

## Responsible Conduct of Research, Scholarship, and Creative Activities

# Authorship and Publication

Responsible Conduct of Research, Scholarship, and Creative Activities  
Michigan State University Graduate School, 2010 <http://grad.msu.edu/>

The Graduate School  
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## Objectives

- List reasons that authorship is important to you
- Locate authorship guidelines from at least three journals in your discipline – indicate are these guidelines similar and dissimilar
- If you are listed as an author of a research publication, use the four authorship criteria from the MSU *Authorship Guidelines* to explain how you earned authorship
- Indicate how authorship disputes can be prevented
- Indicate how authorship disputes should be resolved

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Four authorship criteria from the MSU Authorship Guidelines  
(<http://rio.msu.edu/authorshipguidelines.htm>):

Authors should demonstrate:

- Substantial participation in conception and design of the study, or in analysis and interpretation of data
- Substantial participation in the drafting or editing of the manuscript
- Final approval of the version to be published
- Ability to explain and defend the study in public or scholarly settings

## Why Does Authorship Matter?

- Recognizes accomplished work – it is fair and important to receive credit for one's contributions
- Encourages continued research and publication efforts
- Establishes scholarly reputation for
  - Acceptance to advanced degree programs, post-doctoral fellowships, and faculty positions
  - Promotion and tenure decisions
  - Determination of merit pay increases
  - Grant applications
  - Awards
- Helps establish the scholarly reputation of the department, program, and university

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Think about ways in which authorship matters to you and to your mentor or trainee as appropriate.

Schedule a mentor/trainee meeting at which you discuss on-going and future research projects. Consider “win-win” scenarios in which both mentor and trainee contribute sufficiently to earn authorship, and in which trainees learn the research methods, writing, and editing skills needed for a research and publication career.

Discuss the MSU authorship guidelines (see subsequent slides). Establish clear expectations for each person's contributions that provide opportunity to earn authorship credit.

## Expected Number of Publications

In your discipline, how many publications are needed by:

- An undergraduate or master's degree student seeking admission to a top doctoral program?
- A doctoral student seeking admission to a top post-doctoral program?
- A doctoral student seeking a job at a university or other setting?
- An assistant or associate professor seeking reappointment, promotion, or tenure at MSU?
- How do you know? Where can you find this information?

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## Expected Number, *continued*

- The number of publications you need depends on:
  - Your discipline
  - Your university or place of work
  - Your “line of research”
- The importance of a publication to your scholarly reputation depends on:
  - Your contribution to the manuscript
  - Quality of the manuscript
  - Quality of the journal
- Ask your mentor(s) if you have questions!

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Expectations for scholarly productivity (publications, presentations, and grants) vary by discipline and university/place of work. Published work often is judged more favorably if publications reflect a “line of research”, meaning a cohesive body of work on the same or similar topics. Learn what is expected in your situation.

Your contribution to the manuscript. In many disciplines, first/sole-authored publications often count more toward establishing scholarly reputation than secondary authorship. The terms “senior author” or “first author” typically refer to the person who contributed most. The term “co-author” typically refers to one or more people who contributed equally. The term “secondary author” refers to other persons who contributed enough to earn authorship. Ask your mentor(s) about the way in which extent of contributions is reflected in the order of the authors for a publication in *your discipline*.

Quality of the manuscript. There are two primary ways of demonstrating quality of a manuscript:

1. Acceptance by peer review. Peer-reviewed manuscripts are more meaningful than those which are not reviewed by experts. Peer review means that members of an editorial board (or other reviewers selected by the journal) have read and approved your manuscript for publication. Peer review is more meaningful when the reviewers are experts in the discipline.
2. Citations to your journal articles by authors of other articles. Use the Web of Science database to find this data. Go to the MSU Libraries web site (<http://www2.lib.msu.edu/>), and then search for Web of Science, and then search by title, author, or journal. Results will include the number of citations to an article by authors of other articles. For example, as of 10/27/2009, the following article was cited 332 times. The number of citations is likely to increase over time.

Strong WB, Malina RM, Blimkie CJR, Daniels SR, Dishman RK, Gutin B, Hergenroeder AC, Must A, Nixon PA, Pivarnik JM, Rowland T, Trost S, & Trudeau FO. (2005). Evidence based physical activity for school-age youth. *Journal of Pediatrics*, 146(6), 732-737.

Quality of the journal. “Tier 1” journals in each discipline have the most prestigious editorial boards, peer review, rigorous criteria for acceptance of manuscripts, and high impact factors. “The impact factor for a journal is calculated based on a three-year period, and can be considered to be the average number of times published papers are cited up to two years after publication” (<http://www.sciencegateway.org/impact/>). As of 10/27/2009, the three journals with the highest impact factors for the 2000-2004 time period were *Nature* (50.99), *Science* (50.13), and *Proceedings of the National Academies of Sciences* (19.11). Ask your research mentor about the top journals in your field.

## Authorship Guidelines

- MSU researchers are expected to comply with the authorship policies of the journals or other venues in which they publish
- Use the *MSU Authorship Guidelines* if the journal publisher does not have a policy or guidelines
- If your work is subject to conflicting guidelines, discuss the matter with your coauthors and work toward a consensus solution

Source: J. Pivarnik, MSU Research Integrity Officer, personal communication, 10/29/09

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Authorship policies or guidelines have been established at most universities, by most professional organizations, and by most professional journals (check the manuscript submission guidelines). See especially the International Committee of Medical Journal Editors, *Annals of Internal Medicine* 1988; 108:258-265, also posted at [http://www.icmje.org/ethical\\_1author.html](http://www.icmje.org/ethical_1author.html).

## Authorship Guidelines, *continued*

- What are the authorship policies and guidelines established by
  - Professional organizations in your discipline?
  - Professional journals in your field?
  - Where can you find this information?

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- Learn about the policies and guidelines that apply to your research, scholarship, and creative activity.
- Look-up the authorship policies and guidelines for at least three journals in your field.
- Look-up the authorship policies and guidelines for professional organizations in your discipline.



## MSU Authorship Guidelines

<http://rio.msu.edu/authorshipguidelines.htm>

The MSU Authorship Guidelines are based upon these principles and best practices:

1. Authors should demonstrate:
  - a. Substantial participation in conception and design of the study, or in analysis and interpretation of data
  - b. Substantial participation in the drafting or editing of the manuscript
  - c. Final approval of the version to be published
  - d. Ability to explain and defend the study in public or scholarly settings

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The MSU Authorship Guidelines are generally more stringent than those used by some professional societies and journals. For example, consult the *Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Ethical Considerations in the Conduct and Reporting of Research: Authorship and Contributorship* by the International Committee of Medical Journal Editors, [http://www.icmje.org/ethical\\_1author.html](http://www.icmje.org/ethical_1author.html). (This is one of few “consensus” documents about authorship.)

“ .... Authorship credit should be based on 1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content; and 3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3. ... Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.” [http://www.icmje.org/ethical\\_1author.html](http://www.icmje.org/ethical_1author.html)

## MSU Authorship Guidelines, *continued*

2. Contributions that do not justify authorship should be acknowledged
3. Honorary authorship should not be tolerated
4. The rights of graduate students to publish the results of their research should be protected
5. The “senior” author is the person who leads the study and makes the most substantial contribution
6. The senior author determines order of authorship in consultation with other members of the research team (see notes below this slide!)

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Note about the rights of graduate students. The MSU Graduate Student Rights and Responsibilities policy (<https://www.msu.edu/unit/ombud/GSRRfinal.html>) offers further protection regarding the rights of graduate students to publish the results of their research.

Notes about senior author. Criteria for determining senior author vary by discipline. Ask your research mentor about practices in your discipline.

Student research projects. At MSU, a faculty member must be listed as the “responsible project investigator” (IRB language) for student research projects. This means that the faculty member (mentor) must sign-off on paper work such as IRB, IACUC, and grant applications. But for purposes of determining authorship, the student leads the study and should have responsibility for determining authorship status of others. Of course, students may choose to collaborate with their mentors about authorship decisions.

Theses and dissertations. At MSU, students are the sole authors of their theses and dissertations. Additional authors may be included on articles and other manuscripts based upon those theses and dissertations.

### Notes about order of authorship

The conventions for determining order of authorship vary by discipline. Factors that may be considered include, but are not limited to, extent of contribution to the research and principal investigator (PI)/lab director status. In some disciplines the first-named author is the position of most honor; whereas, in other disciplines the last-named author is the position of most honor. Ask your mentor about practices in your discipline. Encourage discussion in research team meetings (e.g., I am updating my CV, and I am curious about how authorship will be assigned for this project. Can we talk about that?).

Few journals have policies or guidelines about the order of authors. In fact, decisions about order of authors are mostly irrelevant to journal editors. The MSU Research Integrity Office, should a case be referred to that office, would also consider complaints about order of authors to be irrelevant simply because there are no accepted standards for authorship order. (J. Pivarnik, MSU Research Integrity Officer, personal communication, 10/29/09).

## MSU Authorship Guidelines, *continued*

7. Disputes over authorship should be resolved by senior author and/or principal investigator (PI) in collaboration with other authors – mediation may be appropriate if disputes cannot be resolved amongst the authors

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The MSU Authorship Guidelines suggest mediation by the department chairperson assuming that individual does not have a conflict of interest. The MSU Authorship Guidelines further suggest an arbitrator appointed by the Vice President for Research and Graduate Studies.

In practice, if disputes cannot be resolved at the unit level, faculty and students may seek assistance from the MSU Research Integrity Officer, Jim Pivarnik, Ph.D., 107 Olds Hall, (517) 432-6698, [rio@msu.edu](mailto:rio@msu.edu), web site URL - <http://www.rio.msu.edu/>.

## Authorship Disputes

Disputes about authorship represent about 25% of all problems reported to the MSU Research Integrity Officer (<http://www.rio.msu.edu/>)



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Data from Jim Pivarnik, Ph.D., MSU Research Integrity Officer, personal communication 10/27/09.

## Preventing Authorship Disputes

- Discuss authorship at the beginning of a project
  - Review applicable authorship guidelines
  - Identify likely and possible authors
  - Identify criteria used to determine final authorship
  - Give consideration to authorship when assigning responsibilities to the project
- Re-visit the topic of authorship as needed
  - During the project
  - Prior to submission of manuscripts
- Authors should jointly decide the order of authorship, with senior author or PI making final decisions

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Decisions about authorship should be “transparent”, meaning that all members of the research team understand the rationale for decisions and have an opportunity for input.

The PI should discuss authorship with other members of the research team at the beginning of a project.

1. Review journal (or MSU) authorship guidelines. Make certain that everyone understand the contributions that are expected of authors. Often students/trainees have misunderstandings about authorship and think they are making appropriate contributions when that is not the case.
2. Identify likely and possible authors. Discuss the general role of each person. Ask who is interested in authorship. There are no guarantees – decisions often depend upon how the research actually progresses and who contributes as planned.
3. Give consideration to authorship when assigning responsibilities to the project. The PI should consider authorship possibility in addition to other factors (e.g., expertise, experience) when assigning responsibilities to the project. In particular students should have opportunities to earn authorship in cases where they have sufficient expertise and experience.

Re-visit the topic of authorship as needed.

- During the project. Reasons to reconsider authorship decisions include, but are not limited to, personnel changes, changes in the nature or conduct of the project, and failure of research team members to fulfill their responsibilities.
- Prior to submission of manuscripts. The list of authors should be confirmed before a manuscript is submitted for publication. Apply the four authorship criteria from the MSU Guidelines (slide #7) to each person’s contributions. Authors satisfy the criteria. Others may be considered for acknowledgements. It is helpful for the PI to record the nature of each person’s contributions and the related authorship decisions in writing . The lab notebook should be used for this purpose.

Authors should jointly decide the order of authorship, with the senior author or PI making final decisions.

## Resolving Authorship Disputes


- Attempt to resolve the dispute amongst the authors
- Seek advice and possibly mediation/arbitration from the MSU Research Integrity Officer (RIO)

Jim Pivarnik, Ph.D.  
107 Olds Hall  
(517) 432-6698 or [rio@msu.edu](mailto:rio@msu.edu)  
Web site URL - <http://www.rio.msu.edu/>

- Important!
  - Conversations with the RIO are confidential
  - Having a conversation with the RIO does not mean you are initiating a complaint – only that you are seeking information and advice

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**Authorship Dispute: When a Mentor Becomes a Thief, *Chronicle of Higher Education*, 4/1/02**

“Ann Green (not her real name) spent seven years on her doctoral project at an East Coast university. In her mind, she had made a major breakthrough, the kind of discovery that could establish a career. When the results were finally published, she was missing from the list of authors. Her adviser ... had mysteriously risen to first author. Ms. Green's only appearance came in the acknowledgement section, where she was thanked for her ‘generous advice.’ ... ‘It wrecked my career. I went out into the world with no manuscripts behind me.’ In the meantime, she says, her adviser has been cited over and over for her research. According to Ms. Green, he has also used her data to secure \$5-million in grants.”

<http://chronicle.com/article/When-a-Mentor-Becomes-a-Thief/45995>

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Source: Woolston, C. (4/1/02). When a Mentor Becomes a Thief, *The Chronicle of Higher Education*, <http://chronicle.com/article/When-a-Mentor-Becomes-a-Thief/45995>

The above article includes descriptions of other authorship disputes. The following advice is given to junior scientists about avoiding authorship disputes:

1. Improve communication. Discuss authorship before the research begins.
2. Keep detailed notes of research activities and individual contributions.
3. Learn about order of authorship in your discipline.
4. Get an “outside objective opinion” if there is a perceived problem about authorship. If an objective person sees misconduct, “report it to their dean or the university's scientific-integrity committee.”

Discussion questions. If you were the Research Integrity Officer and this case came to your attention:

1. What additional information would you need to help resolve this case?
2. What evidence would you accept in support of Ann Green's claims, or of her mentor's claims should he wish to argue that Ann is not worthy of authorship?

## Publication

Publication is the "distribution of copies to the general public with the consent of the author"

<http://en.wikipedia.org/wiki/Publication>

- The term *copies* typically refers to work in fixed written or recorded form – examples include books, journals, internet, and musical recordings
- The term *distribution* means available by sale, loan, lease, etc.
- The term *consent of the author* refers to the author's actions to make the work available (e.g., submitting to a publisher, transferring copyright to a publisher, or posting on the internet)

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Note. "Copyright holders enjoy the exclusive right to disseminate their creations and to earn a profit by selling or licensing them" (*Ensuring the Integrity, Accessibility, and Stewardship of Research Data in the Digital Age* (p. 74), National Academies Press, Washington DC, 2009, [http://www.nap.edu/catalog.php?record\\_id=12615#description](http://www.nap.edu/catalog.php?record_id=12615#description)). Therefore, after copyright has been transferred to a journal or publisher, permission to reprint, post on a web site, etc., must be obtained from the journal or publisher – not from the author. Even the author must obtain permission from the copyright holder.



## Publication Guidelines

- Scholarly integrity – assure the accuracy of content and the submission of original work
- Authorship – recognize contributions with authorship or acknowledgement, all authors responsible for scholarly integrity, students are first and only authors on theses and dissertations
- Manuscript submission – avoid duplicate publication of data, multiple submissions of the same manuscript, and piecemeal publications
- Approval to use human or animal subjects – submit proof of IRB or IACUC approval
- Copyright status – transfer copyright to the journal

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### Scholarly integrity

- Accuracy of content – do not falsify or fabricate data, results reported accurately, etc. Publish retractions when necessary.
- Original work – no plagiarism

Authorship – give authorship or acknowledgement credit for substantial contributions, all authors are accountable for scholarly integrity, students are first and only authors on theses and dissertations

### Manuscript submission - avoid

- Duplicate publication – publishing the same data more than once (distorts the knowledge base & wastes scarce resources such as journal pages and editor/reviewer time, may comprise a copyright violation)
- Multiple submissions – submit to only one journal at a time (do not waste editor/reviewer time, avoid conflicts if a manuscript was accepted by more than one journal)
- Piecemeal publications – publishing fragmented parts of a single investigation is undesirable because it often impedes effective communication of scientific findings

Approval to use human or animal subjects – some journals request a copy of the IRB or IACUC approval letter – in addition, most journals require mention of such approval in the narrative of the article

### Copyright status

- Unpublished manuscripts – copyright exists when the work is fixed in tangible form – the author owns the copyright until transferred to another party
- Published manuscripts – usually the author transfers copyright to the journal in a written agreement

## Sources

- *MSU Authorship Guidelines*,  
<http://rio.msu.edu/authorshipguidelines.htm>
- *On Being a Scientist: A Guide to Responsible Conduct in Research*, 3rd edition, 2009,  
[http://books.nap.edu/openbook.php?record\\_id=12192&page=R1](http://books.nap.edu/openbook.php?record_id=12192&page=R1)
- Steneck, N. (2006-HTML Version). *ORI Introduction to the Responsible Conduct of Research*,  
<http://ori.dhhs.gov/education/products/RCRintro/>

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## Sources, *continued*

- *Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Ethical Considerations in the Conduct and Reporting of Research: Authorship and Contributorship.* International Committee of Medical Journal Editors, [http://www.icmje.org/ethical\\_1author.html](http://www.icmje.org/ethical_1author.html)

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