

Leading institutions around the world, such as ANPAD and ICMJE (International Committee of Medical Journal Editors), recommend that the authoring authority be based on the following **four minimum criteria**:

- Substantial contributions to design or work design; or an acquisition, analysis or interpretation of data for the job;
- Develop work or critically review for important intellectual content;
- Final approval of the version to be published;
- Agree to be responsible for all aspects of the work, apply that issues related to the accuracy or integrity of any part of the work be investigated and resolved.

#### **AUTHOR'S CONTRIBUTION – CREDIT TAXONOMY**

- **Conceptualization** – Ideas; formulation or evolution of overarching research goals and aims.
- **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 re-use.
- **Formal analysis** – Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.
- **Funding acquisition** - Acquisition of the financial support for the project leading to this publication.
- **Investigation** – Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.
- **Methodology** – Development or design of methodology; creation of models.
- **Project administration** – Management and coordination responsibility for the research activity planning and execution.
- **Resources** – Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
- **Software** – Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.
- **Supervision** – Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.
- **Validation** – Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.
- **Visualization** – Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.
- **Writing – original draft** – Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
- **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.

**RECOMMENDATIONS FOR APPLYING THE CRediT taxonomy are:**

- **List all Contributions** – All contributions should be listed, whether from those listed as authors or individuals named in acknowledgements;
- **Multiple Roles Possible** – Individual contributors can be assigned multiple roles, and a given role can be assigned to multiple contributors;
- **Degree of Contribution Optional** – Where multiple individuals serve in the same role, the degree of contribution can optionally be specified as 'lead', 'equal', or 'supporting';
- **Shared Responsibility** – Corresponding authors should assume responsibility for role assignment, and all contributors should be given the opportunity to review and confirm assigned roles;

Therefore, authors must send a statement about the contribution of each author following the model:

1<sup>st</sup> author: William Adams  
Conceptualization (lead)  
Writing – original draft (equal)  
Project administration (equal)  
Validation (lead)

2<sup>nd</sup> author: ....