

## What constitutes authorship? COPE Discussion Document

*COPE Council  
9 June 2014*

This document aims to stimulate discussion around the most common authorship issues faced by COPE members. It discusses existing guidelines on authorship, puts together some basic principles to help prevent common problems, and sets out some of the more thorny issues that have come to light in previous discussions, many of which are discipline-specific and which require more nuanced consideration. COPE welcomes feedback on this document and invites members to point out further authorship guidelines from across disciplines. We encourage journal editors and publishers to comment (whether or not they are COPE members), and also welcome comments from researchers/authors and academic institutions. Please email all comments to Natalie Ridgeway, COPE Operations Manager at <http://publicationethics.org/contact-us>

### Background

The term authorship can refer to the creator or originator of an idea (eg, the author of the theory of relativity) or the individual or individuals who develop and bring to fruition the product that disseminates intellectual or creative works (eg, the author of a poem or a scholarly article). Authorship conveys significant privileges, responsibilities, and legal rights; in the scholarly arena, it also forms the basis for rewards and career advancement. Various disciplines have norms, guidelines, and rules governing authorship; some of those rules preserve lineage of ideas or works, conception and production of studies or experiments to validate theory, analysis of outcomes, and the actual writing of work to disseminate knowledge. Authors are accountable for following discipline-specific guidelines when they engage in authorship activities; journal editors and publishers are accountable for making author guidelines transparent and appropriate for the medium (scholarly books, journal articles, creative writing). At a minimum, authors should guarantee that they have done the work as presented and that they have not violated any other author's legal rights (eg, copyright) in the process.

Authorship is one of the most common concerns of COPE members, at least in terms of topics brought for discussion at COPE Forums. There are 87 separate cases listed under the headings of "Authorship", "Changes in authorship", or "Disputed authorship" on COPE's website. There are also six separate flowcharts devoted to the various types of authorship problem encountered. Problems commonly stem from (i) individuals who claim that they deserve to be authors but have been omitted; (ii) individuals who have been included as authors but without their consent; (iii) individuals who agree to be authors but who back away from responsibility if something goes wrong – such as if an issue with the integrity of the paper comes to light; and (iv) confusion over multiple authorship. There is usually very little that COPE, or member journals, can do to solve disputes between authors (this should be the responsibility of the authors' institution(s)), but this document sets out some basic principles to help prevent common problems and seeks to stimulate discussion on some common instances of what should, and should not, constitute authorship.

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## Current definitions of authorship

Editorial or academic organisations within different specialties have set out criteria and guidelines that members could adopt in their consideration of authorship. A selection of them is presented below.

### ***International Committee of Medical Journal Editors (ICMJE)***

The ICMJE recommends that an author should meet all four of the following criteria:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work;
- Drafting the work or revising it critically for important intellectual content;
- Final approval of the version to be published;
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.”

### ***Council of Science Editors (CSE)***

CSE describes authors as follows:

“Authors are individuals identified by the research group to have made substantial contributions to the reported work and agree to be accountable for these contributions. In addition to being accountable for the parts of the work he or she has done, an author should be able to identify which of their coauthors are responsible for specific other parts of the work. In addition, an author should have confidence in the integrity of the contributions of their co-authors. All authors should review and approve the final manuscript.”

### ***Chemistry, physics, and mathematics***

Guidelines in the physical and mathematical sciences offer somewhat less precise definitions such as this from the American Physical Society:

“Authorship should be limited to those who have made a significant contribution to the concept, design, execution or interpretation of the research study. All those who have made significant contributions should be offered the opportunity to be listed as authors. Other individuals who have contributed to the study should be acknowledged, but not identified as authors.”

### ***American Sociological Association***

The American Sociological Association includes the following in its Code of Ethics:

“(a) Sociologists take responsibility and credit, including authorship credit, only for work they have actually performed or to which they have contributed.

(b) Sociologists ensure that principal authorship and other publication credits are based on the relative scientific or professional contributions of the individuals involved, regardless of their status. In claiming or determining the ordering of authorship, sociologists seek to reflect accurately the contributions of main participants in the research and writing process.

(c) A student is usually listed as principal author on any multiple-authored publication that substantially derives from the student’s dissertation or thesis.”

# What constitutes authorship? COPE Discussion Document

## *Humanities and other disciplines*

Authorship within the humanities, law, and theology is still very much a product of the writing process, and usually by a single individual. Any other form of contribution such as generation of ideas, commenting on a draft, or technical assistance is listed in the Acknowledgments. Traditions in the humanities also differ from some disciplines in the social and natural sciences in terms of the relationship between supervisors and students in authorship with respect to graduate work. Frequently, students are sole authors of graduate-related research and supervisors and committee members are acknowledged for the supervision and mentorship that they have provided to the student authors.

## Applying authorship at a journal level

The specifics might vary somewhat by discipline, as we have seen, but all journals should have a basic policy on what they consider qualifies someone to be an author of a research paper (as opposed to someone whose contribution it might be better to recognise in an acknowledgment). This policy should be stated clearly in the journal's information for authors. If the policy is based on the ICMJE, CSE, or some other group, that should be stated.

Journals should also consider requesting that all named authors sign a statement of authorship as a condition of publication. Such a statement should ideally include:

- A declaration that that person, and all other named authors, fulfil the authorship criteria laid out in the journal's authorship policy
- A declaration that no other individuals deserving of authorship have been omitted
- A statement of what exactly that person contributed to the paper (journals should also consider publishing this information)
- A declaration that that person takes responsibility for the integrity of the paper

Individuals who meet some of the criteria, but not all of them, could be listed in an acknowledgment. However, COPE recommends that individuals so-named also sign a declaration of agreement (since acknowledgment may imply that the individual endorses the work).

Journals might also consider sending correspondence about a submitted paper to all named authors, to reduce the possibility that some individuals may have been included without their consent.

With the above policies in place, many authorship problems can be avoided. However, if changes to authorship are requested after submission or publication, journals are strongly advised to request signed agreement to the changes from all authors (refer to flowcharts).

## Controversies in current definitions of authorship

The ICMJE criteria have attracted a degree of criticism. For example, the fourth criterion "Agreement to be accountable for all aspects of the work" has elicited the concern that perhaps only the corresponding author would be truly eligible under the guidelines. This might particularly be an issue for multidisciplinary studies, where investigators will understand their own areas of expertise and be responsible for their own work, but may only understand other areas in a more superficial way, and few might wish to be responsible for the entire paper.

## What constitutes authorship? COPE Discussion Document

Some have expressed concern that the third criterion, “Final approval of the version to be published”, could be open to abuse—eg, deliberate denial of an otherwise deserving author of sight of the final version (see scenario below), or the implied right of an individual to withhold approval, allowing that person to hold a paper “hostage” for an indefinite period. Both situations appear to bring the unwelcome element of power into authorship criteria.

Finally, on papers with huge numbers of authors, for example in physics, none of the ICMJE criteria may apply to some “authors”.

### Who qualifies, and who does not – common scenarios

***I am a junior researcher and did a lot of the basic work. My supervisor/department head wrote up the work and hasn't included me as an author***

The junior researcher would not qualify as an author according to the ICMJE criteria because he/she had no involvement in the writing of the paper nor final approval of the version to be published. However, the junior researcher may have had no opportunity to do so. He/she should have been offered this opportunity and at least included in the acknowledgment section if the opportunity was declined. In this situation, editors should contact the institution concerned and seek an investigation before considering any changes to authorship – it is not for the editor to adjudicate.

***My department head insists on being included as an author on any research paper that comes out of his/her department. But he/she only obtained the grant money. Is this fair?***

(Or in the humanities and in some of the social sciences):

***This article was based on my own original concept and research. While my supervisor certainly provided valuable help and criticism of my ideas, the thesis is mine. My supervisor is demanding that s/he be listed as a co-author or first author. I am happy to acknowledge the mentorship and supervision that I received, I believe that it is unwarranted and unethical for my supervisor to claim a role in authorship.***

This type of “guest” authorship still seems to be the accepted norm in some institutions. According to most definitions, someone who merely obtained grant money and provided top-level supervision would qualify for acknowledgment but not authorship. Having a clear journal policy that can be called upon, and requiring free-text statements of contribution (rather than check-boxes), can help to dissuade individuals from claiming unfair authorship.

***In what order should we list the authors to demonstrate the relative contribution of each?***

The issue of who should be listed in what order is a thorny one and differs by discipline. In biomedicine, the first author might be expected to be the one who did most of the work; the last author would most likely be the senior investigator. In the social sciences, there are generally very few authors, and these are generally listed alphabetically. If listed alphabetically, equal contributorship is presumed for all of the authors. If not listed alphabetically, it is usually assumed that the order of authorship indicates the level of contribution of each author. Thus it is difficult to develop guidance that would be applicable across disciplines. To help prevent dispute, however, journals should have a policy on how they denote equal contribution, and consider publishing a section on the individual contributions of each author. Journals should also consider requiring authors to sign agreement to the order of authorship before publication.

# What constitutes authorship? COPE Discussion Document

## *There are more than 100 authors on this paper. Is that feasible?*

This issue is also rather discipline-specific. In biomedicine or social sciences, the idea that more than 100 individuals contributed substantially according to criteria such as those of the ICMJE is extremely unlikely. However, in physics, it is not uncommon for there to be hundreds or even thousands of “authors”. Not many of these individuals will have even seen the paper, and so the term “author” seems meaningless and “contributor” more appropriate. But it is perhaps more important to be clear about who is taking responsibility for the integrity of the work, irrespective of whether one calls them an author or contributor, to develop a policy for identifying these individuals, and to request signed statements from them.

## *The “author” is a collaborative group. How does that work?*

There seems to be an increase in the number of papers written by multi-author groups, with the official group name given as the author. Similarly to the above scenario, the important consideration here is who will take responsibility for the integrity of the work: such information should be clearly identified in the paper, as should the identity of the corresponding author. These individuals should sign authorship statements. All other individuals in the group should be named, either altogether under the group name, or perhaps in subsections according to their particular contribution. In some cases, granting organisations may further muddy the waters. When governments direct funds towards interdisciplinary and multidisciplinary centres of excellence, broad involvement in publications may be directed by policy rather than contribution. Thought should be given to how to interpret a large cast of interdisciplinary authors.

## Future developments in authorship

Authorship is the currency by which academics are paid and thus is essential for tenure, promotion, and grant funding. However, we have come a long way from the time when every person on a byline would have “written” a part of the paper. One proposal to take these changes into account is to move entirely to a contributorship model. This may well only suit some disciplines and much work will need to be done to refine it if it is to be accepted. What is clear is that authorship is a fluid, evolving concept and as it evolves so will the ethical challenges associated with it.

## Contributors

Zoë Mullan wrote the first draft. Ginny Barbour, Michael Wise, Charon Pierson, Deborah Poff, and Cindy Carter made substantial revisions. Lars Ole Saurberg, Suzanne Morris, Mohammad Abdollahi, Behrooz Astaneh, and Chris Graf contributed to the discussion.

## What constitutes authorship? COPE Discussion Document

### Further reading

International Committee of Medical Journal Editors. Defining the role of authors and contributors. <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html#two>

Council of Science Editors. CSE's white paper on promoting integrity in scientific journal publications: 2.2 authorship and authorship responsibilities. <http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3638>

American Physical Society. APS guidelines for professional conduct. [http://www.aps.org/policy/statements/02\\_2.cfm](http://www.aps.org/policy/statements/02_2.cfm)

American Sociological Association. Code of ethics and policies and procedures of the ASA Committee on Professional Ethics. <http://www.asanet.org/images/asa/docs/pdf/CodeofEthics.pdf>

PhD On Track. Co-authorship. <http://www.phdontrack.net/share-and-publish/co-authorship/>

Committee on Publication Ethics. Authorship, contributorship, who's doing what, and what do we need? COPE Forum 3 June 2013. [http://publicationethics.org/files/u661/Forum\\_discussion\\_summary\\_on\\_Authorship\\_contributorship\\_final.pdf](http://publicationethics.org/files/u661/Forum_discussion_summary_on_Authorship_contributorship_final.pdf)

Albert T, Wager E. How to handle authorship disputes: a guide for new researchers. <http://publicationethics.org/files/u2/2003pdf12.pdf>

Report on the International Workshop on Contributorship and Scholarly Attribution [http://projects.iq.harvard.edu/attribution\\_workshop/files/iwcsa\\_report\\_final\\_18sept12.pdf](http://projects.iq.harvard.edu/attribution_workshop/files/iwcsa_report_final_18sept12.pdf)

Allen L, Scott J, Brand A, Hlava M, Altman M. Credit where credit is due. <http://www.nature.com/news/publishing-credit-where-credit-is-due-1.15033>

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