

# **Responsible Authorship, Publication Practices, and Peer Review**

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# Overview of Publication and Peer Review

(adapted from Columbia U.)

- Importance of Publication
- Importance of Authorship
- Who is an Author?
- Problems in Multiple Authorships
- Peer Review Issues

# Publications are a Point in Time

The major limitation of a scientific publication is its attempt capture the "truth" of the scientific process to a snapshot “of a horse race” when discovery usually takes a prolonged process.

Scientific writing transforms and formalizes research and substitutes order for the disorder and agitation that animate life in a laboratory.

# Why Publish?

Although academic papers may not reflect the "reality" of the research process, peer-reviewed scholarly and scientific literature remains a key repository for the advancement of society's knowledge.

Academicians and researchers submit their ideas and findings to journals. Journal editors and, generally, ad hoc peer reviewers for the journal then criticize the draft manuscripts, finding the strengths and weaknesses of the work. Based on the input, authors revise their writing, which ultimately gets published in a printed or, these days, online publication.

# Publish or Perish!

For the authors of scholarly works, articles provide credit for promotions, grants, and recognition. Committees will review a publication record when considering tenure, funding for new research projects, and awards. ----a little known fact!

# **Is publishing a responsibility?**

## ***Do you owe it to the funding source?***

Once material is published in the literature, the world -- including other scholars, investigators, and the public -- has access to it. Professionals in a given discipline can then challenge or corroborate the new findings.

Some ideas and results quickly become part of society's collective wisdom, while others remain controversial, challenging the status quo.

# Differing ideas about authorship

- Large labs (rotating authors)
- Collaborative research
- New professors/junior faculty
- Post-docs vs. Ph.D. candidates
- Undergraduates
- Mixed authors -- University vs. Industry
- Cultural experiences

# The way it is.....

As research has become more complex and multidisciplinary, the need for many different types of experts to perform studies has increased. Investigators today collaborate on projects with colleagues from across the country and around the world, working with senior scientists, clinicians, undergraduate and graduate students, technicians, postdoctoral fellows, medical students and residents, statisticians, and other professionals. Each brings different expectations and even cultural experiences to issues such as who should be included as an author on a paper for publication.

# Determining authorship should be easy---*yeah right!*

- Problems can arise when people have different ideas about who should be an author on a paper.
- Some say that being accountable for the entire content of an article should be a minimal responsibility for an author whose name is on a paper.
- Given the multifaceted nature of research, can one person take full responsibility?
- Can a technician that processed samples be included and held responsible as an author?

# Just follow the formula.....*Ha!*

- Journals usually have guidelines for authors regarding how they should submit a manuscript to the publication.
- The process of responsible authorship begins before the writing of a manuscript, with good scientific study design and with researchers abiding by ethical guidelines regarding conflicts of interests and work with animals and humans.

# Authorship Reality

- The most important aspect of authorship should occur before the writing of the paper.
  - Potential authors have to know the policy/culture of their laboratory, department, and institution with respect to what constitutes an author.
- can it really be that dependent on where you work? ...you bet.

# Getting it Right -- 1

- When a graduate student/employee/post-doc/faculty first comes to a laboratory, or colleagues collaborate in a multidisciplinary project, a discussion about the practice of credit and authorship for research work should occur as soon as possible.
- Of course you do this...don't you?

# Getting it Right -- 2

- Each party should have an understanding of what kind of work merits authorship, with the knowledge that, as the research project progresses, who is an author and the position of a name in a list of authors may change.
- We do this all of the time...don't we?

# Getting it Right -- 3

- Each party should also have an understanding of who among many authors will have primary responsibility for the writing, submission, and editing work required for a paper.
- First authorship is important in the biomedical sciences, but different disciplines assign different meanings to the placement of authors.

# International Committee of Medical Journal Editors guidelines

- A starting point for a discussion of authorship is the International Committee of Medical Journal Editors (ICMJE) guidelines.
- Over the years, ICMJE has issued updated versions of what are called [Uniform Requirements for Manuscripts Submitted to Biomedical Journals](#). Approximately 500 biomedical journals subscribe to the guidelines.

# ICMJE Guidelines (brief)

***Authorship credit should be based on:***

- 1) Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
- 2) Drafting the article or revising it critically for important intellectual content;
- 3) Final approval of the version to be published. Authors should meet conditions 1, 2, and 3.
- 4) Contributors recognized acknowledgements.

# ICMJE continued

- Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.
- When a large, multi-center group has conducted the work, the group should identify the individuals who accept direct responsibility for the manuscript.
- Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.

# ICMJE continued

- The order of authorship on the byline should be a joint decision of the co-authors. Authors should be prepared to explain the order in which authors are listed.
- All contributors who do not meet the criteria for authorship should be listed in an acknowledgments section.

# Problems with ICMJE

Two major problems with the ICMJE guidelines are that many members of the scientific community are unaware of them and many scientists do not subscribe to them. According to Stanford University's Cho and McKee, writing in *Science's Next Wave* in 2002, a 1994 study showed that 21% of authors of basic science papers and 30% of authors of clinical studies had no involvement in the conception or design of a project, the design of the study, the analysis and interpretation of data, or the writing or revisions. Actual practice, it seems, disagrees with ICMJE recommendations.

# Other findings regarding authorship

- Gift authors
- No guidelines
- Head of lab
- PI on grant/contract
- Technician/student participation
- Complementary authorship
- Foreign students putting foreign mentors

# New Trends—British Med. Journal

Questions who planned, conducted, and reported the work. One or more of the contributors are considered "guarantors" of the paper. The guarantor provides a written statement that he/she accepts full responsibility for the conduct of the study, had access to the data, and controlled the decision to publish. *BMJ* says that researchers must determine among themselves the precise nature of each person's contribution.

# Authorship responsibilities

Michael Kalichman's educational material for the University of California, San Diego

- Good writing
- Accuracy
- Context and citations
- Publishing negative results
- Conflicts of interest
- Sponsorship
- Copyright law
- Duplicative research
- Fragmentary publication “salami” science.
- Intellectual property
- Dealing with the press

# Resolving Authorship Problems

- Research shows: mostly an issue between faculty
- Junior/Senior scientist
- Student/mentor
- Cultural issues/clash of personalities

Many universities establish the use of an ombudsman to mediate issues...what do we do?

# Dealing with errors –veracity of literature

- Errors are not misconduct, but there are differing levels of mistakes and authors have certain responsibilities to correct the record.
- If unintentional, minor errors, are found in a manuscript, the author should write the journal a letter describing the mistake, which is usually called an erratum.
- If the errors are serious enough to undermine the report, the authors should again write the journal and explain the errors as a "correction."
- But if the inadvertent errors are serious enough to completely invalidate the published article, or if misconduct has occurred, the authors should ask for a retraction of the paper.

# Ghost Authors/Writers

- Another accountability problem in authorship occurs when investigators are listed as ghost authors.
- Pharmaceutical companies often hire ghost writers for clinical studies and others sign their names as authors.
- Busy investigators also employ medical writers to write

PROBLEMS????

# Publications Restrictions

- Some agencies may place publication restrictions on work
- Many industry contracts ask for manuscript review...vs...approval!
- Copyright restrictions
- Non-disclosure agreements (clinical research)
- Material transfer agreements...worm hole issues

# Peer Review Process

- Although peer review has been used since the 17th century, it became more common in the 20th century. In 1937, the requirement of peer review for awarding grants from the National Cancer Institute was written into public law.
- All major funding agencies today require peer review of grant applications, and a majority of journals require peer review of submitted manuscripts. Professional advancement is based on the ability to get articles published in peer-reviewed journals.

# Peer Reviewer Responsibilities

- Responsiveness
- Competence
- Impartiality
- Confidentiality
- Exceptions to Confidentiality
- Constructive Criticism
- Responsibility to Science

# Peer Review Criticisms

- Reviewers may have biases that they are unable to disregard when they read a grant application or paper. Such biases can include disagreements with methods used in a paper or grant, dislike for an author's or applicant's institution, dislike of the author or applicant, and competition with the author or grant applicant.
- Peer review may not allow controversial or innovative research to enter into the literature or to be used as the basis for a grant application, because reviewers often subscribe to the prevailing paradigm.
- Peer reviewers may not be forthcoming in admitting financial conflicts of interest that they might have in reviewing a paper or grant application.

# Peer Review Criticisms

- Reviewers may not admit their lack of expertise in reviewing a paper or grant application.
- The peer-review process does not always find errors.
- Gender bias may occur in reviewing. Some studies show that female authors were accepted more by female reviewers than by male reviewers.
- Peer review does not prevent papers from getting published. Although an article might be rejected by one publication, a persistent author will get it published in another.