

BIOE 502 Professionalism

Fall 2008

Mondays from 2-3:50pm in 2320 DCL

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<http://ultrasonics.bioen.uiuc.edu/>

Tentative Schedule of Speakers:

August 25	Introduction	Insana
September 1	Holiday	
September 8	Authorship	Insana
September 15	Human Subjects and Animals in Research	Sutton
September 22	Grant Proposals	Boppart
September 29	Conflict of Interest	Bhargava
October 6	Ethical Behavior In Scientific Research	Zhong
October 13	Intellectual Property	Wang
October 20	Scientific Writing	Insana
October 27	Final Exam	Insana

Authorship

and Peer Review

2008

You're ready to write your first paper. Who should be coauthor?

- Your thesis work; you did most of the work and you're writing first draft
- You worked closely with your major prof scientifically who also funded your work
- Others in lab "helped"
- You used a specialized device in next lab
- You purchased key reagents from outside
- You have a research agreement with a company

What are the products of academia?

1. Production of new knowledge (journal publications, books, and oral or poster presentations, patents, IP)
2. Knowledgeable workforce: student graduates, postdocs, fellows

Grant awards are not products but a means to an end

Types of publications

- Authored books (years of intense work; >500 pages)
- ***Peer-reviewed journal papers (original submissions, correspondences, review articles; 20 pages)***
- Edited books
- Book chapters (extended reviews; didactic; 50 pages)
- Proceedings papers (conferences; 2nd class whether peer reviewed or not; 4 pages)
- Published abstracts (1 page or less) and book and patent reviews

What is expected?

- Junior faculty and postdocs: 2 first-authored papers per year. Several presentations and co-authored publications. Senior (corresponding) author on papers with students
- Industry requirements/expectations vary widely. Careful planning: industry-> acad
- Pubs required: win grants, promotion, tenure, get job, prestige, attract recruits
- Shared responsibility for contents

Where to publish

- Every field has hierarchy of journal quality and varying publication standards (Impact)
- Get advice from those close to field
- Carefully examine “Instructions to Authors”
- Your reputation depends on being seen (conference) and being read (journal pubs)
It is critically important to pick the right journal and/or conference to publish your work

How to publish

- Slice work into pieces and publish as a series? Editors like that to keep page count low; helps keep your numbers up (least publishable units)
- Quality and content is noticed by peers, thus affecting your reputation
- Avoid “notches on the gun belt”
- Avoid “if it’s not perfect, I’m not publishing”
- Avoid “white paper syndrome”

What is publishable?

- An original contribution is 1st disclosure of results or techniques that enable peers (1) to understand problem and observations, (2) repeat experiment or derivations, (3) evaluate authors' intellectual process leading to conclusions
- Conference proceeding: “practice paper” to introduce forming ideas. Allows subsequent re-publication, so doesn't provide the same amount of credit. Carefully, these “guidelines” vary depending on the field of study!

Criteria for authorship

- Multi-authored papers are the norm
- All authors must be able to defend work
- Authorship gives credit but demands responsibility
- Who should be author: performs key experiment, critical to interpretation, *intellectual contribution*
- Who should not be author: no experimental, technical, intellectual contribution
- In between areas require careful judgment
- Establish rules before collaboration starts!

Author Order

- First author: major contributor to work and writes first draft of paper. Listed first
- Senior author: Corresponding author. Listed last. Often head of lab or major prof. Shares responsibility with FA for accuracy and quality. Ensures acknowledgements are complete (funding sources) assumes costs. Works with FA to decide on coauthors
- Coauthors: (generally not 1st or last). Listed in order of contribution

Peer Review Process

- Editors, Associate editors, Reviewers are all peers. No one gets paid; courtesy and honor. Reviewers acknowledged at yr end
- Reviewers recommend to editor publication based on significance (opinion), accuracy, appropriateness for journal, clarity or presentation (add/delete materials)

Peer Review Process

- Reviewers should decline offer to review if they cannot complete in 1 month; avoid COI
- Authors should plan to wait 3 months for first reviews (usually 2-4 reviews) although it varies widely (Science/Nature take weeks, math journals take years)
- Accept as is (rare), accept minor revisions, reject but reconsider revision, no further consideration, recommend another journal

Who should be coauthor? (revised)

- Your thesis work; you did most of the work and you're writing first draft
- You worked closely with your major prof scientifically who also funded your work
- Others in lab "helped"
- You used a specialized device in next lab
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