

# Get the CRedit you deserve



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Open Research



What is



***CRediT → Contributor Roles Taxonomy: refers to a standardised system for recognising and categorising the specific contributions individuals make to a research project or scholarly work.***

- It was developed in 2012 through a collaborative effort from editors, funders and University representatives, and launched by Harvard University and the Wellcome Trust.

Objective: to address several problems in academic publishing:

- Lack of transparency in author contributions
- Difficulty in assessing individual contributions in large collaborations
- Need for more detailed credit attribution beyond traditional authorship



# Core Criteria for Authorship



Recognise 4 criteria of authorship:

1. Substantial contributions to the conception or design of the work - or the acquisition, analysis, or interpretation of data for the work;
2. Drafting the work or reviewing it critically for important intellectual content;
3. Final approval of the version to be published;
4. 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.

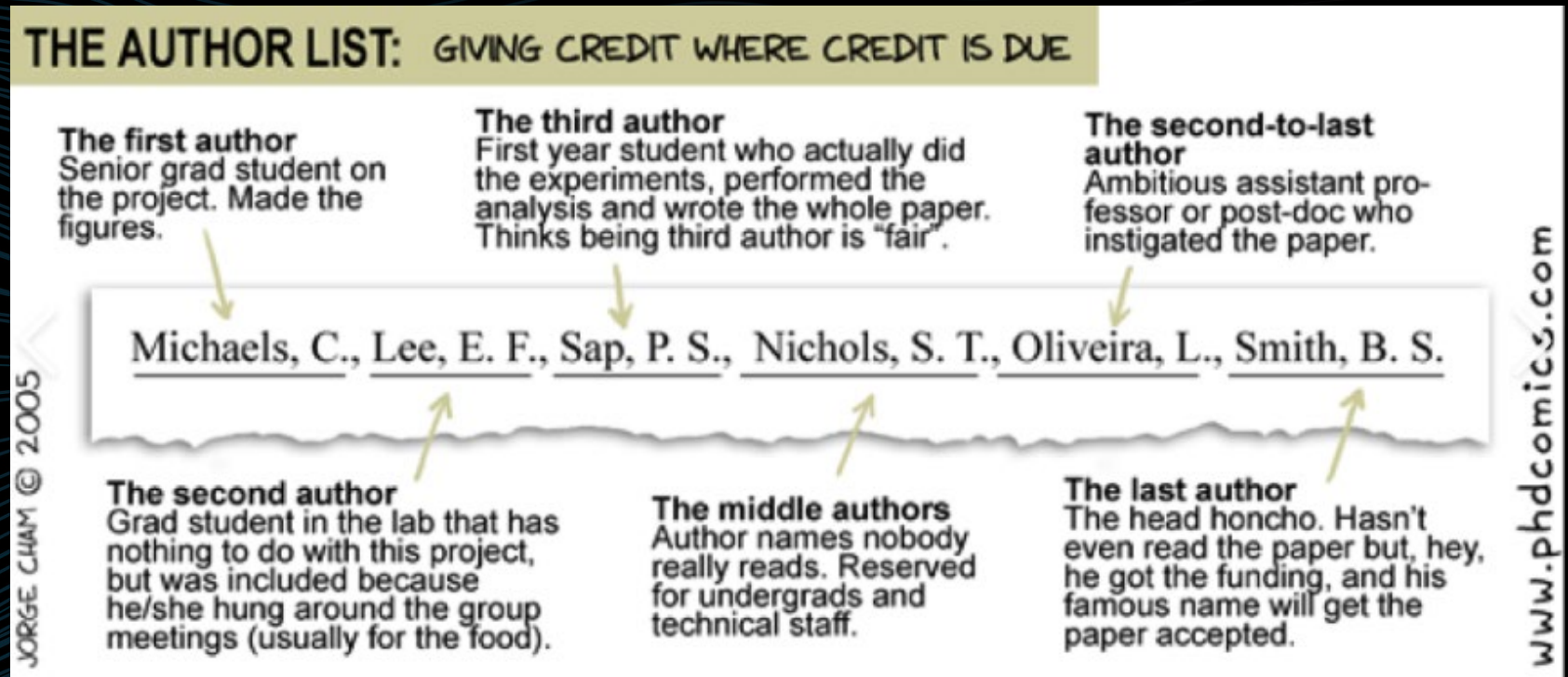
[ICMJE | Recommendations | Defining the Role of Authors and Contributors](#)



# The author list....

Authors' position means something different in different fields.

The increase of interdisciplinary studies is causing misunderstandings among authors.



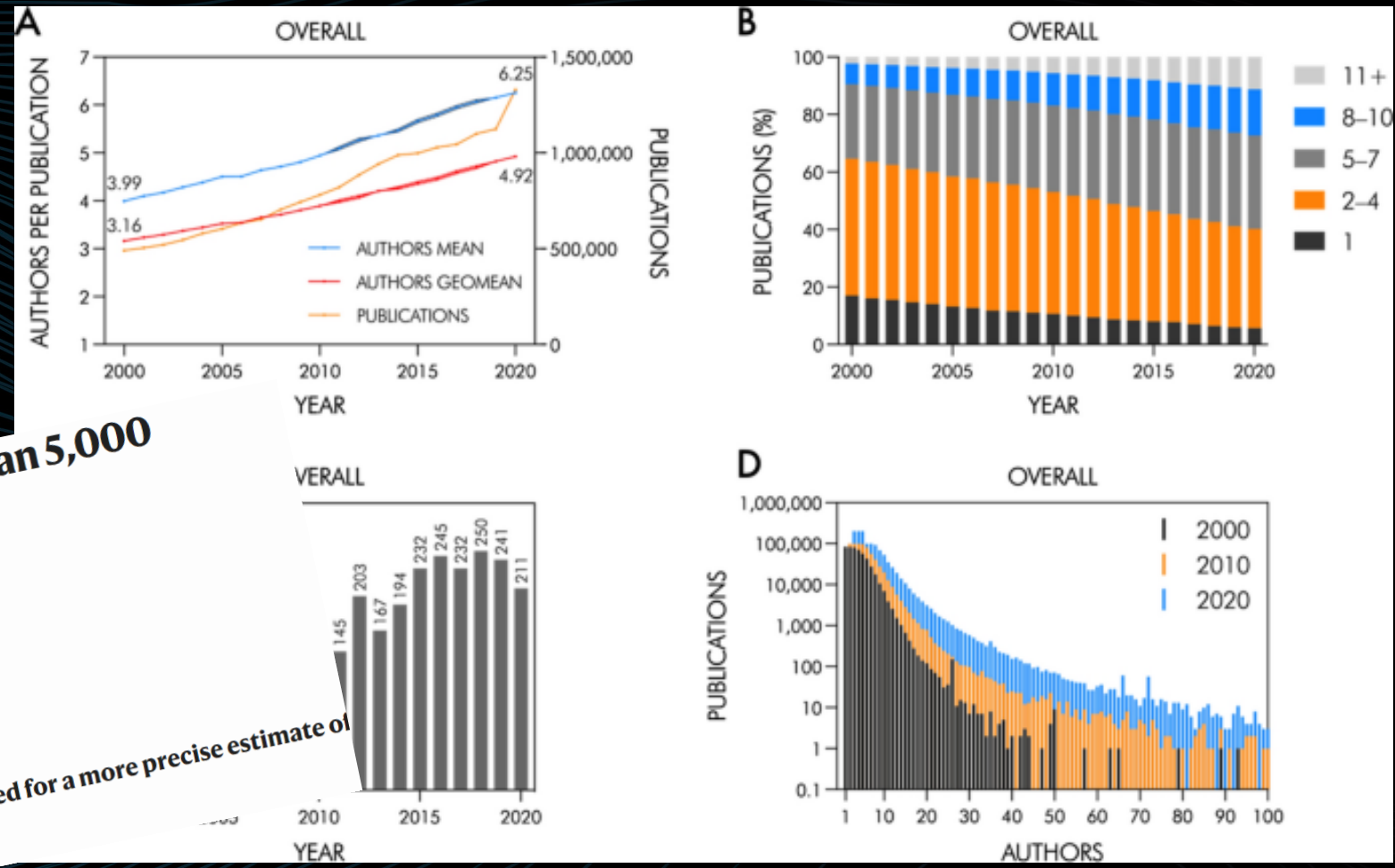
Authorship does not communicate contribution!

# Increase in co-authorship in the Biomedical Sciences

**Physics paper sets record with more than 5,000 authors**

[Davide Castelvecchi](#)  
[Nature](#) (2015) | [Cite this article](#)  
 55k Accesses | 35 Citations | 1758 Altmetric | [Metrics](#)

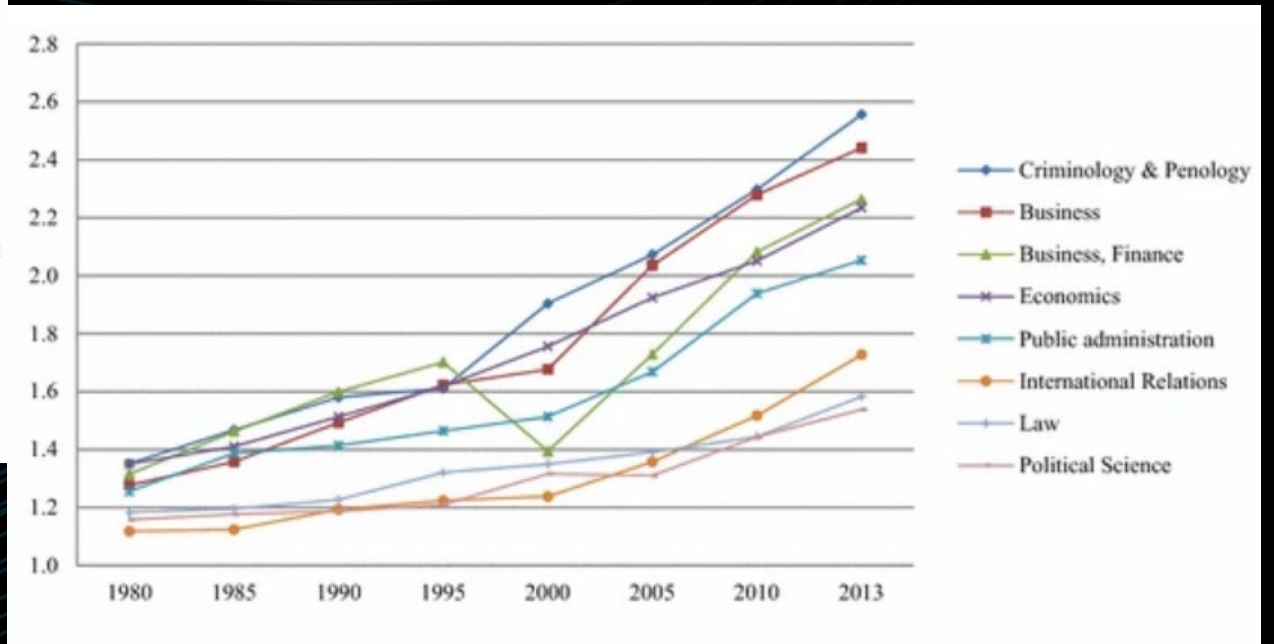
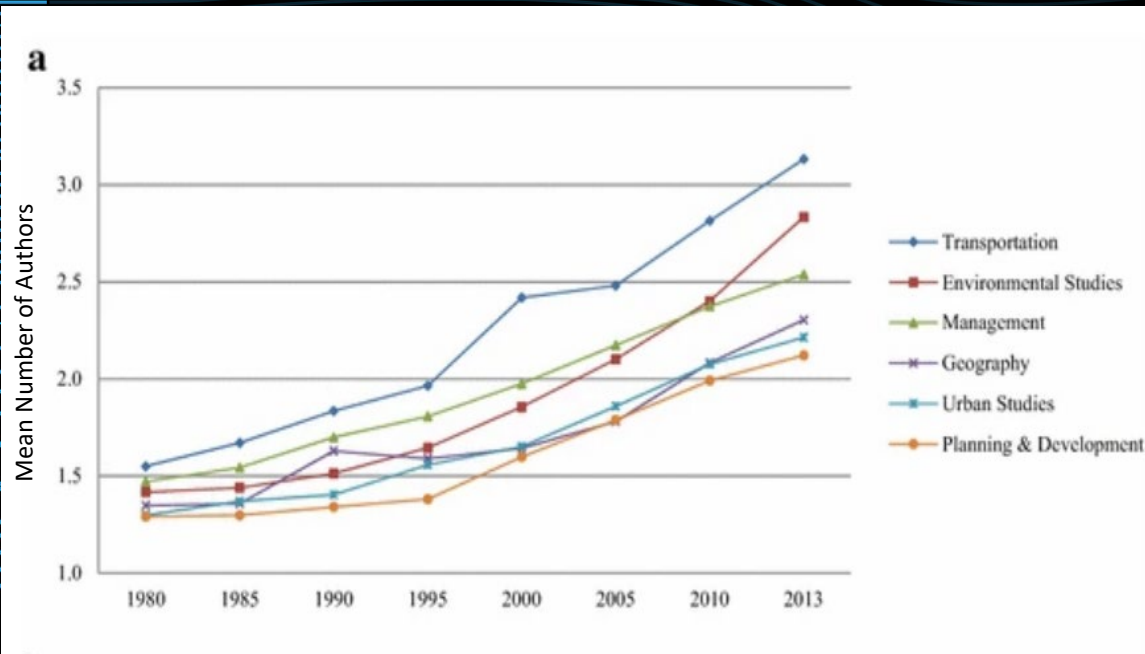
Detector teams at the Large Hadron Collider collaborated for a more precise estimate of the size of the Higgs boson.



Jakab, M., Kittl, E. & Kiesslich, T. How many authors are (too) many? A retrospective, descriptive analysis of authorship in biomedical publications. *Scientometrics* 129, 1299–1328 (2024). <https://doi.org/10.1007/s11192-024-04928-1>



# Increase in co-authorship in the Social Sciences



Henriksen, D. The rise in co-authorship in the social sciences (1980–2013). *Scientometrics* 107, 455–476 (2016). <https://doi.org/10.1007/s11192-016-1849-x>



## Authorship Limitations:

- Author order didn't clearly show who did what
- Being listed as "et al." obscured contributions
- No standardised way to describe roles
- Middle authors' contributions are often unclear
- Large collaborations (sometimes 100+ authors)
- Interdisciplinary work requiring diverse skills

## ...issues

### Career Development Issues:

- Difficulty proving specific skills to employers
- Hard to demonstrate technical contributions
- Limited recognition for specialised roles

### Research Assessment:

- Evaluation of individual contributions
- Recognition of non-traditional roles
- Assessment of collaborative skills
- Track record verification

### Conflict:

- Authorship disputes
- Credit allocation disagreements
- Contribution verification issues
- Responsibility assignment problems





Research is not only communicating but also demonstrating what you are doing



	<b>CRedit Role</b>	<b>Description</b>
1	<b>Conceptualization</b>	Development of research ideas, goals, and overall research aims
2	<b>Data curation</b>	Management of research data including maintaining and annotating data for initial use and later reuse
3	<b>Formal analysis</b>	Application of statistical, mathematical, computational, or other formal techniques to analyse study data
4	<b>Funding acquisition</b>	Securing financial support for the project
5	<b>Investigation</b>	Conducting the research and performing the experiments
6	<b>Methodology</b>	Development or design of methodology and creation of models
7	<b>Project administration</b>	Management and coordination of research activities
8	<b>Resources</b>	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation
9	<b>Software</b>	Programming, software development, designing computer programs
10	<b>Supervision</b>	Oversight and leadership responsibility for research activity planning and execution
11	<b>Validation</b>	Verification of the overall replication/reproducibility of results/experiments
12	<b>Visualization</b>	Preparation, creation and/or presentation of the published work, specifically visualization/data presentation
13	<b>Writing – original draft</b>	Creation of the initial draft
14	<b>Writing – review &amp; editing</b>	Critical review, commentary or revision of the manuscript





# How to apply the roles:

The roles apply to all those who contribute to research that results in scholarly published works.



**It is recommended that all tagged contributors be listed, whether they are formally listed as authors or named in acknowledgements.**

- An individual contributor may be assigned multiple roles
- A given role may be assigned to multiple contributors.
- When there are multiple people serving in the same role, a degree of contribution may optionally be specified as 'lead', 'equal', or 'supporting'.



# Benefits of using CRediT

<https://credit.niso.org/benefits/>



Providing **visibility of the diverse range of research contributions**, beyond a traditional focus on writing and being 'first author'



Acknowledging the **contributions of researchers working in large teams**.



Providing a comprehensive view of researchers' contributions for better assessment.



Improving the ability to **track the outputs and contributions of individual research specialists and grant recipients**



Enabling the **identification of potential collaborators, reviewers, experts and specialists**



Supporting research institutions, publishers and authors to **avoid and resolve authorship disputes**



Providing **additional accountability information** around research output to enhance research integrity



# The growing popularity of CRedit

***CRedit improves the visibility and recognition of the different contributions of researchers.***

Since its inception in 2012 CRedit has become increasingly popular

- In 2022 CRedit was approved as an NISO standard
- CRedit is licensed for permissive re-use (Creative Commons 4.0 (CC-BY)).
- CRedit descriptors are available in a range of languages



# Current Adoption in academia

## Integration by Journals and publishers:

- Cell Press (early adopter)
- Elsevier
- BMJ
- Springer
- Wiley
- PLOS
- SAGE
- American Chemical Society

<https://credit.niso.org/adopters/>

## Implementation Methods:

### 1. Mandatory use:

1. Some journals and funders require CRediT statements for all submissions
2. Authors must specify roles during submission process
3. Often integrated into manuscript submission systems

### 2. Optional use:

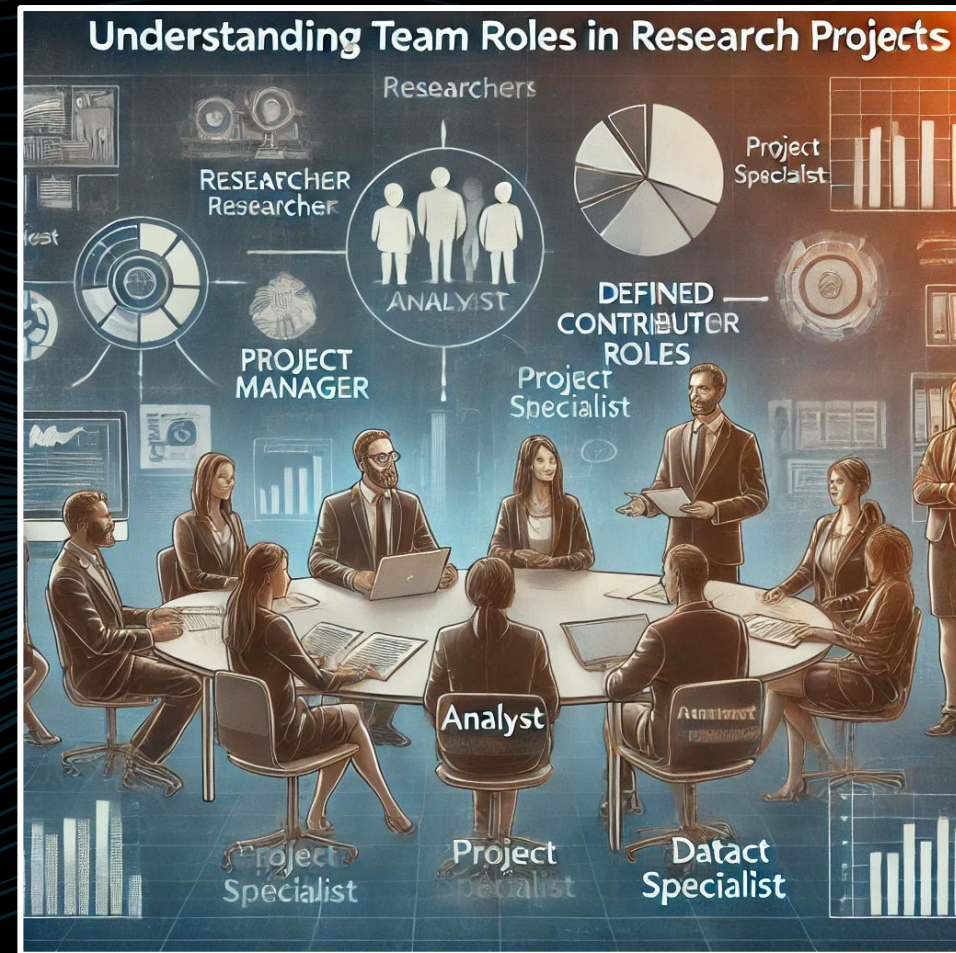
1. Some journals recommend but don't require it
2. Authors can choose to include CRediT statements



# Current Adoption in academia

## Integration by Funders

Funding bodies are encouraging the use of contributor roles in grant proposals and project reports to better understand the roles played by team members.





# Current Adoption in academia

Integration with **ORCID**

**ORCID iD:** researcher's unique persistent digital identifier

ORCID is a not-for-profit organisation which aims to eliminate name ambiguity and accurately connect authors to their works, projects and institutional affiliations throughout their careers.

**[www.orcid.org](http://www.orcid.org)**



# [ORCID advantages]

You can link your unique ORCID identifier with:

- Databases → Scopus, Web Of Science, CrossRef, Datacite
- University Information System → i.e. PURE
- Most Publishers' submission platforms
- Research platforms → Octopus, SSRN ([list here](#))
- Funders application and reporting platforms → Je-S, Researchfish

This will allow you:

- To reduce manual data entry: information in linked systems can be automatically updated
- To save time spent filling submission forms: log in to a system with your ORCID credential and the 'auto-populate' function will fill in the information.
- To eliminate the need to memorise multiple passwords to access different systems and reduce the risks of data entry errors.

[https://www.youtube.com/watch?v=vFTAXUGD1Lk&list=PLmKrFyUVrIH4PYOSdsGrrZXzgDZia\\_WQL&index=20&t=721s](https://www.youtube.com/watch?v=vFTAXUGD1Lk&list=PLmKrFyUVrIH4PYOSdsGrrZXzgDZia_WQL&index=20&t=721s)  
[Manage Your Researcher Profiles | Library | The University of Aberdeen](#)

# Integration with ORCID

## Adding Contributors to Your Work

When you [import your work](#) from a database such as Crossref Metadata Search or Scopus - Elsevier, the full list of Contributors will be automatically included on the work entry.

If you manually add a work to your record using the **Add DOI**, **Add PubMed ID** or **Add manually** options, you will be automatically added as a contributor to the work. However, you'll need to manually add your contributor role as well as other contributors.

## Adding Your Own Contributor Role

When you add a work to your record manually (using the **Add DOI**, **Add PubMed ID** or **Add manually** options), you will be automatically added as a contributor to the work.

You can specify your [contributor role](#) using the dropdown menu on the **Contributors** section (the 14 available options are based on [CRediT - Contributor Roles Taxonomy](#)).



# How to implement CRediT

- Discuss the provisional authorship and roles of each contributor early in the project.
- Make sure all authors see and approve their roles and the final manuscript.
- Advocate that your colleagues, institution and any publications you're submitting to acknowledge and adopt the taxonomy.





# Example: Contributions with or without CRediT adoption

## Without CRediT

### AUTHOR CONTRIBUTIONS

Adam Z. Hasik, Jason T. Bried and Adam M. Siepielski designed the study and collected data. Adam Z. Hasik, Daniel I. Bolnick and Adam M. Siepielski developed the analytical framework. Adam Z. Hasik analysed the data and wrote the initial draft. All authors contributed substantially to revisions.

– The authors were funded by Victoria Department of Energy, Environment and Climate Action.

### Author contributions

**Canran Liu:** Conceptualization (lead); Formal analysis (lead); Methodology (lead); Writing - original draft (lead). **Graeme Newell:** Conceptualization (supporting); Writing - review and editing (equal).


**Matt White:** Conceptualization (supporting); Writing - review and editing (equal). **Josephine**

**Machunter:** Conceptualization (supporting); Writing - review and editing (equal).

## With CRediT



# “The person in power told me to”—European PhD students’ perspectives on guest authorship and good authorship practice

Mads Paludan Goddixsen , Mikkel Willum Johansen, Anna Catharina Armond, Christine Clavier, Linda Hogan, Nóra Kovács, Marcus Tang Merit, I. Anna S. Olsson, Una Quinn, Júlio Borlido Santos, Rita Santos, Céline Schöpfer, Orsolya Varga, [...], Thomas Bøker Lund [ view all ]

Published: January 12, 2023 • <https://doi.org/10.1371/journal.pone.0280018>

Article	Authors	Metrics	Comments	Media Coverage
	▼			


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# Example: how to use CRediT in your CV

- Smith, J., Johnson, M., & Davis, K. (2024). "Innovation in Research Methods." *Journal of Important Research*, 12(3), 45-67.

## Roles:

- Conceptualization
- Methodology
- Software Development
- Writing - Original Draft
- Project Administration
- *Impact*: Led methodology design and created novel analysis software used by 50+ research groups



# Resources

- <https://credit.niso.org>
- [www.orcid.org](http://www.orcid.org)
- [https://www.youtube.com/watch?v=vFTAXUGD1Lk&list=PLmKrFyUVrIH4PYOSdsGrrZXzgDZia\\_WQL&index=20&t=721s](https://www.youtube.com/watch?v=vFTAXUGD1Lk&list=PLmKrFyUVrIH4PYOSdsGrrZXzgDZia_WQL&index=20&t=721s)
- <https://www.abdn.ac.uk/library/support/promote-your-research-outputs-2311.php#panel2324>
- Hosseini, M., Kerridge, S., Allen, L., Kiermer, V., & Holmes, K. L. (2023, July 5). Enhancing Understanding and Adoption of the Contributor Roles Taxonomy (CRediT). <https://doi.org/10.31222/osf.io/n6249>
- <https://credit.niso.org/adopters/>