

Responsible Scholarship

Weishi Liu
DGS of KU Math

March 29, 2019

Main Topics (not w/o overlaps)

- (a) Authorship, publication, plagiarism, copyright
- (b) Peer review, refereeing, grant proposal preparation
- (c) Professional practices
- (d) Conflict of interest
- (e) Maintenance of confidentiality
- (f) Student-Mentor relations and responsibilities

(a) Authorship, publication, plagiarism (self-plagiarism)

Authorship

- Who should be the author(s) of a research work?

Answer: Individuals who make significant contributions to the work.

This includes anyone who:

- (i) was involved in the identification of the topic and the conception;
- (ii) participated in working out details (some or all);
- (ii) participated in drafting the publication;
- (iii) approved the final version of the publication.

Anyone who plays a lesser role can be listed under acknowledgments.

- Order of the authors, if multiple; Corresponding author

Preparation and submission of a paper

- Accurate report of the results and a large content of the work
- References/citations of others' results vs. illustrations
- Acknowledging of support and discussions with others
- A paper may only be submitted to a single journal at any time
[Why can one submit a job application to multiple places?]

Every journal has its own policies:

- (i) for authors on submissions, revisions, citations, proofreading, copyright;
- (ii) for referees on review criteria, procedure, ...
- (iii) for editors on handling submissions, reviewer invitation, decision making,

Practices that should be avoided

Ideally, quality should matter more than quantity, but in reality quantity - the number of articles published - is often used as a measure of productivity and ability.

Given the importance of publication, some publication practices should be avoided. Examples include:

- “Honorary” authorship = undeserving author;
- Salami publication = dividing one significant piece of research into a number of small ones to increase the number of publications;
- Duplicate publication (see later);
- Premature public statements.

Misconduct: Plagiarism & Self-Plagiarism

It is clear to everyone that fabrication and falsification are NOT allowed.

Plagiarism: There is no single accepted definition. Some forms of plagiarism are easy to identify but some are less clear-cut.

In scientific publications, plagiarism normally requires a knowing misrepresentation, explicit or implicit, of someone else's work as one's own.

In the context of research proposals, NSF defines plagiarism broadly as "the appropriation of another person's ideas, processes, results, or words without giving appropriate credit".

The most straightforward form of plagiarism involves verbatim or near-verbatim copying, or very close paraphrasing, of text or results from another's work.

The least clear-cut form of plagiarism is an inadequacy of relevant citations, such as, insufficient acknowledgement of the work of other authors, citing the work but not specific enough that may mislead the originator of the relevant results.

What if you believe there must be relevant references but could not find one?

An example from a recent joint work of mine with two other authors.

We included a remark in the paper:

Remark 5.1. The phenomenon was well-known in the physiology community. Unfortunately, we could not find references stating precisely this phenomenon. We have contacted many leading experts who are all recognizing this phenomenon. Some experts mention this phenomena as an example of exchange diffusion and/or long channel phenomena.

Self-plagiarism/Duplicate publication: An “unacceptably” close replication of the author’s own previously published text or results without acknowledging the source.

Many journals apply a “reasonable person” standard when deciding whether a submission constitutes duplicate publication. If a few identical sentences previously published by the current author appear in a subsequent work by the same author, this is unlikely to be regarded as duplicate publication. In contrast, it is unacceptable for an author to include significant verbatim or near-verbatim portions of his/her own work, or to depict his/her previously published results as new, without acknowledging the source.

Another example of one of mine research works.

Plagiarism check: Many journals (e.g. SIAM journals) are members of Similarity Check, an initiative to help journals prevent scholarly and professional plagiarism. An arm of Crossref.org, Similarity Check software compares a paper against its database of published content.

- Further discussion during one-on-one meeting with your advisor(s).

(b) Peer review, refereeing, grant proposal preparation

Peer review - evaluation by colleagues with similar knowledge and experience - is an essential component of research and the self-regulation of professions to assess the quality and importance of research.

Many important decisions about research depend on peer reviews, including:

- (i) which research findings to publish (manuscript reviews);
- (ii) which projects to fund (grant reviews);
- (iii) which scholars to hire and promote (personnel reviews).

Responsibility of Peer Review

Timely, Constructive, No personal bias, Respectful for confidentiality, etc.

(c) Professional practices of responsible scholarship

Responsible scholarship = Good citizenship in professional life.

We all want to be scholarly responsible and it sounds easy to do so.

Yes, it is generally easy but not always.

The specifics can be a challenge to understand and put into practice.

Key Words for Best Practices

HONESTY – conveying information truthfully and honoring commitments;

ACCURACY – reporting findings precisely and taking care to avoid errors;

EFFICIENCY – using resources wisely and avoiding waste;

OBJECTIVITY – letting the facts speak for themselves and avoiding bias.

(d) Conflict of Interest

- What is a conflict of interest?

It is a situation in which personal considerations have the potential to compromise or bias professional judgment and objectivity.

- Examples of conflict of interest:

a. Financial conflicts are situations that create perceived or actual tensions between personal financial gain and adherence to the fundamental values of honesty, accuracy, efficiency, and objectivity

b. Conflicts of commitment arise from situations that place competing demands on researchers' time and loyalties.

c. Personal and intellectual conflicts: Researchers are also expected to avoid bias in proposing, conducting, reporting, and reviewing research. They therefore should be careful to avoid making judgments or presenting conclusions based solely on personal opinion or affiliations rather than on scientific evidence.

(e) Maintenance of confidentiality

Some information that is shared during peer review is shared confidentially, that is, with the understanding or explicit policy that it will not be shared with anyone else without permission.

Confidentiality is generally required during:

- (i) manuscript reviews (to help protect ideas before they are published);
- (ii) grant reviews (to help protect ideas before they are funded);
- (iii) personnel reviews (to protect personal privacy).

Peer reviewers have an obligation to preserve confidentiality during the review process if they have been asked to do so. While this obligation might seem obvious, it can be compromised in some seemingly harmless and other more harmful ways.

For example, although researchers sometimes do, it is not acceptable to do any of the following without getting permission:

- (i) ask students or anyone else to conduct a review you were asked to do;
- (ii) use an idea or information contained in a grant proposal or unpublished manuscript before it becomes publicly available;
- (iii) discuss grant proposals or manuscripts you are reviewing with colleagues in your department or at a professional meeting;
- (iv) retain a copy of the reviewed material (generally manuscripts and grant proposals should be shredded or returned after the review is complete);
- (v) discuss personnel/hiring decisions with colleagues who are not part of the review process.

(f) Student-Mentor relations (for one-on-one with advisors)

While conducting investigations, researchers often assume the added role of mentors/advisors to trainees/students.

The mentor-trainee relationship is complex and brings in potential conflicts.

Common sense suggests that good mentoring should begin with:

- A clear understanding of mutual responsibilities;

The need for early understanding is not one sided.

- A commitment to maintain a productive and supportive research environment;

Equality; Respect.

- Proper supervision and review:

- An understanding that the main purpose of the relationship is to prepare trainees to become successful and independent researchers.

Acknowledgement. The following resources are used in this preparation.

- * ORI Introduction to the Responsible Conduct of Research, N. Steneck (illustrations by D. Zinn)
- * Submission of journal articles:
 - SIAM submission tool: <http://peerreview.siam.org/>
 - AMS submission tool: <http://www.ams.org/submit-book-journal>
- * SIAM meetings guidelines: <http://www.siam.org/meetings/guidelines/>
- AMS author resource center: <http://www.ams.org/publications/authors/authors>
- * Plagiarism and Authorial Integrity in Scientific Publication
 - SIAM site on authorial integrity: <http://www.siam.org/journals/plagiarism.php>
 - Report on an investigation of a plagiarism case: <http://www.siam.org/journals/plagiary/index.php>
- * AMS has a policy statement on professional ethics in mathematics:
www.ams.org/about-us/governance/policy-statements/copemanual.pdf

Thank You !