

COMPASS Author Contribution Guidelines

All contributors to the COMPASS work will receive credit and acknowledgement for their contributions. We follow the CRediT Taxonomy (Allen et al., 2014), along with the NIH Authorship Contributions (Colbert, Nussenblatt & Gottesman, 2018) that broadly recognize 14 forms of contribution: conceptualization, methodology, software, validation, formal analysis, investigation, resources, data curation, writing – original draft, writing – reviewing & editing, visualization, supervision, project administration, and funding acquisition. We also take strongly from the authorship guidelines created by N.M. Batalha for the JWST Transiting Exoplanet Community Early Release Science Team (which was also adapted from the NIH Authorship Contributions Guidelines). We recognize that traditional “sequence-based-credit” authorship approaches can be anachronistic, opaque, and prone to conflict (as outlined in Baum et al. 2022). We strive to assuage these effects by following the procedures outlined in our Collaboration Agreement (Section D. Publications). Below we provide our full authors contribution form for “COMPASS Core Collaboration” papers as well as Ancillary papers.

Description of Rubric:

We recognize 14 types of contributions, defined in the following table. Within each type of contribution there is a scaling that is ranked from 0 to 5, and we also describe the scaling for each contribution type in the table. However, in general the ranking follows the general guideline:

[0] no contribution/participation

[1] one-off contribution

[2] minor contributor/participant (actions had little or no bearing on the final outcome)

[3] moderate contributor/participant (actions had some impact on the final outcome)

[4] major contributor/participant (actions directly determined the final outcome)

[5] leader, coordinator, or primary point person of the activity

Authorship is granted to those with at least one [5], a few [3]’s or several [1]’s. Note, there is one case where a full scaling (0-5) changes depending on if it is a core collaboration paper or an ancillary paper (see table scaling description).

Contribution Type	Definition	Scaling
Conceptualization	Ideas; Formulation or evolution of overarching research goals and aims	Was a co-I on the original proposal or is a funded postdoc or grad student of the original proposal and this is a Core Collaboration publication (5) ... and this is an ancillary paper (1) Developed ideas for the paper (5) ... provided feedback that shaped the

		paper objectives (3) ... provided verbal input to idea during team meeting (1)
Methodology	Development or design of methodology; use of existing tools to create data analysis or modeling workflows; creation of models	Defined methodology steps or workflows not yet in the public domain and/or uniquely for the purposes of the data presented in this COMPASS paper (5) ... for data that impacted this paper (3) ... for other data not presented here (1) 1 – provided verbal feedback in team meetings
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components	Developed new software unique for the purposes of the data presented in this COMPASS paper (5) ... wrote a few lines of code (3) ... troubleshooted/reported issues (1) 1 – provided verbal feedback in team meetings
Validation	Verification, whether as a part of the activity or separate, of the overall replication/ reproducibility of results/experiments and other research outputs	Validated data reduction or theoretical analyses for data presented in this COMPASS paper (5) ... for data that impacted this paper (3) ... for other data not presented here (1) 1 – provided verbal feedback in team meetings
Formal analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data	Performed statistical tests or other analysis used for the data reported in this analysis (5) ... for data that provided insight to the analysis (3) ... for other data not considered in this paper (1) 1 – provided verbal feedback in team meetings
Investigation	Conducting research and investigation from results	Provided scientific interpretation of the results that led to new and unpublished physical

		insights (5) ... placed the results into context within the published literature (1) 1 – provided verbal feedback in team meetings
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse	Aided in the creation of the data or software products released on Zenodo related to this COMPASS paper (5) ... wrote metadata, docstrings used in the posting (3) ... provided feedback on the curation of data (1)
Writing - Original Draft	Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation)	- Defined scope, key takeaways, outline (5) - Wrote a section (5) a paragraph (3) sentences (2) provided citations (1)
Writing - Review & Editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre-or post-publication stages	Provided critical reviews on the paper which helped shape the narrative or conclusions (5) ... read the paper and provided significant feedback (3) ... read the paper and provided editorial feedback (1) 1 – provided verbal feedback in team meetings
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/ data presentation	Created content for this COMPASS paper (5) ... for science communication of the paper (3) ... provided design feedback (1)
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team	- Served as co-I, institutional lead, PI, or are a funded grad/postdoc of the team (5) - Provided unique and critical insight to team member that affected this manuscript (5) - Mentored student/postdoc involved in the project but did not otherwise participate in the analysis (1)

Project administration	Management and coordination responsibility for the research activity planning and execution	<ul style="list-style-type: none"> - Guides program direction, pace, management, organization (5) - Manages program-level budget issues (5) - Interfaces with STScl on program related issues arising
Funding acquisition	Acquisition of the financial support for the project leading to this publication	Contributed to the acquisition of ancillary funding that uniquely supported the data presented in this work (5) ... that benefited this work and other works (1)
Resources	Provided observing resources, computing resources, travel resources, physical workspace, or other resources	Acquired resources that uniquely enabled the publication of the COMPASS paper (5) ... that generally enabled a team member (1)

Link to author contribution form:

- [Paper General](#) (not collecting responses but form is left open for viewing purposes only)

Individual forms will be sent out for each core and ancillary paper.

Allen, L., Scott, J., Brand, A., Hlava, M., & Altman, M. (2014). Publishing: Credit where credit is due. *Nature*, 508(7496), 312–313.

Baum, Myriam A., et al. "The first author takes it all? Solutions for crediting authors more visibly, transparently, and free of bias." *British Journal of Social Psychology* (2022).

Colbert, Melissa C., Robert B. Nussenblatt, and Michael M. Gottesman. "Integrity in Research: Principles for the Conduct of Research." *Principles and Practice of Clinical Research*. Academic Press, 2018. 33-46.