

Gatherings of an Infovore*: Who Deserves CRediT?

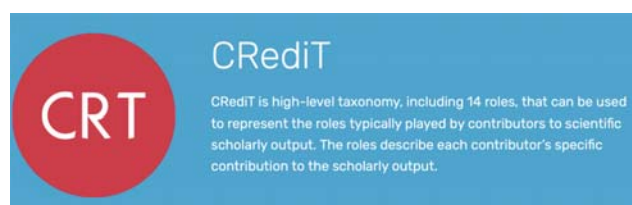
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CRT = Contributor Roles Taxonomy

The need for a way to define how an individual participated during a project and the record of that project's results is a relatively recent discussion among the research and publishing communities. For hundreds of years, authors of journal articles were listed in the order dictated by the publication. In the early years of science, first authors in a list could be the lead researcher, principal investigator, department head, or some other supervisory role depending on the style of the journal. As the number of members in a project team increased in certain disciplines, the first author could be the corresponding author (the person responsible for submitting the paper, available for requests on the review and publishing processes, and dealing with any queries subsequent to publication), and the last author might be the overall supervisor of the project.

But no matter the order, exactly what an individual did for the project (before, during, or after) wasn't apparent in the author list, or seldom anywhere else in the article. By the start of the 21st century, stakeholders desiring increased transparency and accessibility of reported results—researchers, funding agencies, academic institutions, editors, and publishers—came to recognize the usefulness of a taxonomic approach. According to the Consortia Advancing Standards in Research Administration Information (CASRAI) project website “[i]n mid-2012 the Wellcome Trust and Harvard University co-hosted a workshop to bring together members of the academic, publishing, and funder communities interested in exploring alternative contributorship and attribution models.” In brief, the roles are intended to provide greater recognition for the work of each author, reduce authorship disputes, facilitate collaboration, and yield a metric for funders and other institutions regarding the output resulting from their support.

The product from the group was the structured Contributor Role Taxonomy introduced in 2014 with the moniker CRediT. Adoption was not instantaneous but fairly



rapid by our industry's standards. With the advent of 2020, a number of major publishers in Canada, the UK, Europe, and the US have adopted CRediT.

CRediT is a high-level taxonomy with the following 14 defined contributor roles:

- Conceptualization
- Data curation
- Formal analysis
- Investigation
- Methodology
- Project administration
- Resources
- Software
- Supervision
- Validation
- Visualization
- Writing—original draft
- Writing—review and editing

A definition for each role can be found on the CASRAI website at <https://casrai.org/credit/>.

Currently CASRAI manages CRediT as an informal standard but work is underway to have it become a formal standard at the National Information Standards Organization (NISO).

As publishers look to adopt this new authorship standard as a means to provide their communities with increased transparency to the research results they disseminate below are some resources which may prove useful in making that decision.

Naturally, the first source to seek out is the CASRAI website and the organization's blog and list of resources: <https://casrai.org/blog/>
<https://casrai.org/resources/>

Various publishers have made available easily understandable and accessible documents for authors to use in adhering to the taxonomy, such as those from Cell Press and Wiley:

*A person who indulges in and desires information gathering and interpretation. The term was introduced in 2006 by neuroscientists Irving Biederman and Edward Vessel.

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<http://www.cell.com/pb/assets/raw/shared/guidelines/CRediT-taxonomy.pdf>

<https://authorservices.wiley.com/author-resources/Journal-Authors/open-access/credit.html>

Articles by authors and publishers offer interesting insights into how the various communities are reacting to this new approach for giving CRediT. Below is a sampling.

CRediT Check: Should we welcome tools to differentiate the contributions made to academic papers?
 “Elsevier is the latest in a lengthening list of publishers to announce their adoption for 1,200 journals of the CASRAI Contributor Role Taxonomy (CRediT). Authors of papers in these journals will be required to define their contributions in relation to a predefined taxonomy of 14 roles. In this post, Elizabeth Gadd weighs the pros and cons of defining contributorship in a more prescriptive fashion and asks whether there is a risk of incentivising new kinds of competitive behaviour and forms of evaluation that doesn’t benefit researchers.”

<https://blogs.lse.ac.uk/impactofsocialsciences/2020/01/20/credit-check-should-we-welcome-tools-to-differentiate-the-contributions-made-to-academic-papers/>

The contributor roles for randomized controlled trials and the proposal for a novel CRediT-RCT

Zhang Z, Wang SD, Li GS, Kong G, Gu H, Alfonso F. *Ann Transl Med.* 2019;7(24):812. <https://doi.org/10.21037/atm.2019.12.96>.

How can we ensure visibility and diversity in research contributions? How the Contributor Role Taxonomy (CRediT) is helping the shift from authorship to contributorship

Allen L, O’Connell A, Kiermer V. *Learned Publish.* 2019;32(1):71–74. <https://doi.org/10.1002/leap.1210>.

Farewell authors, hello contributors

Holcombe A. *Nature.* 2019;571:147. <https://doi.org/10.1038/d41586-019-02084-8>.

No more first authors, no more last authors

Kiser GL. *Nature.* 2018;561:435. <https://doi.org/10.1038/d41586-018-06779-2>.

Transparency in authors’ contributions and responsibilities to promote integrity in scientific publication

McNutt MK, Bradford M, Drazen JM, Hanson B, Howard B, Jamieson KH, Kiermer V, Marcus E, Pope BK, Schekman R, et al. *Proc Natl Acad Sci USA.* 2018;115(11):2557–2560. <https://doi.org/10.1073/pnas.1715374115>.

Publication practices and responsible authorship: a review article

Tarkang EE, Kweku M, Zotor FB. *J Public Health Afr.* 2017;8(1):723. <https://doi.org/10.4081/jphia.2017.723>.