

ITM Guidelines regarding authorship in scientific publications

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Document made by ITM working group on authorship (2017) adopted by ITM Committee for Research Integrity, updated (2022)

Introduction

Authorship of a scientific publication is a means to grant recognition for a contribution to science. Due to the increased importance that is assigned to the publication list of a researcher, authorship has become an important part of a scientific career. Denial or incorrect assignment of authorship can result in conflict and can affect the career of the person involved. It is also increasingly important for the institution to which the researchers belong to receive appropriate recognition for the contributions of their staff.

Scientific research now frequently involves collaboration between research groups from different departments and institutions, which may complicate the overview about the nature and extent of the contributions of its members. It has also become more common that the composition of the group of researchers changes during the course of the research project, again compromising a clear overview about the nature and extent of each contribution. This creates an additional level of complexity and a need for good agreements regarding authorship, especially if different customs in assigning authorship exist within and between institutions.

Due to the increased importance of authorship and the increased risk of problems during its assignment, many scientific journals, research institutions and professional organizations now have guidelines or criteria for authorship of scientific papers. A second motivation for the introduction of such criteria is the important responsibility that is linked to authorship. This responsibility can have serious consequences for the researcher and his institution if infringements on the ethical code for scientific research are established after publication.

The text below is based on the recommendations by the International Committee of Medical Journal Editors (ICMJE), the Guidelines on Authorship by the “Instituut voor Landbouw - en Visserij Onderzoek (ILVO)” and the Committee on Publication Ethics (COPE) Report. It reflects the ideas of these sources, appreciated and discussed by a working group (see composition below) initiated and approved by ITM’s Commission on Research Integrity (CRI). Whenever an idea, interpretation, opinion or recommendation is formulated or chosen by the ITM CRI working group and not written as such in the source documents mentioned above, it is indicated in the text as “according to ITM CRI”. In October 2022, the document has been updated by the CRI with the document “Author contribution statements” published by the Vlaamse Commissie voor Wetenschappelijke Integriteit (VCWI).

Besides these guidelines regarding authorship ITM’s [Intellectual Property Policy](#) needs to be considered.

Criteria for authorship

According to the International Committee of Medical Journal Editors (ICMJE), contribution for authorship has to include at least the following four points:

- 1) **Substantial contributions** to either
 - the conception of (part of) the work;
 - and/or the design of the study;
 - and/or the execution of the study (including acquisition of data);

- and/or data analysis;
- and/or data interpretation.

2) **Manuscript writing** *i.e.*

- either drafting (a significant part of) the article;
- and/or contribute in a significant way to revise the content.

3) All authors should provide a **final approval** to the version to be submitted and published.

4) All authors are **accountable** for their contribution.

Clearly, all authors should live up to the four criteria. Those who contributed, but do not fulfill all four criteria, should be mentioned in the “Acknowledgments”. According to ITM CRI it is the responsibility of the senior author (see comment below) to make sure that all individuals who meet the first criterion have the opportunity to participate in the review, drafting and final approval of the manuscript and, if they contribute according to the criteria, become a coauthor. It is up to all authors to agree what contribution is substantial.

The “accountability of all authors” is interpreted by ITM CRI as follows:

- Co-authorship implies a relation of trust in the capacities and integrity of the other authors, that should be based on the implementation of verifiable quality assurance mechanisms, including but not limited to Good Research, Laboratory and Clinical Practices, such as traceability of primary results, transparent data management etc. .
- The original idea that all authors are fully responsible for research is currently considered as not tenable by the VCWI. Instead, each author takes responsibility for at least one part of the work (see Authorship contribution below). This can be important if an infringement of the code for research integrity is suspected or discovered at a later point.
- **The first and especially the senior author** should be capable to determine who is responsible for each part of the work.
- These principles apply to original data-based manuscripts, but, mutatis mutandis, also to reviews, editorial comments or opinion papers.
- Clearly, the primary responsibility of the authors is about the ethical and scientific integrity of the manuscript and underlying data, but, in case of misconduct, legal consequences may ensue.
- Authorship contribution statement: The ITM CRI endorses the advice of the Flemish Committee for Scientific Integrity to promote author contribution statements as a standard practice. The motivation for this advice is that author contribution statements (i) make sure that interdisciplinary research remains feasible by demarcating responsibilities; (ii) contribute to a fair assessment of researchers; and (iii) discourage questionable authorship practices. Along with the editors of leading journals and the VCWI, the ITM CRI recommends to use CRediT for the reporting and registration of contribution statements. CRediT (Contributor Roles Taxonomy, see <https://credit.niso.org/>) is an open taxonomy of authorship roles that is developed to describe authorship contributions to research articles in a standardized way.

Definitions on types and order of authorship (based on the COPE Report)

1) In the medical sciences the order of the authors is traditionally the following:

- The **first author** is usually the person who conducted the majority of the study, processed the data and drafted the manuscript. (S)he therefore has a big responsibility in the veracity of the paper.

- ITM CRI defines the **senior author** (= usually the last author) as the person who conceptualized the study or the research program and played a prominent role in the revising of draft versions. (S)he has a special responsibility in assuring that all co-authors fulfill the ICMJE criteria. Together with the first author, (s)he is guaranteeing accountability of co-authors for parts of the study results and the research paper. In case of conflicts about authorship and after discussing the issues openly and collegially with all co-authors, the senior author takes a final decision.

- The authors **next in line after the first author** are usually ordered based on the decreasing importance of their contribution. If the relative contribution of some coauthors is difficult to judge, an alphabetic order may be considered. The authors need to agree on the order, by preference at an early stage.

Different domains of science attach different meanings to the authorship order. Certain domains do not attach any significance to it and list authors alphabetically. In other fields meaning *is* attached thus being listed in the correct order is important to receive appropriate recognition. Some journals request a limited number of authors. Discuss authorship order with co-authors at an early stage, certainly before writing the manuscript.

2) The **corresponding author** is the person who receives the reviewers' comments, the proofs etc. and whose contact details are printed on the article so that readers can contact the research group. He/she also assures that all authors agree with the Authorship contribution statement. After taking the view of co-authors, the decision who will be corresponding author can best be made early. Note that it is possible to modify the corresponding author name for the final paper: the first author can initiate the submission and be the corresponding author during the review process and then the senior author can take over corresponding authorship. After publication, (s)he is responsible to receive and answer comments and questions on the paper. Although it is not required by international guidelines, ITM CRI advises to elect one (final) corresponding author whose contact details are likely to remain the same on the long run.

3) Inappropriate inclusion of authors: ITM CRI considers the following categories as inappropriate authorship:

- "Guest authors": persons who do not provide any significant contribution to the paper, but whose inclusion as an author might benefit the other authors, *e.g.* the inclusion of a prominent person in the field.
- "Gift authors": persons who do not qualify for authorship and whose inclusion would mostly benefit them.

4) Inappropriate exclusion as author: ITM CRI also considers the following practices as inappropriate:

- "Ghost authors": persons who qualify for authorship but who are intentionally excluded (even in the acknowledgements), usually with their approval or even their explicit request to do so. One example are "ghost writers". Another example is staff from a commercial company who waive their authorship to increase the apparent commercial independence of the study.
- Clearly, if a person has substantially contributed, (s)he should be mentioned either as a co-author or in the acknowledgments (see below).

Additional responsibilities: All authors should:

- verify and insist to include as authors all persons who qualify as such and to exclude from authorship those who do not provide the required significant contributions described above;

- mention potential conflicts of interest;
- mention the agency/ies providing funding;
- mention also the sponsor (legal responsible) of a clinical trial.
- be accountable for their contribution

The senior author has a particular responsibility (described above), but all others should guard this process.

Contributions that are mentioned in the “Acknowledgements” section

Any substantial contribution that doesn't fulfill all four criteria of authorship should be recognized here, *e.g.*:

- only technical execution (of existing protocols);
- only copy-editing (or proofreading) or non-substantive editing;
- only standard advice for statistical analysis;
- only contribution of materials;
- only administrative or quality assurance relationship to the research group;
- only general support (for example by a department head).
- only fundraising (in case it is not linked to conceptualization of the work);
- only financing and sponsoring of a study;

ITM CRI recommendations to prevent and address problems regarding authorship

1) ITM researchers can include a **reference to the present ITM Guidelines**, when writing the protocol of the study (typically for IRB submission) and make sure that all collaborators know them. In research consortia: exchange guidelines and examples of good practice. Also define which rules or standards apply (*e.g.* Horizon 2020) and clearly mention them in the consortium agreement.

2) **Discuss authorship in an early stage** of the study and certainly before starting to write a manuscript. Especially in case of a collaboration with new research partners, it is recommended to write down not only principles, but also concrete agreements already in the study protocol.

3) **Discuss authorship again** if the direction of the study changes, if personnel changes occur or if presumed co-authors fail to take up their responsibilities.

4) In case of doubts or disagreements about authorship:

- If authorship of a person is put into question, try to consider the manuscript with the contribution of this person subtracted. Is an important part missing?
- If doubts arise on contributions or position of authors, discuss them openly and try to reach an agreement amongst co-authors. Based on this consultation, the senior author then takes a decision in good faith.
- In case of disagreement, an informal advice can be asked to the ITM Commission of Research Integrity.
- If someone feels that authorship has been or will be inappropriately granted or denied and this issue cannot be resolved in a collegial spirit, a request to start a formal inquiry of undesirable practice can be submitted to the Reporting Point of the CRI (researchintegrity@itg.be).

Sources

[ICMJE](#) Defining the role of authors and contributors

[COPE](#) Report 2003

[VCWI](#) Authorship contribution statements

Initiation and Approval

Initiated by: **ITM CRI working group on authorship**: Stijn Deborggraeve; Vincent De Brouwere; Ralph Huits; Jan Jacobs; Chris Kenyon; Koen Peeters; Jorgen Stassijns; Jan Van Den Abbeele; Guido Vanham; Tine Verdonck; Ann Verlinden;
Approved by: ITM Academic Council during its meeting of 16 January 2017;
ITM Management Board during its meeting of 18 April 2017.

Revision

Changes to the previous version: adoption of the VCWI Authorship contribution statement and minor edits. Meeting CRI 11 October 2022: Thérèse Delvaux, Pieter Monsieurs, Jan Jacobs.

Adoption of the VCWI Authorship contribution statement was approved by the ITM Academic council during its meeting of 1 March 2021.

Approved by ITM Management Committee during its meeting of 17 January 2023