Agenda

What is responsible research?  Exercises
Where can I go for help?  Questions
What is responsible research?

The responsible conduct of research is the practice of scientific investigation with integrity. It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.

Source: NIH notice NOT-OD-10-019
Why does it matter?

- Developing and protecting your professional reputation
- Building trust in our research, teaching, and each other
- Staying out of prison
What is research misconduct?

- Falsification of data
- Fabrication of data
- Plagiarism
- Other conduct that seriously deviates from ethical and professional standards

Source: Policy and Procedures on Integrity in Research and Publishing
What is research misconduct?

- Honest errors and differences of opinion are not research misconduct
- Authorship disputes may involve research misconduct, depending on the nature of the dispute

Source: Policy and Procedures on Integrity in Research and Publishing
Falsification

• Manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record
  ▪ David Anderson (2015)

Source: Policy and Procedures on Integrity in Research and Publishing
Fabrication

- Making up data or results and recording or reporting them
  - Brandi Blaylock (2015)

Source: Policy and Procedures on Integrity in Research and Publishing
Plagiarism

• The appropriation of another person’s ideas, processes, results, or words without giving appropriate credit
  • Dr. David R. Jacoby (2001)

Source: Policy and Procedures on Integrity in Research and Publishing
Authorship disputes are fairly common
- Time wasted
- Relationships spoiled

Work with your advisor and colleagues to plan for authorship **early** in a project
Copyrighted material

• Figures, tables, illustrations
• Substantial portions of text (more than 150 words)
• Works of a student’s own authorship to which the student no longer retains the copyright
Copyrighted material

• If you include copyrighted material in a thesis, you must obtain a letter of permission to reprint the material, and include two copies when depositing.

• The student is responsible for obtaining these letters.
Intellectual property

• Inventions and patent applications are handled by the Office of Technology Management (OTM)
• OTM also helps with starting companies and commercializing technologies
Use of human subjects

- All research involving human participants must be approved by Institutional Review Board (IRB)
  - Use of health and other private data
  - Interviews, UI/UX tests
- Extensive federal regulations apply
Use of national security data

• All research involving export-controlled and other national security data must be approved by the Export Compliance Officer
  ▪ Government-imposed publication restrictions
• Extensive federal regulations and serious criminal penalties
Conflicts of interest and commitment

• A conflict of interest exists when an academic staff member is in a position to advance his/her own interests to the University’s detriment

• A conflict of commitment arises when the external activities of an academic staff member are so demanding of time or attention that they interfere with the individual’s responsibilities to the University
Conflicts of interest and commitment

• Potential concerns:
  - Use of university resources for private gain
  - Licensing university-owned intellectual property
  - Involving students or employees in consulting or start-up companies
Other considerations

- Use of animal subjects must be approved by Institutional Animal Care and Use Committee (IACUC)
- Research safety
  - Use of radioactive or other dangerous chemicals
  - Use of pathogens
Consequences

- Clarification, correction, or retraction of research record
- Letters of reprimand
- Suspension of/exclusion from federal grants
- Expulsion
- Rescission of degree
- Prison

Sources: 42 C.F.R. 93.407; 45 C.F.R. 689.3
A group of graduate students founded a start-up company based on University technology for improved cybersecurity. At the time the company was founded, it licensed technology developed in the course of their thesis research. Several years later, the company faces a technical challenge. In talking with students who are still in the University research group, the CTO (now a graduate alum) realizes that recent developments in the University lab could provide a solution. What should the CTO do?

a. Visit the University lab with her technical staff to learn the solution to the problem
b. Make a gift to the research group and ask them to develop the solution for the company
c. Call an OTM technical manager for advice
d. Advise the students to make sure the technology is properly disclosed
e. C and D
A graduate student develops an iPhone app that enables students to do peer-to-peer counseling over the network by logging in to a server where they are paired with other students. In order to study the effectiveness of the software, the student inventor and the faculty advisor incorporate a survey that the students fill out after each counseling session. They then present their research using the survey at a national software design meeting.

The faculty member gives students in his class extra credit for trying out the software. The early reviews of the software are encouraging, so the graduate student founds a small company and sets up a server in the laboratory to make the app publicly available for a small fee.
Exercises

A faculty member is invited to serve on a review proposal for funding from a federal agency. Although she is very busy with her own research, she agrees to serve, signing a confidentiality agreement. Several weeks before traveling to the review meeting, she receives a number of proposals to review.

As she begins to read one of the proposals, she realizes that the proposed work appears nearly identical to some work that she has been planning. What should she do?
Exercises

A faculty member serves on a review panel for DARPA under a confidentiality agreement. In the course of reviewing proposals, she is exposed to many innovative ideas. Several weeks later, she is retained as a consultant by a computer firm needing assistance in solving a challenging problem with a new processor.

She recalls that one of the proposals she reviewed was for a project aimed at solving this problem. What should she do?
Where can I go for help?

Research misconduct:  
Research Integrity Officer  
rsocfficr@illinois.edu  
Website

Research involving human subjects:  
Institutional Review Board  
irb@illinois.edu  
oprs.research.illinois.edu

Research involving animals:  
Division of Animal Resources  
dar@illinois.edu  
Website

National security research:  
Export Compliance Officer  
exportcontrols@illinois.edu  
Website

Inventions/intellectual property  
Office of Technology Management  
ottm@illinois.edu  
ottm.illinois.edu

Conflicts of interest or commitment:  
Conflict of Interest Office  
coi@illinois.edu  
Website
Where can I go for help?

Contract questions:
Office of Sponsored Programs
osp@illinois.edu
sponsoredprograms.illinois.edu

Safety concerns:
Division of Research Safety
drs@illinois.edu
Website

Other concerns:
Graduate College
grad@illinois.edu
grad.illinois.edu
Where can I go for help?

• Early reporting helps resolve issues before they become problems
• Retaliation is prohibited
Questions?

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