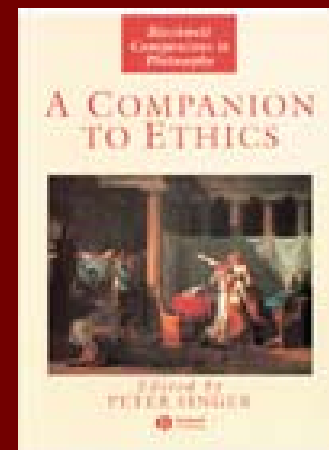
*He said he was bound by a scientist's **code of** ethics.*

*Publication of the article was a **breach of** ethics.*

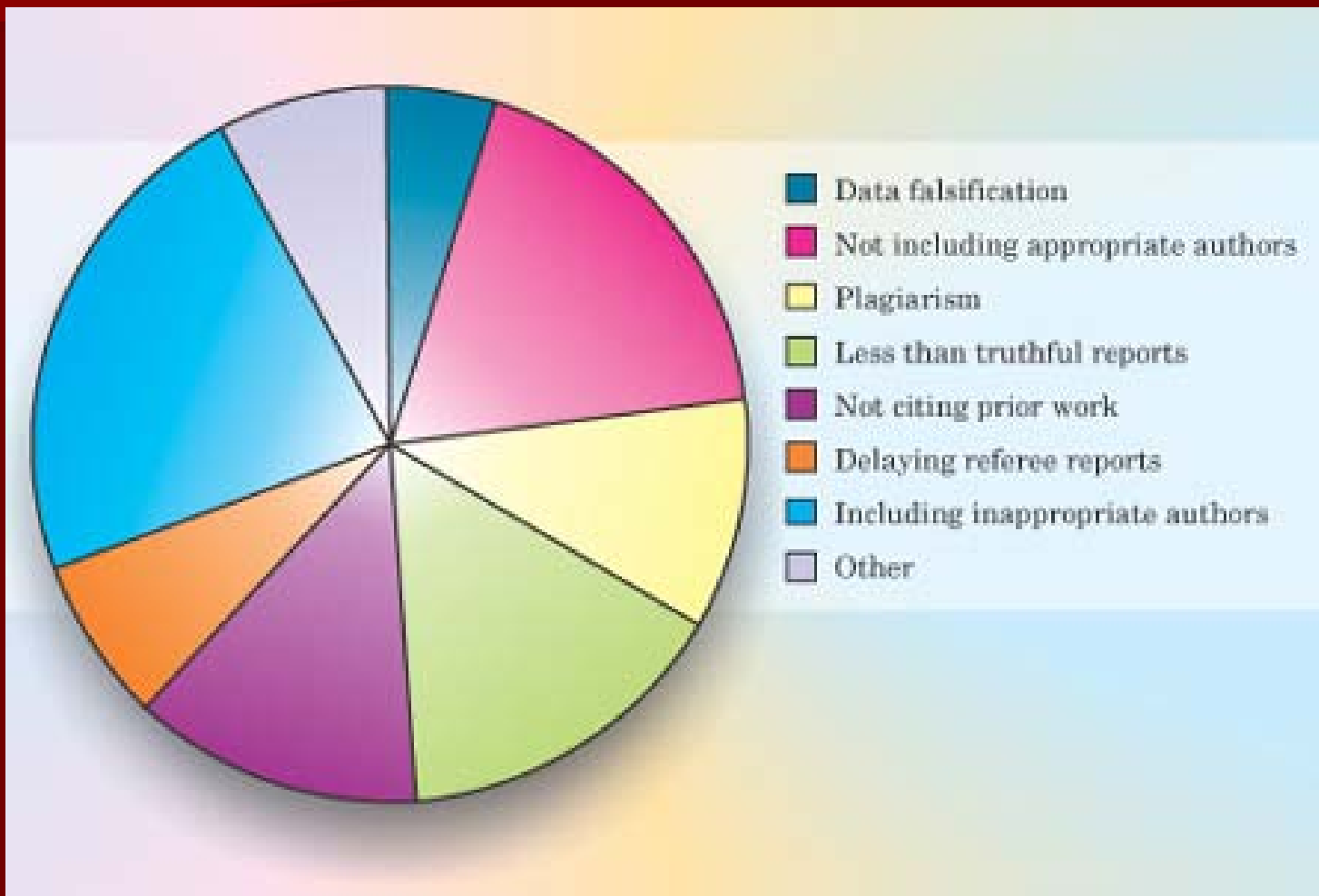
Cambridge Advanced Learners Dictionary

# What is ethics all about?

- Ethics deals with the answer to the questions
  - What ought I to do?
  - How ought I to live?
- There are multiple answers
  - Depend on the ethical system/tradition
  - Deontological ethics
  - Utilitarian ethics
- It is a vast field
  - *A companion to ethics*, 1993,  
Edited by Peter Singer



# Distribution of ethics violation categories (APS)



# Goal of this talk

- Identify ethical issues on scientific environment
- Learn what to do when these situations arise
- Methodology
  - discuss a few ethical situations

■ Is science independent of values?

# Error and negligence

- What to do with “honest mistakes”?
- What about systematic negligence?
- Learn more
  - *Fallacies in astronomy and medicine*, by Edwin E Salpeter, Rep. Prog. Phys. 68 (2005) 2747
  - Adriaan Van Maanen versus Edwin Hubble on the distance of “spiral nebulae” (galaxies)

# Misconduct

- Data fabrication/misreporting
- Plagiarism
- Double funding



# Misconduct

- “Submitted” papers

# Conflict of Interest

- Definition

- Individual has interest in the object (grant application, proposal, paper) under review that will bias his opinion.

# Publication and openness

- Published papers can be freely used provided they are cited
- What about if a paper doesn't cite you?
- What about if you ask data from a published paper and the author refuses?

# Publication and openness

- What about work in progress?
  - It is important to discuss with others
  - But you might end up “robbed”
- What about one versus many papers on a subject? When does salami regime applies?

# Authorship practices

- Who should sign the paper?
  - Honorary authorship
- What should be the order of authors?
- Information flow within authors

# Responding to violations of ethical standards

- Can you discuss the situation with the individual?
- Discuss the situation with a trusted friend/colleague
- Has your laboratory/university ethic support?
- Complaining verbally or in written

# The Scientist in the society

- Is your research in a given moment relevant for the public affairs?
- Giving something back – outreach
  - Responsible outreach

# How to improve

- Read some papers
  - *On being a scientist: responsible conduct in research*, National Academy of Sciences [www.nap.edu/html/obas/](http://www.nap.edu/html/obas/)
  - *Responsible Science*, National Academy of Sciences, [www.nap.edu/catalog/1864.htm](http://www.nap.edu/catalog/1864.htm)
  - *The responsible researcher: paths and pitfalls*, 1999, Edited by Sigma Xi [www.sigmaksi.org/programs/ethics/ResResearcher.pdf](http://www.sigmaksi.org/programs/ethics/ResResearcher.pdf)
- Discuss ethical situations with colleagues you respect
- Learn how to protect yourself from unethical behavior
- Learn how to act when facing unethical behavior



Thank you!