

## Criteria to be an author of a manuscript: Time to revisit the ICMJE criteria and CRediT

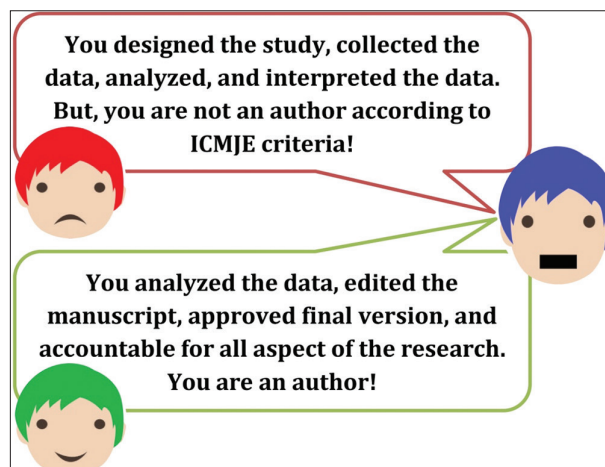
Dear Editor,

Methodical and efficient research results from a successful collaboration of all contributors. Yet, when the research work is published, amongst the contributors, some are designated as authors whereas some are merely acknowledged.<sup>[1]</sup> In India, medical teachers undertake research projects either due to their personal leanings or to fulfil their career or promotional obligations. From the student's perspective, scientific research is conducted either as an eligibility criterion for postgraduate examinations or, rarely, due to personal interests. The National Medical Commission of India has published the Teachers Eligibility Qualifications in Medical Institutions Regulations, 2022 on 22 February 2022.<sup>[2]</sup> Here, the credit of the scientific publication based on authorship order (first; or first and second; or first and corresponding; or first, second, third, and corresponding as was notified previously) has not been specified. Hence, the simple interpretation is that multiple authors can receive equal credit for a published paper. However, identifying collaborators as authors and those who should be acknowledged remains ambiguous. Factors contributing to this ambiguity include obligation toward the dissertation guide, career progression, personal and professional affiliations, etc.

Ideally, authorship order should be consensus-based (amongst the contributors) and prepared by the corresponding author. A majority of journals follow the International Committee of Medical Journal Editors (ICMJE) criteria of authorship [Table 1]. To qualify as an author, a contributor must fulfil a minimum of one attribute from each criterion, which might not always be straightforward. An example is shown in Figure 1. A contributor who had painstakingly collected data, conducted the statistical analysis and written the manuscript may not qualify as an author as the

four criteria might not be fulfilled. The rest of the collaborators are acknowledged but are not credited for the publication.

Herein, the concept of crediting the contributor emerged in 2012. According to the Contributor Roles Taxonomy (CRediT), there are a total of 14 roles that a contributor may play in research [Table 1].<sup>[3]</sup> Many journals suggest listing the authors according to CRediT at the end of the paper. It should however be noted that the CRediT system does not direct that contributors should be authors. Hence, the terms “author” and “contributor” remain mutually exclusive. By definition, an author is the writer or a person who begins or creates something which is too narrow for a scientific paper, thereby necessitating ICMJE criteria. However, satisfying all four attributes is sometimes difficult [Figure 1]. A contributor, on the other hand, is one who provides something. This definition is too broad as that “something” may range from monetary to intellectual support. Thus, the definition of contributor of a scientific paper was laid out by CRediT. We are of the strong opinion that crediting all contributors would scientifically be better acceptable and expect that in the future, the term “author” would be replaced by



**Figure 1:** Example of exclusion and inclusion of an author according to the ICMJE criteria of authorship

**Table 1: ICMJE criteria for authorship of a manuscript and related roles according to CRediT**

Criteria*	ICMJE		CRediT Role
	Theme	Attribute	
1	Project	Concept Design	Conceptualization
	Data	Acquisition Analysis Interpretation	Data curation Formal analysis Investigation Methodology Visualization
2	Manuscript	Drafting Revising	Writing – original draft Writing – review and editing
3	Manuscript	Final approval	-
4	Accountability	For all aspects (including accuracy or integrity of any part; identify co-authors' contribution)	-
Non-author contribution†		Fund acquisition General supervision General administrative support Writing assistance Technical editing Language editing Proofreading	Funding acquisition Project administration Resources Software Supervision Validation

\*An author should satisfy at least one attribute from each criterion (1–4) according to ICMJE criteria. If any of the four criteria is not fulfilled, the contributor is entitled for acknowledgement. †Contributors participated in any attribution under the non-author contribution section without satisfying criteria of authorship may be placed under the acknowledgement section of the manuscript. ICMJE: International Committee of Medical Journal Editors (<http://www.icmje.org>). CRediT: Contributor Roles Taxonomy (<https://casrai.org/credit> or <https://credit.niso.org>)

“contributor” and all of them would be credited for a research publication.<sup>[4,5]</sup>

Until this shift occurs, corresponding authors should carefully prepare the author's list based on ICMJE and CRediT and include it on their title pages which should be prepared with consensus to avoid any conflicts.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

**Himel Mondal, Shaikat Mondal<sup>1</sup>,  
Rudrashish Haldar<sup>2</sup>**

Department of Physiology, Saheed Laxman Nayak Medical College and Hospital, Koraput, Odisha, <sup>1</sup>Department of Physiology, Raiganj Government Medical College and Hospital, West Bengal, <sup>2</sup>Department of Anaesthesiology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

**Address for correspondence:** Dr. Rudrashish Haldar,  
Department of Anaesthesiology, Sanjay Gandhi Post Graduate  
Institute of Medical Sciences, Rae Bareilly Road, Lucknow - 226 014,  
Uttar Pradesh, India.  
E-mail: [rudrashish@yahoo.com](mailto:rudrashish@yahoo.com)

### References

- Mandal M, Bagchi D, Basu SR. Scientific misconducts and authorship conflicts: Indian perspective. *Indian J Anaesth*

2015;59:400-5.

- Mondal H, Mondal S, Behera JK. Roller coaster of publication criteria: What is new in teachers' eligibility qualifications in medical institutions regulations, 2022? *Indian J Ophthalmol* 2022;70:1845-6.
- CRediT – Contributor Roles Taxonomy. CASRAI. Available from: <https://casrai.org/credit/>. [Last accessed on 2022 Mar 05].
- Holcombe A. Farewell authors, hello contributors. *Nature* 2019;571:147.
- Allen L, O'Connell A, Kiermer V. How can we ensure visibility and diversity in research contributions? How the contributor role taxonomy (CRediT) is helping the shift from authorship to contributorship. *Learned Publishing* 2019;32:71-4.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Quick Response Code:	Website: <a href="https://journals.lww.com/joacp">https://journals.lww.com/joacp</a>
	DOI: 10.4103/joacp.joacp_175_22

**How to cite this article:** Mondal H, Mondal S, Haldar R. Criteria to be an author of a manuscript: Time to revisit the ICMJE criteria and CRediT. *J Anaesthesiol Clin Pharmacol* 2023;39:674-5.

**Submitted:** 10-May-2022

**Revised:** 27-Jun-2022

**Accepted:** 27-Jun-2022

**Published:** 20-Dec-2023

©2023 Journal of Anaesthesiology Clinical Pharmacology | Published by Wolters Kluwer - Medknow