Ethical Communication

teaching students how to “behave” in the publication process

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Ethics Training at Penn Chemistry

Designed to fulfill NIH and NSF grant requirements for ethics training, including content and contact hours

- **New graduate student orientation:** Responsible Conduct in Research
- **CHEM 601:** Chemical Information: Ethics in Scholarly Communication
- **CITI Modules**
- **Faculty led ethics seminars:** Topics vary by semester
Tools and Required readings

- “On Being a Scientist” from the National Academies Press
- *ACS Style Guide*, Chapter 1
- Penn Code of Ethics
- Penn Handbook of Ethical Research (Vice Provost of Research’s Office)
Orientation
“the lab”

http://ori.hhs.gov/TheLab/TheLab.shtml

“In ‘The Lab: Avoiding Research Misconduct,’ you become the lead characters in an interactive movie and make decisions about integrity in research that can have long-term consequences” (http://ori.hhs.gov/thelab).

- **The Graduate Student:** What do you do if you suspect research misconduct?

- **The Post-Doc:** How do you balance your work and family life?

- **The PI:** How do you balance your mentoring responsibilities with all your other duties?

- **The Research Integrity Officer:** How do you handle a misconduct case?
BUT EVERYBODY DOES IT...

Angela is writing a paper for JACS, in which she is reporting a new method of synthesizing a versatile organic substance. Her advisor has told her to hurry, as it has come to his attention that a group at another institution is doing similar work and preparing to publish. Angela’s paper is in good shape, but one critical $^1$H NMR is a little dirty; it contains a grease peak. Angela knows that JACS requires clean spectra, but her NMR indicates that she has, indeed, made the compound she claims. Since she doesn’t have time to rerun the spectrum, she edits out the grease peak and submits her paper.
Chem 601: Chemical Information
course outline

- Introduction to the chemical literature and scholarly communication

- *Publication ethics*

- Resources and techniques common to all disciplines
  - Penn Libraries Web site and tools, Patent resources, SciFinder, Web of Science, Scopus, property sources

- Discipline-specific resources and techniques

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<th>P-chem</th>
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<td>Reaxys</td>
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<td>Organometallics</td>
<td>Inspec/Compendex</td>
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<td>MEDLINE</td>
<td>Crystal structures</td>
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Chem 601: Chemical Information
intro to the chemical literature
Chem 601: Chemical Information
intro to the chemical literature
Chem 601: Chemical Information
Ethics in Scholarly Communication
ETHICAL CONSIDERATIONS

1. Perform a thorough background literature search and give appropriate credit.
2. Avoid fabrication, falsification, plagiarism.
3. Tell one complete, “unbiased” story.
4. Declare all possible COI
5. Determine appropriate authorship/acknowledgments
6. Publish only in one place.
7. Work in a timely manner
8. Correct errors or retract if necessary.

Communicates With:
Editor
Production Team
Readers

Receives review report, written by Reviewer
ETHICAL CONSIDERATIONS

1. Keep things moving in a timely manner
2. Avoid bias and COI
3. Keep it confidential
4. Do not use information until it is published (although may ethically stop own work until publication occurs)
5. Select appropriate reviewers
6. First and final say as to publication

Communicates With:
Author
Reviewers
Production Team
Readers
Chem 601: Chemical Information
Ethics in Scholarly Communication
Ethical Considerations

1. Write review in a timely manner
2. Avoid COI
3. Keep it confidential (review it yourself)
4. Do not use information until it is published (although may ethically stop own work until publication occurs)
5. Critique science, NOT scientist
6. Make “unbiased” recommendation for/against publication
7. Return it if you can’t do the above

Communicates With:
Editor

Writes review report, given to Author

THE CRITIC

REVIEWER
Chem 601: Chemical Information
Ethics in Scholarly Communication

APPROVED!
Chem 601: Chemical Information
Ethics in Scholarly Communication
Chem 601: Chemical Information
Ethics in Scholarly Communication

**ETHICAL RESPONSIBILITIES**

1. Report errors and problems discovered in the process of reading and research.
2. Avoid unnecessary griping (such as “You didn’t cite me!” if it is not a major omission).

*Communicates With:*
Author
Editor

*THE AUDIENCE*

*READER*
• Student plagiarizes on her qualifying exam and is dropped from program

• Student gives a talk and gets “scooped” by an eminent scientist in his field

• Assistant professor battles with issues of first-authorship and fragmentation

• Case studies in plagiarism
  • Student doesn’t cite information used in his intro
  • Student gets all background info from one source
• Student doesn’t cite information from the introduction of a paper he reads
• Student gets all background information from a single review article
• Student copies a section of the introduction from one paper he wrote and pastes it into the introduction of a second
CITI Modules

- Introduction to RCR
- Research Misconduct
- Data Acquisition, Sharing, and Ownership
- Publication Practices and Responsible Authorship
- Peer Review
- Mentor and Trainee Responsibilities
- Conflicts of Interest and Commitments
- Collaborative Research
- Human Subjects
- Using Animal Subjects in Research

https://www.citiprogram.org/rcrpage.asp
Faculty-led ethics seminars

- Timed to complete required contact hours
- Topics vary based on instructor
  - Professional etiquette
  - Keeping a laboratory notebook
  - Publication ethics/plagiarism from the point of view of an editor
• A large percentage of recent, high-profile ethical failings in chemistry have dealt with publication issues; hence, the bulk of Penn’s ethics training is administered in an information course.

• An understanding of the publication process helps students to understand the ethical issues surrounding publication.

• Students need to learn to live in the “scientific world,” obeying its rules. Case studies help create this “world” in a controlled setting.

• Penn’s program includes all graduate students, not just those who are grant funded, making administration easier.
acknowledgments

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  • Mandy Swope
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