







Authorship in Science

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Authorship in Science What, me worry?



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Authorship in Science

- What is an author?
- What does it mean to be an author?

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David Pontille, EHESS

ABSTRACT: Although a lot of studies question the notion of author, very little attention had been paid to scientific authorship. With articles **signed** sometimes by more than fifty names, scientific activity is however a strategic site to examine the author in general and to specify the attributes of the scientific author. ...the collective side of scientific work require several shifts in comparison with the literary and legal conception of the author that close enunciation on a singular individual. From a standpoint focuses on action, the analysis claims the necessary dissociation of some acts that are generally considered as concomitant, indeed similar: "**to write**", "**to sign**", and "**to be an author**".

Qu'est-ce qu'un auteur scientifique?
Sciences de la Société, 67 (2006) 77-93



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Signing and Authorship

- Writing is Signing (literary)
- Signatures without Writing (business, government, law)
- Science:
 - Writing in order to Sign (graduate students)
 - Signing without Writing (ghostwriters)
 - Many Signatures, few Writers (co-authorship)
 - Signatures of Contributors (guest authorship)


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Authorship in Science

- Who should be an author?
- What should be the order of authors?
- Who or what should determine authorship order?

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Proposed UD Policy (ICMJE)



- **Qualifications for Authorship**
 - Authorship credit should be based on
 - substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
 - drafting the article or revising it critically for important intellectual content; and
 - final approval of the version to be published.
 - Authors should meet conditions i, ii, and iii.
 - Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.
 - All persons designated as authors should qualify for authorship, and all those who qualify should be listed.


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- Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.
- All contributors who do not meet the criteria for authorship should be listed in an acknowledgments section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair who provided only general support. Financial and material support should also be acknowledged.
- 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.

Based on International Committee of Medical Journal Editors (ICMJE) Uniform Requirements for Manuscripts Submitted to Biomedical Journals, <http://www.icmje.org/>

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Proposed UD Policy




- **The Order of Authors**
 - The first author is that person who contributed most to the work, including writing of the manuscript (an author is a person who writes).
 - The sequence of author listing is determined by the relative contributions to the work. In the instance that equal credit is due, this should be footnoted (by asterisk) and it is suggested that authors be listed alphabetically (authors may wish to note this policy on their CVs).
 - Decisions about authors and the order in which their names appear should be discussed as early as possible, even at the outset.
 - Decisions about authors and the order in which their names appear should be made by group consensus, and under the guidance of the lead investigator(s).

Based on editorial by D. RiesenberG and G. Lundberg, JAMA 1990; 264:1857

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Recent Changes in ICMJE “Requirements” (2009)




- **Contributorship:** All contributors who do not meet the criteria for authorship should be listed in an acknowledgments section. Examples of those who might be acknowledged include **a person who provided purely technical help, writing assistance, or a department chairperson who provided only general support.** Editors should ask corresponding authors to declare whether they had assistance with study design, data collection, data analysis, or manuscript preparation. If such assistance was available, the authors should **disclose** the identity of the individuals who provided this assistance and the entity that supported it in the published article.

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Recent Changes in ICMJE “Requirements” (2009)




Guarantorship: When a large, multicenter group has conducted the work, the group should identify the individuals who accept direct responsibility for the manuscript. These individuals should fully meet the criteria for authorship/contributorship ... When submitting a manuscript authored by a group, the corresponding author should clearly indicate the preferred citation and identify all individual authors as well as the group name. Journals generally list other members of the group in the Acknowledgments. The NLM indexes the group name, ... and the names of individuals ... directly responsible for the manuscript... the names of collaborators if they are listed in Acknowledgments.

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Theory vs Practice?




Guest Authorship and Ghostwriting in Publications Related to Rofecoxib: A Case Study of Industry Documents From Rofecoxib Litigation. J.S. Ross, K.P. Hill, D.S. Egilman, H.M. Krumholz *JAMA*. 2008; 299(15):1800-1812.

Merck marketing employees developed publishing plans and then engaged other employees or contractors to write to articles based on VIOXX clinical trials. They then solicited external, academically connected investigators to serve as authors, offering honoraria to do so.

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Scientific Collaborations as a “Family” Activity (Pontille)




Goal in authorship order should be:


Benefit to the whole research group

- Different members have different needs/wants
- Lead PI needs to make decision as to what is best for the most (*Pater familias*.)
- PI has responsibility for sharing benefits among members of the “family”

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Kirchman’s Rules




- **Being first author counts the most.**
- Value of authorship (other than first) declines exponentially with number of authors.
- C.V. with two first-authored papers is better than a C.V. with 6 papers but where the person is the nth author.
- If you are the first author, don't be stingy about adding an additional co-author.
- If you are not the first author, don't be shy about questioning the addition of another co-author.

Prof. D. L. Kirchman, School of Marine Science and Policy, University of Delaware

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Determining who should be a co-author of the paper




- Best answered **before** the work even begins.
- Certainly before writing begins.
- First author does the most writing.

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Order of authorship contains some information (in some fields)




- **First:** Main person, wrote the paper (first draft)
- **Second:** Main technical help
- **Third, etc.:** Small contributions
- **Last:** Most senior person, wrote the proposal. Often listed as the corresponding author.

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Kirchman, D.L., S. Graham, D. Reish, and R. Mitchell. 1982. Bacteria induce settlement and metamorphosis of *Janua_(Dexiospira) brasiliensis*. J. Exp. Mar. Biol. Ecol. 56: 153-163.




Kirchman: Designed the experiment and wrote the paper

Graham: A tech who did the work


Reish: Sent the animals to MA from CA

Mitchell: Advisor, Editor. Originated “The Idea”

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Nature’s policy: Authors are strongly encouraged to include a statement in the Acknowledgements to specify the actual contribution of each coauthor.




Active foundering of a continental arc root beneath the southern Sierra Nevada in California

GEORGE ZANDT, HERSH GILBERT, THOMAS J. OWENS, MIHAI DUCEA, JASON SALEEBY & CRAIG H. JONES

Acknowledgements. G.Z. thanks G. Gehrels, P. Kapp and B. Hacker for comments on preliminary interpretations and manuscripts.

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Authorship in Science

- Authorship is important to scientists
 - Intellectual Credit
 - Career Advancement
- Authorship rules are often complex and variable between and within fields
- Authorship theory and practice often are at odds
- Talk about authorship/coauthorship with all collaborators, early in collaborations.


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Questions?


- What is an author?
- What does it mean to be an author?
- Who should be an author?
- What should be the order of authors?
- Who or what should determine authorship order?

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Case Studies


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Under the supervision of Prof. Leader, three graduate students are working on related projects for their MS degrees, in two cases, and PhD degree, in the remaining case. Most of the laboratory work is done by the students as Prof. Leader is busy with administrative responsibilities including the writing of new grant proposals. After two years, Prof. Leader decides to write a paper based on the work of these students. Although the work emphasizes the contributions of the two MS students who have completed their research and left the University, Prof. Leader and the PhD student are writing the paper together without additional input from the two MS students.


- What should the order of authorship be and why?
- Who decides, in the end, the order of authorship?
- Would it make any difference if the two masters students were undergraduate interns? ...former postdocs?

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Student Lucy completes a masters thesis funded by a grant to her advisor, Prof. Goosey, and graduates from Big U. She completes her thesis and, based on the quality of this work and her recommendations from Prof. Goosey, quickly finds a job and leaves the Big U. Prof. Goosey contacts Lucy a number of times about writing up her work for publication in the Journal of Prestigious Results. Initially, she responds that she is working on the paper, but after one-year, she indicates that she doesn't have time to write up the paper and no longer has interest in doing so. Prof. Goosey realizes that in order to get future funding he will need to write up Lucy's work and does so.

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- Should Lucy be rewarded with authorship?
- Who should be the first author?
- How should Prof. Goosey respond to future requests for letters of recommendation for Lucy?

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Prof. Almighty submits a proposal renewal based on work done by MS Student Downtrodden on a previous grant. After the grant proposal is submitted, Downtrodden, now a PhD student, gets a copy of the proposal and finds that substantial portions of his MS thesis appear verbatim in the proposal. Although his MS thesis is well-cited in the proposal, he is upset that there is no indication that the text was initially written by him.



1. Does Downtrodden have reason to be upset?
2. How should have Prof. Almighty acknowledged the Downtrodden's contributions to the proposal?
3. Should Downtrodden complain? If so, to whom?

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Professor Wanda Wannabefamous and her graduate students, Nat Naïve, Ingrid Innocent, and Oliver Oblivious went on a research cruise where each of them did various analyses. The most novel part of the work was done by Oliver as part of his Ph.D. work. The project, including the student stipends, is supported by a grant written by Professor Wannabefamous.



The cruise went extremely well, so well that Professor Wannabefamous wants to write up the results for publication as soon as possible—in fact, she wants to submit the paper to Science first and then Nature.

- Is it okay for Prof. Wannabefamous to be the first author of the Science/Nature submissions?

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Not unexpectedly, both Science and Nature reject the paper—in fact, it wasn't even sent out for review. So, now Professor Wannabefamous wants to re-write the paper for the Journal of Delaware Science and Home Economics. She wants to remain the first author, even though Oliver Oblivious also wants to be first.



- Does the professor have any right to be first author of the paper?
- Who should be first author of this paper?

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