

Use of Artificial Intelligence in MSTA journal

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This section supplements the journal's general **Instructions for Authors** and **Ethical Policy** and sets out how *Modern Stochastics: Theory and Applications* (MSTA) expects authors, reviewers, and editors to handle generative Artificial Intelligence (AI) and AI-assisted technologies (large language models, AI writing or coding assistants, AI-based literature or reference tools, etc.). It follows the principles established by the Committee on Publication Ethics (COPE). As generative AI tools continue to evolve, this policy will be reviewed periodically and updated as needed.

1. AI tools cannot be authors

AI tools and large language models (LLMs), such as ChatGPT, Claude, or similar systems, **must not be listed as an author or co-author**, and must not be cited as an author of a submitted manuscript.

Authorship in MSTA implies:

- responsibility and accountability for the mathematical correctness, originality, and integrity of the work, including all proofs, lemmas, theorems, and derivations;
- the ability to approve the final version of the manuscript and to agree to its submission and, if accepted, to its publication;
- the capacity to respond to questions raised during peer review or after publication, including corrections and retractions if needed.

An AI tool can fulfill none of these roles. Every human author remains fully and personally responsible for the entire content of the paper, irrespective of which parts, if any, were prepared with AI assistance.

2. What may and may not be assisted by AI

2.1 Language, style, and formatting.

Authors may use AI tools to improve the grammar, spelling, clarity, or LaTeX formatting of a manuscript before submission. Such purely linguistic or typesetting assistance, comparable to the use of a conventional spelling/grammar checker or copy-editor, **does not need to be disclosed**.

2.2 Drafting, summarizing, or restructuring text.

Authors may use AI tools to help draft or restructure sections of the manuscript (e.g., an introduction, a literature summary, or a discussion of results). Any such use **must be disclosed** (see Section 3), and the author remains fully responsible for the accuracy, originality, and appropriateness of the resulting text.

2.3 Mathematical content: proofs, theorems, and derivations.

MSTA publishes original research in probability theory, stochastic processes, stochastic analysis, and mathematical statistics. Mathematical correctness is the core criterion for acceptance, and current general-purpose AI tools are known to produce plausible-looking but incorrect or fabricated mathematical statements, proofs, and citations. Therefore:

- AI tools may be used to explore ideas, check routine calculations, or suggest proof strategies, but **every proof, theorem statement, lemma, and derivation submitted to the journal must be independently verified by the human authors**, who bear full responsibility for its correctness.
- Authors must **not** present AI-generated mathematical content (statements, proofs, or numerical results) as their own established results without independent verification.
- Where AI or machine-learning methods form part of the research methodology itself (e.g., AI-assisted numerical simulation, AI-assisted parameter estimation, or machine-learning models used as an object or tool of study), this is **not** covered by this disclosure policy on writing assistance; instead, it must be described as part of the paper's methodology, with sufficient detail (models, versions, training data, parameters) for reproducibility, in the same way as any other computational method.

2.4 Literature search and references.

AI tools may assist authors in locating or organizing relevant literature. However, AI-generated citations and reference lists are known to be sometimes incorrect or entirely fabricated ("hallucinated"). Authors must **verify every reference against the original source** before submission; the corresponding author is responsible for the accuracy and completeness of the bibliography. Conventional reference managers (e.g., BibTeX, Zotero, EndNote, Mendeley) are not considered "AI tools" for the purposes of this policy and do not require disclosure.

2.5 Figures and data.

Generative AI must **not** be used to create, alter, or embellish research figures, plots, diagrams, or data (e.g., generating synthetic simulation output presented as genuine numerical results, or altering graphs). This restriction does not apply where an AI or machine-learning method is itself the subject of the study or an explicitly described part of the methodology, provided it is fully disclosed as such.

2.6 Peer review and editorial confidentiality.

Manuscripts submitted to MSTa are confidential documents. Editors and reviewers must **not** upload all or part of a submitted manuscript, or any information about it, into public generative AI tools or services, since this could breach author confidentiality and intellectual property rights. AI tools may be used by a reviewer only to improve the wording of their own review comments, never to generate the substantive scientific assessment of the manuscript.

3. Disclosure requirements

If AI tools have been used for anything beyond basic language, spelling, or formatting assistance (see 2.1), this use **must be disclosed** by the authors. Disclosure should:

1. Be included as a short statement at the end of the manuscript, immediately before the Acknowledgements and References sections (or within the Acknowledgements section if no separate declaration is required by the submission system);
2. Name the specific AI tool(s) or system(s) used (including version, where relevant);
3. Briefly describe the purpose and extent of the use (e.g., "used to improve the readability of Section 4" or "used to assist in searching the literature on fractional Brownian motion; all references were subsequently verified against original sources");
4. Confirm that the authors have reviewed, verified, and take full responsibility for all AI-assisted content.

Suggested wording:

"During the preparation of this work, the author(s) used [name of tool] for [purpose]. After using this tool, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication."

Non-disclosure of substantive AI use, if identified after submission or publication, will be treated as a breach of the journal's Ethical Policy and handled in accordance with COPE guidelines, in the same manner as other undisclosed use of third-party material.

4. Author responsibilities

By submitting a manuscript to MSTA, the corresponding author, on behalf of all co-authors, confirms that:

- no AI tool has been listed or implied as an author or contributor entitled to authorship credit;
- all AI-assisted content, whether textual, referential, or computational, has been carefully checked, verified, and, where necessary, corrected by the human authors;
- the use of any AI tool complies with applicable copyright and data confidentiality requirements, and no unpublished or confidential material (including material from the manuscript itself while under review) has been uploaded to a public AI service without authorization;
- all instances of substantive AI use have been disclosed as described in Section 3.

5. Scope

This policy governs the use of AI in preparing manuscripts submitted to **Modern Stochastics: Theory and Applications**. It does not restrict the legitimate use of computational, statistical, or machine-learning methods as the ****subject**** of research published in the journal (e.g., papers analyzing stochastic properties of machine-learning algorithms), provided such methods are described transparently as part of the study's methodology rather than used to generate the manuscript text, proofs, or citations themselves.

Questions regarding this policy, or borderline cases not explicitly covered here, should be directed to the Editors-in-Chief prior to submission.

This policy is aligned with the general recommendations of COPE ("Authorship and AI tools") and with comparable policies adopted by leading academic publishers, adapted to the specific needs of a mathematical journal in probability theory and stochastic analysis. It will be reviewed and updated as generative AI technology and community norms continue to evolve.