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Guidelines on ethical conduct in scientific publishing

INTRODUCTION

The publication of scientific, expert and artistic works is an important part of the research and pedagogical process and of the evaluation of the quality of high education staff and the academic environment. Advancement, successful election into a title or habilitation, domestic and international reputation depend on the quality and number of publications – both for individuals and for the groups and universities to which they belong, as it is also one of the criteria for assessing quality and the subsequent ranking of universities. Authorship thus carries important academic, status, financial, and social consequences, but at the same time entails responsibility for the published work.

To ensure the quality of research and public trust in science, researchers must adhere to certain fundamental principles of research integrity, including ethical publishing and other forms of presenting research results. The prevailing Publish-or-Perish academic culture represents a certain pressure on the authors to publish frequently and to a high standard, which can contribute to the temptation to resort to questionable, even unethical shortcuts. The growing number of so-called predatory journals and unethical practices (including by journals and publishers) and the rise of generative artificial intelligence, which allows users to compose a text on any topic in a matter of seconds, also highlights the need for specific guidelines in this domain that would take into account both internationally accepted standards of ethical publishing and its empirical reality, and be updated as necessary when new challenges and good practices are discovered.

Potential discrepancies between different disciplines or sciences regarding authorship criteria justify a certain degree of flexibility and self-regulation in the field with respect to the accepted norms that apply in the discipline in question and are mutually agreed upon in multidisciplinary collaborations.¹ Nevertheless, there are certain international standards that are considered generally accepted in the international academic environment and are therefore binding on all, regardless of the different sciences or fields of research.

These guidelines are therefore written in an omnidisciplinary manner for employees, associates and students of the University of Ljubljana who publish (or intend to publish) their work. They represent systematically formulated positions intended to assist the aforementioned in making decisions regarding the publication of their research results, to offer support for improving the quality of publications, and to ensure good, ethical practices in scientific publishing.

Part One of the guidelines addresses all mentioned stakeholders, while Part Two is specifically aimed at early-career researchers, who often need additional support when embarking on their publishing careers. The guidelines are based in particular on the UL Code of Ethics (2009),² the UL Code of Ethics for Researchers (2014),³ the European Code of Conduct for Research Integrity

¹ Similarly, LERU acknowledges in its recommendations that one of the 'challenges' regarding the definition of authorship is 'the existence of discipline-specific guidelines (the accepted norms vary across disciplines), which should be agreed upon in multidisciplinary collaborations'. Johansson M., Lerouge, I., Morawska, M. and Morgan, R. and Rosendaal, F. – za LERU (2023). *Advice Paper no. 32 - September 2023: Defining Responsible and Equitable Authorship by a Principle-based Approach*. Leuven: LERU, p. 5. (henceforth: LERU (2023)). Available at: https://www.leru.org/files/Publications/2023.09.08_Authorship-paper_fullpaper_DEF.pdf.

² Code of Ethics University of Ljubljana (2009); available at: <https://www.uni-lj.si/assets/Sluzba-za-raziskovalno-dejavnost/Etika-in-integriteta/EN/Code-of-Ethics-UL.pdf>.

³ Code of Ethics for Researchers at the University of Ljubljana (2014); available at: <https://www.uni-lj.si/assets/Sluzba-za-raziskovalno-dejavnost/Etika-in-integriteta/EN/Code-of-ethics-for-researchers.pdf>.



(2023),⁴ the LERU recommendations on responsible and fair authorship based on principles (2023),⁵ and the COPE guidelines on good publication practices (1999).⁶

All researchers must comply with the latest version of the European Code of Conduct for Research Integrity, adopted by the All European Academies (ALLEA). In the event that any subsequent updates to the European Code of Conduct for Research Integrity regulate certain topics of these guidelines differently or in more detail, the guidelines must be interpreted in the spirit of the latest edition of the mentioned code.

PRINCIPLES

Scientific honesty

Scientific honesty entails 'consistent respect of authorship, correct recognition and citation of other scholars' research achievements, the consistent use of appropriate research methods, fair and professionally irreproachable interpretation of results and honest data reporting, and objective examination of research hypotheses'.⁷ Similar applies to research in the arts.

Honesty must be demonstrated 'in developing, undertaking, reviewing, reporting, and communicating research in a transparent, fair, full, and unbiased way'.⁸

Scientific or research honesty is also demonstrated by objectivity and the prevention or declaration of conflicts of interest. The latter is defined in more detail in the Code of Ethics for Researchers at the University of Ljubljana (2014), which stipulates that a researcher 'is aware of and transparently cites the potential personal subjectivity' (objectivity). A researcher must also disclose any situations or circumstances in which financial or other private interests may affect the impartiality and objectivity of decisions, the performance of research tasks, publication, reviewing or editorial work (conflict of interest).

In addition to the applicable regulations, researchers or authors must also 'adhere to internationally recognised ethical rules and standards that apply to their specific fields of research'.⁹

Reliability and diligence

Reliability in ensuring the quality of research, as well as in the publication of research results, must be reflected 'reflected in the design, methodology, analysis, and use of resources'.¹⁰

Authors must act with diligence, avoid negligence and carelessness, carefully and critically evaluate their sources, their own work and work of their colleagues or co-authors, as well as carefully and accurately document their research activities, sources of information and research procedures so that the study can be replicated,¹¹ and describe them clearly in their publication.

⁴ All European Academies (ALLEA) (2013). *The European Code of Conduct for Research Integrity* – revised edition 2023. Berlin: ALLEA. DOI 10.26356/ECOC (henceforth: The European Code of Conduct for Research Integrity (2023)).

⁵ LERU (2023).

⁶ Committee on Publication Ethics (COPE) (1999). *COPE Guidelines on Good Publication Practice*. Available at: <https://publicationethics.org/media/595/download?attachment> (henceforth: COPE (1999)).

⁷ Article 15 of the UL Code of Ethics (2009).

⁸ The European Code of Conduct for Research Integrity (2023: 5).

⁹ Article 16 of the UL Code of Ethics (2009).

¹⁰ The European Code of Conduct for Research Integrity (2023: 5).

¹¹ UL Code of Ethics for Researchers (2014: 2).



Responsibility

The author demonstrates 'accountability for the research from idea to publication, for its management and organisation, for training, supervision, and mentoring, and for its wider societal impacts'.¹² This also includes responsibility for ethical conduct in publishing their research results.

All obligations and agreements in the performance of the tasks undertaken must be fulfilled. Responsibility also includes confidentiality, social responsibility and the avoidance of causing harm. When publishing, the confidentiality of data or results shall be protected when 'required by ethical standards or by an employer' or by legal grounds for the inaccessibility of research data, e.g. personal data. However, there is no obligation of confidentiality if non-disclosure of data could lead to broader social harm. In the context of their research and publishing work, authors also demonstrate social responsibility by striving for the well-being of others and society as a whole, and by avoiding causing harm in their work, including in publishing.¹³

Although different types of research roles and levels of leadership positions may entail specific (accompanying) responsibilities, all researchers are accountable for the accuracy and integrity of their own contributions to published work, for storing their original research data on which the publication is based in a findable and accessible manner and in accordance with good practices and institutional research data management policy, and for ensuring that any questions related to the research results are carefully investigated and resolved.¹⁴

Respect

In their work, authors demonstrate 'respect for colleagues, research participants, research subjects, society, ecosystems, cultural heritage, and the environment'.¹⁵

When publishing, the author respects the rights, dignity and diversity of people and treats them equally, while paying particular attention to 'protecting the rights, dignity and welfare of vulnerable individuals and individuals with special needs involved in his research work' or publication.¹⁶

PART ONE

Authorship

- Authorship must be based on: '(1) a significant contribution to the design of the research, relevant data collection, its analysis, and/or interpretation; (2) drafting and/or critical reviewing the publication; (3) approval of the final publication; and (4) agreeing to be responsible for the content of the publication, unless specified otherwise in the publication'.¹⁷
- As the author's contribution to the content must represent a significant creative contribution, a mere idea about what the paper should be or merely monitoring and coordinating the work of researchers is not sufficient. The Code of Ethics for Researchers at the University of Ljubljana further clarifies that being 'the formal supervisor of a project, the head of a department/cathedral/institute/faculty, proofreading or editing alone are considered insufficient for attributing authorship' and that 'guest authorship (the list of authors who do not meet the

¹² The European Code of Conduct for Research Integrity (2023: 5).

¹³ See UL Code of Ethics for Researchers (2014: 2).

¹⁴ LERU (2023: 8-9).

¹⁵ The European Code of Conduct for Research Integrity (2023: 5).

¹⁶ UL Code of Ethics for Researchers (2014: 2).

¹⁷ The European Code of Conduct for Research Integrity (2023: 8).



criteria) and invisible/ghost authorship (an individual who meets the criteria but is not listed as an author) are not acceptable'.¹⁸

- All those who have contributed to the research results or made a significant or essential intellectual contribution to the work must be listed as authors.
- All authors are fully responsible for the content of their publication, unless it is explicitly and precisely stated that they are only responsible for a particular part of the publication.¹⁹ By participating as authors, they assume responsibility for the published work.
- Authors disclose all financial and non-financial conflicts of interest that could influence the results or interpretation of their publication and clearly indicate the sources of support for the research or publication.²⁰
- Authors apply the same criteria for authorship regardless of 'whether they publish in a subscription journal, an open access journal, or in any other publication form, including preprint servers'²¹ or repositories for unreviewed manuscripts.
- Artificial intelligence is not considered an 'author',²² but rather a tool that the author uses at their own responsibility, which also includes responsibility for the accuracy of the information published in the paper.

Co-authorships

- In the case of two or more authors, the authors should agree in advance on the exact contribution or input of each author. Even if it is agreed that each author is responsible only for their own parts of the paper, it is expected (and recommended) that each author be able to determine which of the co-authors is responsible for which of the remaining parts of the paper for publication.
- 'Only attribute authorship to those individuals who have contributed in a significant and/or substantial way to its intellectual content'. All contributions must be acknowledged, 'but not all contributions will be sufficiently significant to qualify for authorship'.²³
- Authors should agree on the order of authorship sufficiently early on,²⁴ recognising that authorship is based solely on the fulfilment of the four conditions of authorship mentioned above. All authors must agree on the order of authorship. Considering that different scientific fields have different conditions for recognising individuals who have contributed to a publication, including the order of authorship in the publication, it is useful – especially in

¹⁸ UL Code of Ethics for Researchers (2014: 3).

¹⁹ UL Code of Ethics for Researchers (2014: 3).

²⁰ The European Code of Conduct for Research Integrity (2023: 8).

²¹ The European Code of Conduct for Research Integrity (2023: 9).

²² LERU (2023: 13): 'Although the possibility has been raised that such a text [i.e. text where AI writing tools like ChatGPT have been used] could have the AI technology as an author, several journals have now taken the position that it cannot be named as an author, since the tool cannot take responsibility or be accountable. Indeed, the updated ICMJE recommendations (May 2023) mention that 'chatbots (such as ChatGPT) should not be listed as authors because they cannot be responsible for the accuracy, integrity, and originality of the work, and these responsibilities are required for authorship'. A similar stance was adopted by COPE, WAME and JAVA Network (<https://publicationethics.org/cope-position-statements/ai-author>).

²³ LERU (2023: 8).

²⁴ LERU (2023: 8) advises that such discussions, which should be open and transparent take place 'at an early stage of the research' and that, where appropriate, decisions taken on this basis be documented in writing, which may or should be revised when the roles or contributions of individual authors change, for example, when new researchers join or leave the project. LERU (ibid.) also points out that these changes should then be communicated to all parties involved with a request for approval.

interdisciplinary collaboration – to present and discuss the expectations of collaborators regarding the order of authorship in advance and to reach an agreement on this. Respect for differences between disciplines is also demonstrated by taking into account different practices in the order of listing authors.²⁵

- It is recommended as good practice to include an 'Author Contribution Statement'²⁶ in the final publication, describing the responsibilities and the contribution of each author, if possible. This statement is usually written at the beginning of the article (e.g. in a footnote) or in a special section at the end of the article (journals may have specific rules in this regard).
- Check that all authors agree with the final version of the paper (this will often need to be explicitly confirmed on the online submission platforms, e.g., Manuscript Central) and with the statements in the Author Contribution Statement before submitting the manuscript itself.
- In the case of interdisciplinary or multidisciplinary research, where the criteria or accepted norms of authorship (e.g., regarding what is considered a significant or essential contribution to the work or regarding the order or sequence of authors) may differ between disciplines, any potential discrepancies must be scientifically or professionally explainable and justified, be based on agreement between co-authors²⁷ and on the accepted consensus in that discipline, including in an international context, as well as 'avoid unfair competition between disciplines'.²⁸ In any case, it is useful to explicitly state what was the contribution of each individual.²⁹
- From the point of view of reliability, authors are recommended to use standardised categories for the different roles of contributors (see *Contributor Roles Taxonomy (CRediT)*)³⁰ in order to consistently determine the contributions of authors in the Author Contribution Statement, and to ensure that all co-authors have the opportunity to review and approve the final manuscript, including the list of authors and the Author Contribution Statement.³¹
- From the perspective of the principle of honesty, authors are advised to make and keep written notes of important decisions, i.e., expected roles, authorship, author order, and other forms of recognition of third-party contributions, acknowledgments, etc., and to review them regularly and amend as necessary when the roles or contributions of the individuals involved change, e.g., when researcher-authors join or leave a research project or group. All parties involved should be notified of such changes and corrections with a request for approval.³²

²⁵ LERU (2023: 8) lists also concrete examples: 'In the biomedical field, the first and the last authors are usually the persons who contributed most, while in other disciplines the contribution level decreases with the position of the author. There are also disciplines, such as mathematics, which use alphabetical listings.'

²⁶ Author Contribution Statement is in the form of a short paragraph listing the individual contributions of the authors. Example 1 (example of a statement according to the CRediT taxonomy of roles): A.A.: writing – original draft, validation, software, methodology, funding acquisition, conceptualization. B.B.: writing – review & editing, visualization, software, methodology. C.C.: writing – review and editing, investigation, data curation. D.D.: investigation, formal analysis, validation, data curation. Example 2: X.X. wrote the literature review, Y.Y. wrote the methodological part of the article, X.X. and Y.Y. jointly designed the paper, wrote the introduction and conclusion-discussion part, and the part on the results of the analysis. Both co-authors critically reviewed the entire article and agree with the version to be published.

²⁷ 'If there is a conflict between different accepted authorship guidelines, there should be an honest and open discussion amongst the team on how to best approach this issue. It is important to have these conversations in a safe and inclusive environment where all collaborators feel comfortable to participate in the discussion' (LERU, 2023: 7).

²⁸ LERU (2023: 12). '[I]n medical or technical reports the words guide the reader through the numerical results (more inclusive view on authorship). Although this is a general thought that cannot be applied indiscriminately, it shows that for some publications, specifically those with many authors, the term "author" has a different meaning to that in oligo-authored publications: the many researchers who are listed may be considered contributors rather than authors' (ibid.).

²⁹ LERU (2023: 12).

³⁰ See <https://credit.niso.org/>.

³¹ LERU (2023: 7).

³² LERU (2023: 8).



Acknowledging the contributions of others

- Recognising the work and contributions of authors as well as of others who do not meet the criteria for authorship is 'a fundamental component of a respectful research culture'.³³ This includes also showing respect and acknowledging the contributions of students and early-career researchers, researchers from low- and middle-income countries, specialist personnel and technical staff who have contributed to the research results by providing technological services and expertise,³⁴ as well as owners of databases and of other data made available to you for research purposes.³⁵
- Researchers at the University of Ljubljana are required to indicate University of Ljubljana when stating their affiliation.³⁶ As an author, you must be 'honest about your author affiliations' by correctly citing the institution or institutions where the research in question was conducted or who takes the responsibility for the research. In case a researcher has left an institution, and has not significantly contributed to the research while at the new institution, the latter should not be used as the affiliation. However, the current address can be stated in a footnote³⁷ or in a similar explanatory section of the publication.
- The author should acknowledge the important contributions of those who do not fulfil the criteria for authorship, including collaborators, assistants, and funders who made the research possible.³⁸ By naming the funder of the research, the results of which are being published, appropriate thanks are expressed for their support of the research. Furthermore, by disclosing information about the source of funding, any doubts about the objectivity of the research are dispelled and the potential interests of those involved are transparently declared.
- Contributions by others who do not meet the criteria for authorship because, for example, they did not contribute to the content of the work or contributed only insignificantly, to a lesser extent (e.g., reviewers who provided constructive criticism, friends and colleagues who contributed ideas or comments, other discussants (e.g., at a conference), conference organisers, editors, persons who provided administrative support, proofreaders, funders, etc.) should be listed in a special section of the publication – either in a separate section (Acknowledgements) or in the first footnote, as is customary for the selected journal/publisher or is in accordance with the editorial guidelines. Since acknowledgements represent an announcement of the contribution of others to your work, it is appropriate to inform the persons you intend to mention in the acknowledgements or, if necessary, even ask for their consent.³⁹
- When deciding whom to mention and how to distinguish between authorship and other contributions, considerations of equitable partnership should also be taken into account, as research today is not only carried out by academic staff or experts, and it is therefore important

³³ LERU (2023: 9).

³⁴ 'It is important to explore their contributions (routine versus intellectual contributions) in relation to being named in the author list or the contribution section. If their contribution goes beyond standard procedures (such as "development or adaptation of protocols to suit samples or materials, (re)designing experiments, extensive data analysis and interpretation"), they merit co-authorship' (LERU, 2023: 8).

³⁵ LERU recommends that you consider from the very outset what role the owners of research data or databases will play in the research. It is important to mention the source of the data in the publication; in some cases, this may even warrant (co-)authorship. See LERU (2023: 8).

³⁶ UL Code of Ethics for Researchers (2014: 3).

³⁷ LERU (2023: 8)

³⁸ The European Code of Conduct for Research Integrity (2023: 8).

³⁹ It so happens that authors mention people in their acknowledgements who had nothing to do with the paper itself, or who are not even aware of it, or who may even have a negative attitude towards it, in order to create the appearance of additional quality, importance or additional review of the article by these (often already established) individuals. Similarly, for example, an acknowledgement for the linguistic review of an article whose publication remains linguistically flawed transfers responsibility for language errors in the publication to the person who proofread the article, as it points to their inadequate work (whereby the person is not necessarily a proofreader, but e.g. just a friend of the author), which may have negative professional consequences for that person, so it is appropriate that they be informed of this in advance.



and useful to recognise the voice of non-academic collaborators and other participants already at the time of the research design.⁴⁰

Conflict of interest, unethical conduct

- Conflict of interest in the context of ethical conduct in scientific publishing refers to circumstances that may influence the impartial and objective judgement of the author, reviewers and editors. These are interests 'which, if disclosed later, would make a reasonable reader feel misled or deceived. They may be personal, commercial, political, academic, or financial. "Financial" interests may include employment, research funding, ownership of shares or stock, payment for lectures or travel, consulting, and employee support from a company.'⁴¹ Such interests must be disclosed by the author or researcher to editors and readers when relevant (from the perspective of transparency and accountability, when in doubt, decide to disclose such interests).⁴²
- Plagiarism, as the appropriation of another's work or ideas, is one of the most serious unethical practices in scientific publishing and a violation of the Code of Ethics of the University of Ljubljana.⁴³ 'Plagiarism ranges from the unreferenced use of others' published and unpublished ideas, including research grant applications to submission under "new" authorship of a complete paper, sometimes in a different language. It may occur at any stage of planning, research, writing, or publication: it applies to print and electronic versions. All sources should be disclosed, and if large amounts of other people's written or illustrative material is to be used, permission must be sought.'⁴⁴
- 'Multiple publication of the same paper (of its major parts) is acceptable only with editors' permission and appropriate reference to the first publication.'⁴⁵ COPE refers to publication as 'redundant' 'when two or more papers, without full cross reference, share the same hypothesis, data, discussion points, or conclusions' and emphasises that published studies should not be repeated unless further confirmation is required. Republishing a text in another language is acceptable 'provided that there is full and prominent disclosure of its original source at the time of submission. At the time of submission, authors should disclose details of related papers,

⁴⁰ LERU (2023: 12). 'Co-creation or participatory research has become increasingly used in many disciplines, particularly in the medical and social sciences domains. Currently, such contributions are mostly recognised via acknowledgment and rarely in a form of authorship. Raising questions whether such practice is "fair" again comes back to the definition of "authorship" and links with the bigger issues of "equitable authorship"' (ibidem).

⁴¹ COPE (1999: 44).

⁴² COPE (1999). Rules on avoiding conflict of interest and on the conditions for performing work outside the University of Ljubljana defines in its Article 2 conflict of interest as 'circumstances in which the private interests of a UL employee affect or create the appearance of affecting the impartial and objective performance of their official duties or offices at UL (including teaching, research, advisory work and administration)'. The private interests of a UL employee are 'material or non-material benefits for that person, their family members, and other individuals or legal entities with whom that person has or has had personal, business or political connections (hereinafter: associated person), and which may be obtained through the work or position of the UL employee in their activities within or outside UL'. Available at: <https://www.uni-lj.si/assets/Pravni-akti/Kadri/Trenutno-veljavni-akti-UL/Rules-on-avoiding-conflict-of-interest-and-on-the-conditions-for-performing-work-outside-the-UL/Rules-on-avoiding-conflict-of-interest-and-on-the-conditions-for-performing-work-outside-the-University-of-Ljubljana-valid-from-2.-4.-2025-unofficial-consolidated-text.pdf>

⁴³ Scientific honesty requires, among other things, 'consistent respect of authorship, correct recognition and citation of other scholars' research achievements' (Article 15 of the UL Code of Ethics).

⁴⁴ COPE (1999: 45). Article 2 of the Rules of the University of Ljubljana on checking the similarity of the content of electronic versions of written final theses and conditions for temporary inaccessibility of the content of written final theses (2015) defines plagiarism in the following way: 'Plagiarism represents any form of appropriation of another person's copyrighted work and disregard for the moral rights of the author, in particular: presenting another person's work as one's own; copying text or other types of copyrighted works, including images and sheet music, audio recordings, audiovisual works, computer programmes, sketches, plans, ..., belonging to someone else without citing the source or authorship; copying a sentence and changing the words in it without citing the source or authorship; omitting graphic forms in the citation of text that would clearly indicate that it is a quotation; providing incorrect or misleading information about the source of the citation.' Available at: <https://repozitorij.uni-lj.si/lzpis/Gradiva.php?id=83157&lang=slv&prp=rul:9148747:r1>.

⁴⁵ UL Code of Ethics for Researchers (2014: 3).



even if in a different language, and similar papers in press.⁴⁶ The same manuscript should not be submitted to two or more journals at the same time, as this is generally considered unethical, except in cases where the editorial boards of the journals expressly allow it or where the editors of the publications have agreed to co-publication or joint publication.⁴⁷

- Serious violations of research integrity and research misconduct, which may also manifest itself in the publication of research results, include fabrication of data or results and recording them as if they were real, and falsification, i.e. either 'manipulating research materials, equipment, images, or processes, or changing, omitting, or suppressing data or results without justification'.⁴⁸ The European Code of Conduct for Research Integrity also lists other violations of good research practices or unacceptable practices that authors should avoid, including: allowing funders/sponsors to jeopardise the unbiased reporting of results, concealing the use of artificial intelligence or automated tools in the creation of content or drafting of publications, chopping up research results with the specific aim of increasing the number of research publications, selective or inaccurate citation, unnecessarily expanding the study's bibliography to please editors, peer reviewers or colleagues, or to manipulate bibliographic data, manipulating authorship or denigrating the role of other researchers in publications.⁴⁹

The use of artificial intelligence (particularly generative AI)

- For an ethical use of artificial intelligence in research and publishing, guidance can be sought from the recommendations adopted by the University of Ljubljana on the use of artificial intelligence⁵⁰ and from the EU guidelines for trustworthy artificial intelligence and its responsible use,⁵¹ as well as from the useful advice provided by the Digital UL⁵² and other literature on the ethical use of AI.
- Although AI can be a very useful tool to help us in our research work, a distinction must be made between more and less acceptable forms of using this tool in scientific publishing. While, for example, language checking, translation, summarising, suggesting literature, etc. are among the more acceptable forms (although, for example, the suggested literature must still be checked, as there are many cases of so-called AI hallucinations or the invention of non-existent sources), simply writing a text that would then be submitted as one's own work is not acceptable.⁵³
- If, when drafting their publication, the author uploads their paper or some other document to AI generative tools, they must be sure that they have permission to upload the document to

⁴⁶ COPE (1999: 44-45).

⁴⁷ Wager, E. and Kleinert, S. (2011). Responsible research publication: international standards for authors. A position statement developed at the 2nd World Conference on Research Integrity, Singapore, July 22-24, 2010. Chapter 50, in: Mayer, T. and Steneck, N. (eds.), *Promoting Research Integrity in a Global Environment*. Singapore: Imperial College Press/World Scientific Publishing (pp. 309-316), at p. 3 of the electronically published chapter, available at: https://publicationethics.org/files/International%20standards_authors_for%20website_11_Nov_2011.pdf.

⁴⁸ The European Code of Conduct for Research Integrity (2023: 10).

⁴⁹ The European Code of Conduct for Research Integrity (2023: 10-11).

⁵⁰ University of Ljubljana's recommendations on using artificial intelligence (2023), available at: <https://www.uni-lj.si/assets/Pravni-akti/Raziskovalno-razvojno-delo-in-intelektualna-lastnina/Trenutno-veljavni-akti-UL/Raziskovalno-in-razvojno-delo/Recommendations-on-using-artificial-intelligence/University-of-Ljubljanas-recommendaions-on-using-artificial-intelligence-valid-from-19.-9.-2022.pdf>.

⁵¹ High-Level Expert Group on AI (2019). *Ethics Guidelines for Trustworthy AI*. Brussels: European Commission. Available at: <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai> European Commission, DG RTD (2025). *Living guidelines on the responsible use of generative AI in research*. Brussels: European Commission. Available at: https://research-and-innovation.ec.europa.eu/document/2b6cf7e5-36ac-41cb-aab5-0d32050143dc_en.

⁵² See, for example, holiday tips from the Digital UL from December 2024. Available at: <https://www.uni-lj.si/studij/center-digitalna-ul/gradiva/namigi-in-triki/digitalni-praznicni-koledar-2024> (in Slovenian).

⁵³ The mentioned UL Recommendations on using artificial intelligence (2023: 2) list 'direct copying of a text that was largely created using AI without citing its use' among the 'inappropriate use of AI', as well as using AI and similar tools when they are explicitly prohibited and in open book exams, unless explicitly permitted.



the internet (e.g., that it involves an already published, freely accessible text).⁵⁴ Authors should not upload data that do not belong to them or are not freely accessible. Entering text into, for example, ChatGPT that does not belong to us or is not freely accessible is neither ethical nor responsible, as this text may become part of the corpus or repository from which the tool draws. Special attention should be paid to personal data (your own and those of others) and potentially confidential text.

- Even though artificial intelligence is not considered an 'author' but rather a tool, the author must acknowledge the contribution of this tool, i.e., the use of generative artificial intelligence (e.g., ChatGPT, etc.), during the preparation of their paper, in line with the principle of scientific honesty. The paper should mention the name and role of the AI tool used and (e.g., in the methodology section of the paper or in the introduction) describe in detail how and for what purpose the tool was used.⁵⁵ For complete transparency, a URL link to the entire conversation (including disclosing the author's prompts) with the selected AI tool may be attached (in some cases it is mandatory, while in others it is only recommended, e.g., in the case of more complex participation or the role of GenAI in the creation of the paper).
- Despite the use of UI, the author assumes full responsibility for the paper they submit. This also applies in the case of superficial analyses, false statements, or AI 'hallucinations' (which are not uncommon) on which the paper was based, so the author must be aware of all the shortcomings of the tool, check all sources and statements,⁵⁶ and consider the possible bias of the results due to the potential built-in bias and, in some cases, the obsolescence of the datasets from which the GenAI tools draw.

PART TWO (intended primarily for early-career researchers)

Co-authorship with a supervisor/mentor

- The relationship between a supervisor and a supervisee is multifaceted and complex. The former guides and directs the latter, looks after their interests, and provides feedback to help the supervisee develop into an independent researcher. Cooperation, reading and offering constructive comments on the supervisee's work are among the basic tasks of the supervisor, which in itself does not represent co-authorship of the supervisee's work. However, the supervisor's important substantive and creative contribution to the work or publication itself may meet these criteria, which is why it is important that, before the paper is conceived, both parties agree on whether the supervisee will be the sole author or whether the paper will be co-authored and, in this case, in what order the co-authorship will be recorded, or what contribution the supervisor is expected to make and how this will be acknowledged.
- Since the supervisee is always in a subordinate position in the supervisor-supervisee relationship and may often feel that they cannot express their criticisms and reservations on equal terms, or voice their objections to the supervisor without consequences, it is all the more

⁵⁴ Advice of the Digital UL. Available at: <https://www.uni-lj.si/novice/2024-12-14-digitalni-praznicni-koledar-stirinajsti-namig>.

⁵⁵ For example: 'DeepL has been used to translate the French text into Slovenian'; 'ChatGPT has been used in the reformulation of the concluding section in order to improve the clarity of the original text.'

⁵⁶ 'Consequently, it is vital that the use of these tools is transparent and responsible, and that the accuracy of the information generated is checked at all times, because AI is also known to generate fabricated information (a phenomenon known as an "artificial hallucination"), especially when it comes to highly specialised expertise. The end user bears the responsibility for the ultimate accuracy, potential bias and other aspects of all the results, projects or other works produced with AI tools and techniques' (UL Recommendations on using artificial intelligence, 2023: 1-2). COPE conveys similar in a picturesque way: 'An AI doesn't care whether the information it returns is "true", only whether it is plausible. A colleague likens using AI to a scholar throwing out questions to a group of colleagues who are on holiday in a bar. They will try to be helpful, and they will respond with answers – but there is no way of telling how much alcohol they've had to drink. They might be sending a response which is startling insightful and accurate – or it could be drunken nonsense wrapped up in the language of scholarly research. As Bloom's specifications state, "The model outputs content that appears factual but may not be correct."' Available at: <https://publicationethics.org/news-opinion/artificial-intelligence-and-authorship>.



important that they discuss this sufficiently early on, i.e., at the very beginning or when the idea for the paper arises. Likewise, due to their superior position, supervisors must take special care not to place supervisees in a position where they would find it difficult to express their true will and expectations, thereby demonstrating respectful attitude towards supervisees.

- It is also recommended that the agreement reached is adequately recorded and consistently adhered to by both sides. Even if the supervisor does not meet the criteria for authorship, their contribution may be appropriately recognised in the acknowledgments, as applies for others who contribute to the author's publication.

Choosing a quality journal/publisher and avoiding predatory journals/publishers

- The problem of so-called predatory journals and publishers (journals and publishers that prioritise profit and their own interests over the professional standards of scientific publishing and prey on researchers, actively and often aggressively, personally and indiscriminately inviting them to publish with them)⁵⁷ also affects the field of ethical publishing, where the usually faster procedures for accepting papers for publication come at the expense of a (thus more superficial) review process (or are even without it), which is supposed to ensure the sufficient scientific and professional quality of the paper. 'Establishing, supporting, or deliberately using journals, publishers, events, or services that undermine the quality of research ('predatory' journals or conferences and paper mills)' is considered a violation of research integrity.⁵⁸ When choosing a publisher or journal, authors should therefore responsibly check what publication quality control procedures the selected publisher provides, in addition to any other costs and conditions of publication with that publisher or journal.
- To avoid predatory journals and publishers, authors can consult various lists of such journals (for example, if the journal is unknown to us, we can use the list on the Think.Check.Submit.⁵⁹ website to verify that it is not a predatory journal).⁶⁰ Otherwise, authors should pay attention to warning signs such as a lack of peer review or deficiencies in the review process, overly proactive and non-selective solicitation of authors or acquisition of material for publication, lack of transparency in procedures, unclear editorial and publishing policies, including unclear ethical rules and standards, short time between manuscript submission and acceptance for publication, or even promises of rapid publication, unclear or inappropriate composition of the editorial board, etc.⁶¹
- If possible, pursue open access to publications (with high-quality, verified publishers or repositories). If the research whose results you are publishing was funded by public funds, you must ensure open access due to the provisions of the funders.⁶² ALLEA recommends searching the databases listed in the Directory of Open Access Journals (DOAJ) and Web of

⁵⁷ Definition that is considered accepted by the international scientific community: 'Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices.' Grudniewicz, A., Moher, D., Cobey, K.D. and 32 co-authors (2019). Predatory journals: no definition, no defence, *Nature*, 576: 210-212, at p. 211. Available at: <https://doi.org/10.1038/d41586-019-03759-y>.

⁵⁸ The European Code of Conduct for Research Integrity (2023: 11).

⁵⁹ <https://thinkchecksubmit.org>

⁶⁰ This online journal rating tool can also be helpful: <https://beallist.net/how-to-recognize-predatory-journals/>.

⁶¹ For more warning signs or characteristics of such publishers, see: <https://libguides.mf.uni-lj.si/c.php?g=412371&p=4636864>; <https://libguides.library.arizona.edu/c.php?g=945334&p=6815520>; <https://rcr.ethics.gc.ca/eng/idp-vrr.html>.

⁶² However, it is not only a legal obligation but also an ethical one: '[I]mmediate and unrestricted open access should be the norm in publishing research involving public funds, with transparent pricing commensurate with the publication services and where costs are not covered by individual authors or readers.' Council of the European Union (2023). *High-Quality, Transparent, Open, Trustworthy and Equitable Scholarly Publishing - Council Conclusions*, p. 4. Available at: <https://data.consilium.europa.eu/doc/document/ST-9616-2023-INIT/en/pdf>.



Science (WoS) as a starting point for finding open access journals that follow good editorial practices.⁶³

Citation

- Important works and intellectual contributions of others, or ideas and findings that the author is summarising from other sources and that have impacted the research or publication, must be appropriately acknowledged, cited, or quoted.⁶⁴ Cite and reference sources in accordance with the guidelines of the selected journal, publisher, or editorial board.
- Works that are relevant to the research and publication should be cited. Agreed citation is not acceptable.⁶⁵ The inappropriate imposition of one's own publications or those of friends on authors while performing the duties of a reviewer is also considered unacceptable. If, as the author of a contribution, you suspect that this is the case, notify the editorial board of the journal or monograph, which can investigate the matter and take appropriate action.
- To avoid accusations of plagiarism or appropriation of other people's ideas, carefully avoid misleading citations, e.g., citing a source only at the end of a paragraph consisting of several sentences or ideas. In such cases, citing the source only at the end may mislead readers into thinking that only the last thought or sentence is taken from another source, even if the author believed that placing the citation at the end would indicate that the entire paragraph had been drawn from that source.

Copyright

- When publishing certain material that is not the author's own, e.g., visual material, the author must obtain the consent of the holder of the material rights/exploitation right to that particular material. The latter may not be the author who created the image or photograph, but a gallery, heir, foundation, publisher, or someone else (natural or legal person). A specific person (e.g., the author who wrote the book) is the holder of moral rights to that work, but someone else (e.g., a publisher or employer) may hold the material rights (economic rights/exploitation right) to the same work, and thus, in the event of use of material from this work, permission must be obtained from the holder of the material rights (and sometimes even pay a fee for the use).

Communication with editors, reviewers, and the public

- Communication with editors, reviewers and the public must be respectful, non-misleading, and reliable. 'Authors are accurate and honest in their communication to colleagues, policymakers, and society at large.'⁶⁶
- 'Authors are transparent in their communication, outreach, and public engagement about assumptions and values influencing their research as well as the robustness of the evidence, including remaining uncertainties and knowledge gaps.'⁶⁷

⁶³ ALLEA (2023). *ALLEA Statement on Curbing Predatory Practices in Open Access Scholarly Publishing*. Berlin: ALLEA. Available at: <https://allea.org/wp-content/uploads/2023/10/ALLEA-Statement-on-Curbing-Predatory-Practices-in-OA-Publishing.pdf>.

⁶⁴ UL Code of Ethics for Researchers (2014: 3)

⁶⁵ UL Code of Ethics for Researchers (2014: 3).

⁶⁶ The European Code of Conduct for Research Integrity (2023: 9).

⁶⁷ The European Code of Conduct for Research Integrity (2023: 9).



- If authors notice or become aware of errors or inconsistencies in their publication, they should verify them and attempt to correct⁶⁸ them in the published work or withdraw the publication, where 'the retraction processes are clear and the reasons stated, and authors are given credit for issuing corrections post-publication'.⁶⁹
- When communicating with the general public and the media, authors should maintain 'standards of honesty, credibility, and responsibility'. Any 'exaggeration of the importance and practical use of findings should be avoided,'⁷⁰ as should the conflation of scientific facts with opinions, and public communication on matters outside one's scientific expertise.⁷¹
- Communicating science with integrity requires that authors – regardless of the type of media, i.e., whether it is a scientific or popular science article, interview, television appearance, blog, or social media post, etc. – convey their scientific and professional findings openly, i.e., comprehensively, transparently, including disclosure of conflicts of interest, providing context, and acknowledging all contributors.⁷²
- The concise and interactive nature of social media requires certain skills in such presentation of content that the author may have described in detail in their publication. Nevertheless, authors should resist the temptation to exaggerate, inflate their research results, or to omit important background information or mentioning of the limitations of the study.⁷³

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⁶⁸ LERU (2023: 9). LERU adds that in this correction process, it is often the corresponding author or the most senior author who takes the lead.

⁶⁹ The European Code of Conduct for Research Integrity (2023: 8).

⁷⁰ UL Code of Ethics for Researchers (2014: 3 (both quotes)).

⁷¹ UL Code of Ethics for Researchers (2014: 1) also stresses that 'a researcher does not list the competences he does not have in his application letter, presentation or other documents or communications'.

⁷² Morgan, R. – for LERU (2024). *Advice Paper no. 34 – October 2024: Communicating with Integrity: Supporting Researchers with Best Practice in Communication*. Leuven: LERU, p. 3 (henceforth: LERU (2024)). Available at: https://www.leru.org/files/Publications/Communicating-with-integrity_LERU-paper.pdf.

⁷³ LERU (2024: 7) advises that you use simple messages and explain any nuances or ambiguities, as not all readers will be experts; that you refer readers to more detailed information in the university's publications or press releases; that you carefully consider how the public will perceive a social media post (is it sufficiently professional, polite, could it be misinterpreted?); that you withdraw from a particular conversation if it strays too far from your area of expertise or becomes unconstructive, toxic; that you exercise caution when using your academic credentials to comment on topics that are not within your field of expertise, and that you clearly distinguish between professional comments and your own opinions and personal views, emphasising the latter when necessary: 'Unless it is obvious from context, where voicing a personal opinion ensure that they include a statement declaring that this is personal, e.g. "The views expressed here are the author's own, and do not necessarily reflect those of the University of xxx."'.