COMPASS Author Contribution Guidelines
Updated 24 April 2024

All contributors to the COMPASS work will receive credit and acknowledgement for their contributions. Our contribution recognition plan is heavily based on 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).

Placement in the authorship lineup will be decided by the paper leads (paper champion [default first author] and additional lead [default second author]) based primarily on the authorship contribution form; we also allow for the paper leads to consider additional broader context/cumulative contributions when appropriate. For each paper, after the authorship form is submitted the paper leads will develop authorship tiers based on the contribution form and briefly describe the tiers in the paper Overleaf. Within each tier the authors will be listed in alphabetical order, which will be reversed for every other paper. Paper leads will notify the team that the authorship order has been proposed at least one week prior to paper submission, and team members will have up until paper submission to express concerns over the authorship ordering. If a consensus cannot be reached between the paper lead(s) and the person raising the concern, the PIs will review the authorship contribution form, review both party's concerns, and propose a solution.

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 were 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 & Software	Development or design of methodology; use of existing tools to create data analysis or modeling workflows; creation of models. Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components	Defined methodology steps or software not yet in the public domain and/or uniquely for the purposes of the data presented in this COMPASS paper (5) … for data or models that impacted this paper (e.g., TESS light curve fitting, mass measurement, modeling of non-JWST stellar data) (3) … for other data not presented here (2) 1 – provided verbal feedback in team meetings
Data Reduction	Producing 2D exoplanet atmosphere spectrum from raw JWST data	Provided a reduction for the paper and iterated on that reduction with the paper leads to determine sources of differences and/or unexpected results. Additionally, provided data products for the paper (5) Provided a single reduction

		without the need for additional iterations requested by the paper leads. Additionally, provided data products for the paper (4) Provided a data reduction that helped to contextualize the results from the other reductions but did not provide data products for the paper (3) Provided verbal feedback in team meetings on avenues for improvement of reduction(s) (1)
Theoretical Modeling	Producing models to aid in interpretation of the data	Created multiple versions of a modeling product that helped put the COMPASS data into context by iterating with paper lead (5) Created a modeling product that helped put the data into context (3) Provided verbal feedback in team meetings (1)
Synthesis & Interpretation	Conducting research and investigation from results. Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data	Iterated closely with the paper leads to compare, synthesize, and interpret or modeling products (5) Provided interpretation of your own contributed results (3) Provided verbal feedback in team meetings (1)
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, and wrote majority of paper. (5) Wrote description of a contributed product and associated results... AND (4) OR (3) wrote material on synthesis, comparison, or interpretation of those results. Wrote a paragraph (2) Wrote a few sentences (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	Iterated with paper leads on multiple versions of figures (or multiple figures) in order to create paper-ready visualizations (5) Created a paper-ready visualization (4) Created figure(s) used to contextualize results that were not used in the paper (3) Created figures used for science communication of the paper (2) Provided verbal feedback in team meetings (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	- Guides program direction, pace, management, organization (5) - Manages program-level budget issues (5) - Interfaces with STScI 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.