

CRediT CONTRIBUTION FORM

Contributor Roles Taxonomy - complete for every listed author

A. Manuscript Information

Full manuscript title

Article type

Manuscript ID

Corresponding author

Email address

Total authors

Date

B. Author Names and Identifiers

Author 1 name

Author 2 name

Author 3 name

Author 4 name

Author 5 name

Author 6 name

Author 7 name

Author 8 name

ORCID / initials

ORCID / initials

ORCID / initials

ORCID / initials

ORCID / initials

ORCID / initials

ORCID / initials

ORCID / initials

C. Instructions for Completion

Use the author identifiers A1-A8 shown above. On pages 2 and 3, tick every CRediT role performed by each author. More than one role may be assigned to an author, and a role may be shared by several authors. The CRediT statement does not replace the journal's authorship criteria; every listed author must still qualify for authorship.

- ☐ All author names and the order of authorship have been confirmed by every author.
- ☐ Each selected role reflects a genuine and identifiable contribution to the manuscript.
- ☐ Contributors who do not meet authorship criteria will be acknowledged rather than listed as authors.
- ☐ Any change in authorship after submission will be requested in writing and approved by all authors and the journal.

D. Additional Authors, if more than eight

For manuscripts with more than eight authors, attach an additional signed CRediT sheet using the same author identifiers and role categories.

CRediT CONTRIBUTION FORM

Contributor Roles Taxonomy - Role Matrix, Part I

E. CRediT Role Matrix - Roles 1 to 7

Tick the appropriate box for Authors A1-A8. Refer to the author names entered on page 1.

Contributor role and description	A1	A2	A3	A4	A5	A6	A7	A8
Conceptualization Formulation of research goals and overarching study ideas.	☐	☐	☐	☐	☐	☐	☐	☐
Methodology Development or design of the methodology and research model.	☐	☐	☐	☐	☐	☐	☐	☐
Software Programming, software development, or implementation of code and algorithms.	☐	☐	☐	☐	☐	☐	☐	☐
Validation Verification of results, experiments, or reproducibility.	☐	☐	☐	☐	☐	☐	☐	☐
Formal analysis Application of statistical, mathematical, or computational analysis.	☐	☐	☐	☐	☐	☐	☐	☐
Investigation Conducting the research, experiments, interviews, surveys, or data collection.	☐	☐	☐	☐	☐	☐	☐	☐
Resources Provision of materials, participants, laboratory resources, instruments, or access.	☐	☐	☐	☐	☐	☐	☐	☐

CRediT CONTRIBUTION FORM

Contributor Roles Taxonomy - Role Matrix, Part II

F. CRediT Role Matrix - Roles 8 to 14

Continue the role selection for Authors A1-A8 as listed on page 1.

Contributor role and description	A1	A2	A3	A4	A5	A6	A7	A8
Data curation Data preparation, annotation, cleaning, maintenance, and preservation.	☐	☐	☐	☐	☐	☐	☐	☐
Writing - original draft Preparation of the initial manuscript draft.	☐	☐	☐	☐	☐	☐	☐	☐
Writing - review and editing Critical review, revision, and editing of the manuscript.	☐	☐	☐	☐	☐	☐	☐	☐
Visualization Preparation of figures, tables, diagrams, or data presentation.	☐	☐	☐	☐	☐	☐	☐	☐
Supervision Oversight and leadership responsibility for the research activity.	☐	☐	☐	☐	☐	☐	☐	☐
Project administration Coordination and management of research planning and execution.	☐	☐	☐	☐	☐	☐	☐	☐
Funding acquisition Securing financial support for the project.	☐	☐	☐	☐	☐	☐	☐	☐

G. Detailed Contribution Statement

Describe each author's contribution in complete sentences. This statement may be reproduced in the published article.

CRedit CONTRIBUTION FORM

Author approval and signatures - Part I

H. Author Approval and Signatures - Authors 1 to 4

Each author confirms that the role matrix and detailed contribution statement are accurate and agrees with the authorship order.

No.	Author name	Affiliation	Email / ORCID	Signature and date
1				Signature: _____ Date: _____
2				Signature: _____ Date: _____
3				Signature: _____ Date: _____
4				Signature: _____ Date: _____

CRedit CONTRIBUTION FORM

Author approval and signatures - Part II

J. Author Approval and Signatures - Authors 5 to 8

Continue the approval and signature record for Authors 5 to 8.

No.	Author name	Affiliation	Email / ORCID	Signature and date
5				Signature: Date:
6				Signature: Date:
7				Signature: Date:
8				Signature: Date:

K. Corresponding Author Certification

I certify that all authors have reviewed and approved the contribution information in this form and that it accurately represents the work performed by each author.

Name of corresponding author

Typed signature / initials

Date

Journal office status