

# Guide to Authorship and Scholarly Publication for Graduate Students

## A Guide to Authorship and Scholarly Publication for Graduate Students and Post Doctoral Scholars

- New scholars and researchers recognize that accompanying the anticipation of the search and the excitement of discovery is the obligation to share methods and conclusions with the community of scholars and researchers.
- Scholarly publication is the process whereby the fruits of the researcher's labor becomes part of the "research record," the cumulative compilation of the hypotheses, methods, data, analyses, conclusions, and speculations of those who practice the disciplines...
- It is important for all graduate students to become familiar with the conventions and standards of scholarly publication.
- Many of the ideas and information in the sections that follow were abstracted or paraphrased from a text by Macrina (2000)<sup>1</sup>.

### • *Why is it important to publish the results of research and scholarship?*

Practical reasons why one might choose to create and submit a formal scholarly essay or article or monograph for publication are:

- (i) for peer review, new methods, data and conclusions become part of the research record only after peers have reviewed them and agreed that they advance the field.
  - (ii) for dissemination of detailed formal descriptions of research or scholarship, results and conclusions which provide the opportunity for others to duplicate their approach
  - (iii) to test conclusions by applying alternate methods to gather complementary data
- Through publication, researchers record and acknowledge the contributions of all participants in a scholarly project.
  - Publication also provides an opportunity to place contributions in the context of previous

- work, acknowledging and anchoring the work in the foundation on which it was built.
- Publications provide an opportunity to speculate on implications or applications of conclusions for future application.
- Publications are an important metric of professional accomplishment and accountability.
- Publications justify to employers and sponsors how their resources have been utilized, and why their continued investment is warranted.
- Publications are often used to justify merit increases in salary or promotions in rank and responsibility, and to document the appropriateness of awards and other recognitions.

### • *How do I know when to publish?*

- Timing and format of scholarly publication vary between and among scholarly disciplines.
- In some disciplines, the custom is to publish several individual technical articles in scholarly/scientific journals, while in others, it is customary to combine and synthesize the various components of the project as chapters in a monograph.
- It is best for the new researcher to ask their major professor to share the customs of their discipline. However, a few general principles apply broadly across disciplines:
  - (i) time to write a formal publication is when the author has a significant story to tell.
  - (ii) the evolution of a story may take several years of varied approaches and complex analysis.
  - (iii) practice of publishing in "least publishable units" has given rise to the expression "salami science," which describes the practice of presenting the story as a series of very thin slices ... and "salami science" is generally considered to be an undesirable form of publication.
  - (iv) Also considered undesirable is the practice of publishing less than complete descriptions of methods or analytical approaches, which fail to provide sufficient detail to allow the work to be reproduced.

<sup>1</sup> Macrina, Francis L. (2000) "Scientific Integrity: An Introductory Text with Cases", Second Edition, ASM Press, Washington, DC, pp. 49-72.

- ***How is the authorship of a scholarly publication determined?***

A commonly accepted standard states that *all* authors of a scholarly publication should satisfy three conditions:

(1) first, each author should have made a *significant contribution* to the work described. (A *significant contribution* entails a substantial role in the conceptualization, design, execution, or interpretation of data, and a clear understanding of the goals and outcomes of the work.)

(ii) Second, each author must be prepared to take responsibility for all aspects of the work described in the publication. However, they should be sufficiently familiar with the total project that they are comfortable with the description, methods, and conclusions and that they are willing to accept responsibility for the content of the publication.

(ii) Finally, each author should have read and approved the final draft of the manuscript and explicitly consented to the submission of the manuscript to a publisher. Individuals who have contributed to the project, but whose contributions do not rise to the level justifying authorship, should be recognized in an *Acknowledgements* section of the manuscript.

- ***How is the order of authors for a publication decided?***

Conventions for determining the order of authors for a research or scholarly publication vary among disciplines. For example, in the life sciences, the first author listed is the person who generated data, interpreted results, and wrote the first draft of the manuscript. In this convention, the last author listed is usually the principal investigator, lab director, or major professor responsible for oversight of the project. In physics, it is common for authors to be listed alphabetically in research publications.

It is *very important* for graduate students/post docs to discuss authorship and the order of authors with their advisor before they begin to write a joint publication. It is also *highly*

*desirable* to discuss expectations regarding publications when collaboration between researchers or laboratories is being planned.

- ***What is plagiarism and how can I avoid it?***

The core concept of plagiarism is relatively simple but the application of the concept to specific situations can be more complicated, controversial, and discipline-specific. The Council of Writing Program Administrators (CWPA) states that plagiarism “occurs when a writer deliberately uses someone else’s language, ideas, or other original (not common knowledge) material without acknowledging its source.”<sup>2</sup> Thus, whenever a person chooses to repeat the exact words written by another author, that person must mark them with quotation marks (“”) and provide a citation to the original source (as above for the CWPA definition of plagiarism). Where problems generally arise is when someone attempts to paraphrase the words or ideas of other authors. Here it is critical that the writer uses his/her own words in expressing the original author’s writing and clearly informs the reader of the original source of information. Two excellent sources of additional guidance, from which many of the ideas above were abstracted, are websites maintained by Purdue’s Online Writing Laboratory<sup>3</sup> and Indiana University’s Writing Tutorial Services<sup>4</sup>.

- ***How can I get additional information regarding scholarly publication?***

Due to the variation in customs among disciplines, the best source of additional information on the standards for scholarly publication is the student’s major professor, and

<sup>2</sup> Council of Writing Program Administrators, “Defining and Avoiding Plagiarism: The WPA Statement on Best Practices,” <http://www.wpacouncil.org>

<sup>3</sup> Online Writing Laboratory, “Avoiding Plagiarism,” [http://owl.english.purdue.edu/handouts/research/r\\_plagiar.htm](http://owl.english.purdue.edu/handouts/research/r_plagiar.htm)

<sup>4</sup> Writing Tutorial Services, “Plagiarism: What it is and How to Recognize and Avoid It,” <http://www.indiana.edu/~wts/wts/plagiarism.html>

this is a topic that every graduate student should discuss with his or her advisor early in the course of graduate study. The book and websites referenced in this brief article also contain useful guidance on these topics.

Additional resources:

1. Gordon Harvey, *Writing with Sources: A Guide for Students* (Hackett Publishing Co.)
2. Michael Harvey, *The Nuts and Bolts of College Writing* (Hackett Publishing Co.)

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