AUTHORSHIP
GUIDELINES

Guiding Ethical Authorship in Collaborative Research

About

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Introduction

Authorship is more than a name on a publication: it signifies intellectual contribution, responsibility, and accountability. It encompasses the creation of ideas, the writing process, and the ethical principles that ensure transparency and fairness in collaborative research. Beyond recognition, authorship carries legal implications through intellectual property rights (IPR), granting authors control over the reproduction, distribution, and use of their work. It also serves as a safeguard against plagiarism and unauthorized use.

Recurring challenges observed across multiple EU-funded projects have highlighted the need for clear, practical guidance on authorship. This document responds to that need. Drawing on established frameworks such as the **Horizon Europe Programme**, the **Annotated Grant Agreement**, and the **European Code of Conduct for Research Integrity**, it consolidates key legal provisions, ethical standards, and best practices. Its purpose is to help research teams:

- Understand the legal and ethical dimensions of authorship;

- Apply consistent criteria for identifying authors and contributors;

- Prevent disputes through transparent agreements;

- Ensure fair recognition of all contributions.

While this guideline does not aim to be exhaustive, it provides a practical reference for navigating authorship in interdisciplinary and international collaborations. By promoting clarity and integrity, it supports the values of responsible research and strengthens trust among partners.

Overview of the Legal Framework

Authorship is used in the copyright domain, mostly for publications, in which a person – the author – has produced an original written or creative work.

Authorship should be distinguished from inventorship and ownership:

- **Inventorship** refers to the creator of an invention, typically within the context of patents.

- **Ownership** refers to the legal right to control and benefit from the invention, including IPR.

The owner, also called the proprietor, has the exclusive right to prevent others from using their intellectual property (IP). Importantly, the inventor isn't always the owner, and vice versa.

Unlike inventors and authors, who are always individuals, owners can be either individuals or organizations, such as companies. Inventors and authors regularly work for organizations that own their creations due to employment agreements which grant these rights to their employer.
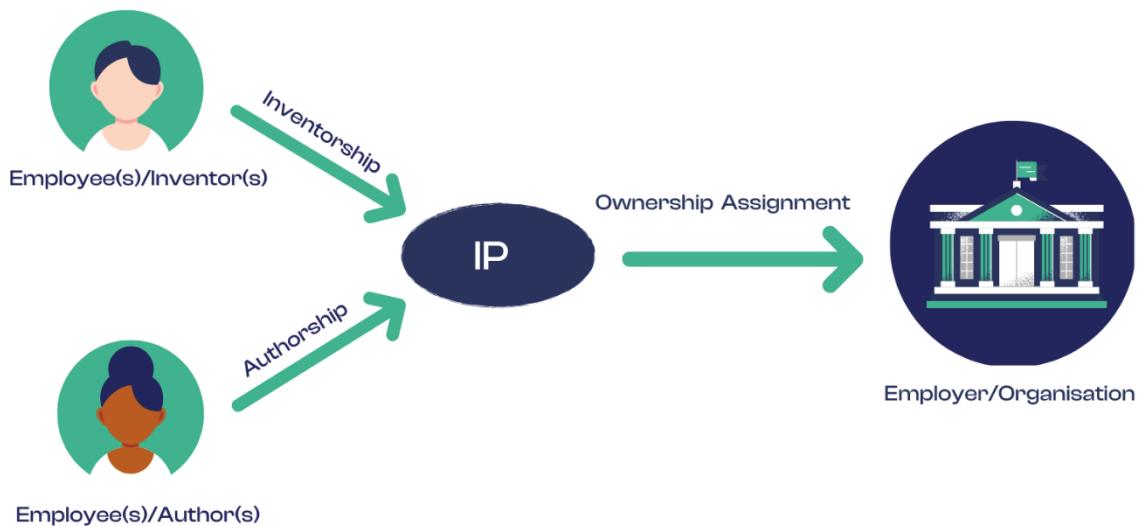
Figure 1: Procedure related to ownership transfer from employees (authors/ inventors) to the employer (organisation). Source: European IP Helpdesk factsheet - Publications Office of the EU (europa.eu) pg. 3

The **general rule** is that the author is the first owner of the copyrighted material and can then decide as they wish regarding the use others can make of their work. However, when the **work has been created in the course of employment**, copyright belongs to the employer as per the default regime.

Copyright exists automatically as soon as an original work is produced. However, it is a common practice for organisations to register copyrighted works with ad hoc services offered by national IP offices or private organisations. In these circumstances, the registration forms collect

two different types of information: the name of the *author* of the copyrighted material and the name of the *person entitled to register* the copyright.

Copyright grants authors two main types of rights:

- **Economic rights**: exclusive rights to reproduce, distribute, or broadcast works, generally lasting 70 years post-mortem. They include:

  - reproduction: making copies, such as publications or recordings;
  - distribution: sharing copies of the work;
  - fixation: recording the work on media like CDs or DVDs;
  - communication to the public: broadcasting through media like radio, TV, or the internet;
  - public performance: allowing live performances, such as plays;
  - derivative works: authorizing adaptations, translations, or new uses.

- **Moral rights**: these rights are personal, generally non-transferable and allow authors to claim authorship and prevent distortions of their work that could harm their reputation. They vary across countries in terms of scope, duration, and enforcement and typically do not expire. While the core principles of moral rights remain consistent, protecting the author's reputation and integrity, factors such as the type of work (e.g., visual arts vs. literature), the specific legal system, and the cultural context all influence the scope and application of moral rights. The moral rights can include:

  - the right of an author to be identified as the author of their work;
  - the right to the integrity of their work (e.g. prohibition of alteration, distortion, mutilation);
  - the right to decide whether or not the work be published and how;
  - the right to withdraw the work from publication;
  - the right to prevent the use of their work for illegal, immoral and undesired purposes.

For more comprehensive details, including specific cases and further insights into the variety of moral rights across jurisdictions, it is recommended to visit the [Copyright Exceptions website](#).

Considerations for Identifying Authors and Contributors

In collaborative projects, accurately identifying authors is essential for ensuring fair and due credit and accountability. This section provides guidance on the preferred criteria used in academia to determine authorship, particularly in contexts with multiple authors and contributors, highlighting evolving standards such as the ALLEA Code of Conduct for Research Integrity (The European Code of Conduct for Research Integrity) and AGA (annotated Grant Agreement). It emphasizes the importance of recognizing all individuals involved through acknowledgment, ensuring that no contributions are overlooked while fostering a transparent and equitable authorship process.

Many institutions have established standards to define who qualifies as an author. While these standards generally agree on fundamental principles, they are evolving to reflect the growing prevalence of team-based research with specialized roles. The ALLEA Code plays a pivotal role in guiding these evolving standards. It provides a framework for research ethics and integrity within the Horizon Europe Programme, including ethical authorship, emphasizing the minimum standards and principles that must be adhered to. However, it is important to note that while the ALLEA Code sets these essential benchmarks, more stringent standards and additional considerations may apply depending on the institution, discipline, or specific research context.

The widely known cumulative criteria for qualifying as an author include the following:

1. **Make significant contributions** to research design, data acquisition, analysis, or interpretation;

Example: an expert in climate modeling and data science plays a pivotal role in designing the study's methodology by deciding on the specific variables to track (temperature, precipitation, etc.) and determining the methodologies to analyze these factors.

2. **Draft or critically revise the work** for intellectual quality;

Example: a policy advisor revises scientific papers, focusing on connecting the scientific findings with policy frameworks.

3. **Approve the final version** for publication;

Example: the project lead views the entire manuscript, focusing on ensuring all sections are coherent, the conclusions are scientifically valid, and that the overall paper aligns with the project's objectives.

4. **Accept accountability** for ensuring accuracy and addressing any issues;

Example: a senior researcher and co-author is tasked with resolving potential issues related to data, methodology, and interpretation. They are responsible for identifying and correcting errors, as well as addressing any discrepancies in the data or methodology to ensure the research's accuracy and reliability.

All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors. These criteria are not intended to exclude colleagues from authorship who meet the necessary qualifications by limiting their opportunity to meet criteria no. 2 or 3.

Collaborations in Interdisciplinary Projects

In large group projects, **authorship should be decided at the beginning and confirmed before submission of the work**, including in which order names should be listed in the list of authors or contributors to avoid disputes. Each listed author must meet all four authorship criteria, endorse the final manuscript, and ensure the accuracy and integrity of the group's contributions. **All agreements regarding authorship, including the criteria for inclusion and order of authors, must be made in writing to ensure transparency and accountability.**

It is the collective responsibility of the authors, not the journal to which the work is submitted, to determine that all people named as authors meet all four criteria. All who meet the four criteria should be identified as authors.

The authors whose names appear in the **list of authors share responsibility jointly** for the whole publication. In practice, at least one chosen author should take responsibility for the content of the whole publication as a **guarantor**.

The importance of the **order in which authors of a co-authored publication are listed** varies depending on the discipline. Based on the area of practice, the emphasis may be on the first and/or the last author in the list, for example. Often, the researcher named first will have performed most of the work, and the last will be the work supervisor or the principal investigator. Authors may also be listed in alphabetical order. **Prior agreement on the authorship order is particularly important in interdisciplinary and international projects** due to the various practices in different fields. The ALLEA Code provides for the inclusion of an *"Author Contribution Statement"* in the final publication, where possible, to describe each author's responsibilities and contributions.

| How to avoid problems in authorship agreements: ||
DO	DO NOT
Agree in writing, at every stage	Rely on power of memory
Agree in **clear and plain terms**: minimize the chances of conflicting interpretations	Engage in equivocation, e.g., by designating people as "co-authors" with the intent to exclude them from authorship
Agree explicitly on what is expected at all stages, even if things might seem obvious.	Carry over unspoken assumptions from your personal convictions, local organisational rules, national customs, etc.

Recommended practices for authorship order:

- Follow above the do's and don'ts.

- If there are no pre-set rules, discuss the options openly: whether you want to reward past work, or promote future careers in choosing the first, last, and in-between authors is a matter of consensus.

- If consensus on the method is not reached, it is perfectly fair and acceptable for authorship order to be chosen using aleatory or random methods, as described here: https://dynamicecology.wordpress.com/2016/09/21/fun-ways-of-deciding-authorship-order/.

Acknowledgements

There are often people involved in research whose contribution is insufficient for them to be listed as an author (e.g. **acquisition of funding, general supervision of a research group or general administrative support, writing assistance, technical editing, language editing, and proofreading**). In such cases, they may be named in the acknowledgements or in the foreword.

It should also be noted that even if participation does not entitle the contributor to be included in the list of authors, a person may have copyright to specific sections of the publication, such as the illustrations.

Use of AI for writing assistance, data collection, analysis, or figure generation, chatbots should be reported in the acknowledgment section.

Because AI can generate authoritative-sounding output that can be incorrect, incomplete, or biased, AI and AI-assisted technologies should not be listed as an author or co-author. Authors should carefully review and edit the result. Therefore, humans are the only ones responsible for any submitted material that includes the use of AI-assisted technologies.

Key Ethical Issues and Recommendations

In the context of collaboration and acknowledgment of contributions, several ethical issues surrounding authorship may emerge:

Attribution of contributions:

- o <u>DO</u> decide on authorship criteria from the outset of any activity; agree on who qualifies as an author based on their level of involvement.

- o <u>Do NOT</u> let more prominent figures overshadow the contributions of less recognized individuals.

- o <u>Risks</u>: without clear rules regarding authorship criteria, there may be disputes over credit, which could harm trust and transparency within the team.

Avoidance of misappropriation:

- o <u>DO</u> adequately acknowledge contributions from collaborators and properly attribute research results, establish clear authorship agreements; the principles regarding authorship must be agreed before the manuscript is submitted for publication.

- o <u>Do NOT</u> overlook any collaborator's contribution or incorrectly assign credit.

- o <u>Risks</u>: lack of proper acknowledgment can lead to conflicts over recognition in publications.

IPR agreements:

- o <u>DO</u> develop comprehensive IPR agreements that outline ownership rights, responsibilities, and usage rights for each relevant project output.

- o <u>Do NOT</u> assume everyone's ownership and usage rights are agreed upon.

- o <u>Risks</u> disagreements over ownership and usage can cause disputes among project partners.

Avoidance of self-plagiarism:

- o <u>DO</u> reuse your previously published work, provided it includes proper citation; researchers must also cite their own published works on the same terms as they would for others' research.

- o <u>Do NOT</u> re-use your past work just to boost publication metrics unfairly.

- o <u>Risks</u>: reusing past work without proper citation can mislead about the novelty of your research.

Avoidance of plagiarism:

- o <u>DO</u> credit original authors for ideas, methodologies, or data

- o <u>Do NOT</u>: do not use someone else's work without proper documentation and accurate citations

- o <u>Risks</u>: failing to give proper credit can damage reputations and result in ethical violations

Dissemination:

- o <u>DO</u>: confirm with the journals the type of copyright under which work will be published, and if the journal retains copyright, clarify the journal's position on the transfer of copyright for all types of content, including audio, video, protocols, and data sets;

- o <u>Do NOT</u>: do not assume you automatically retain copyright; check the journal's terms

- o <u>Risks</u>: lack of clarity on copyright can limit how you and others can share or use published content

Handling disputes:

- o <u>DO</u> establish a written agreement outlining authorship criteria and expectations at the beginning of each relevant activity; document contributions and communication; if disputes arise, try mediation or negotiation to resolve issues, focusing on the contributions of each party and any pre-established agreements.

- o <u>Do NOT</u> address conflicts promptly and fairly.

- o <u>Risks</u>: relationships among collaborators might be impacted in case of disputes.

Checklist

Cumulative criteria for authorship approved:

☐ **Significant contribution**: to qualify for authorship, an individual must have made a substantial contribution to at least one of the following areas:

- o design of the research,

- o relevant data collection, its analysis,

- o data collection interpretation.

☐ **Intellectual involvement**: participated in drafting or critically reviewing the publication.

☐ **Final approval**: reviewed and approved the final version of the publication.

☐ **Accountability**: willing to take responsibility for the content of the publication (accuracy and integrity of the entire work).

Collaborative group projects

☐ **All (approved) authorship criteria met**: all members designated as authors meet all four criteria above.

☐ **Final manuscript approved**: all authors have reviewed and approved the final manuscript for submission.

☐ **Public responsibility**: all authors agree to take public responsibility for the accuracy and integrity of the work.

Authorship order and responsibility

☐ **Authorship order decided**: consensus reached on the method to decide the order of authors; the order of authorship is collectively decided based on each author's contribution.

☐ **Author contribution statement included,** describing each author's responsibilities and contributions

☐ **Authorship agreement**: all parties have agreed on authorship roles and responsibilities before manuscript submission to avoid conflicts.

☐ **Corresponding author designated**: one author has been assigned to manage communications with the journal, including submission, peer-review, publication process and post-publication queries.

- o **Availability for queries**: the corresponding author remains available to address any queries or critiques post-publication.

- o **Data and integrity maintenance**: the corresponding author commits to cooperate with any journal requests for data or additional information post-publication if issues arise.

- ☐ **Dispute resolution plan**: a protocol has been established for resolving any authorship disputes through the research institution if necessary.

Acknowledgments

- ☐ **Contributors** who do not meet authorship criteria (e.g., funding sources, technical support, administrative assistance) are acknowledged in a specific section, as per funder-specific requirements.

- ☐ **AI disclosure**: AI-assisted tools used for writing, data analysis, or figure generation are disclosed in the acknowledgment section.

  Human authors *hold final responsibility for content accuracy, as AI cannot be credited as an author.*

Ethical standards and integrity

- ☐ **Validation of originality**, ensuring that no part of the work misappropriates or misrepresents others' findings or research:

  - o all quotations verified for accuracy and proper citation.

  - o prior research or intellectual contributions from other parties acknowledged.

- ☐ **Avoidance of self-plagiarism**: one's previously published work has not been reused without proper citation.

- ☐ **Conflict of interest disclosed** regarding any potential conflicts of interest, or sources of research support and funding.

Examples of Authorship Order

First author:

- The most hands-on contributor who conducted the research and manuscript preparation.

- Optional role: can also serve as the guarantor if they take primary responsibility for the accuracy and integrity of the work.

Middle authors:

- Includes those who contributed to specific parts, such as data collection, analysis, or writing sections of the paper.

- Collaborators are listed in descending order of their contribution to the project, based on the importance and extent of their involvement in the work.

Last Author:

- Typically, the senior or supervising contributor who oversees the entire project and provides guidance.

- Role: often serves as the guarantor, ensuring the overall integrity of the work and resolving disputes or post-publication issues.

Acknowledgements:

We would like to express our heartfelt thanks to all those who contributed to the success of this research:

- Funding source and disclaimer: e.g., This work was supported by [*name of funding organization*], within [*project name]* under grant number [*Grant ID*]. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the [*name of funding organization*]. Neither the [*name of funding organization*] can be held responsible for them.

- Technical assistance: ...

- Administrative assistance: ...

- ...

Additionally, we acknowledge the use of artificial intelligence (AI) tools during the data analysis and manuscript drafting phases, specifically [*name the AI tools used, if applicable, such as GPT-based models for drafting or data analysis software*]. These tools were used to enhance the efficiency of data processing and streamline certain aspects of writing, but all interpretations and final decisions were made by the authors.

References

This section provides selected resources offering essential recommendations for defining authorship criteria, ensuring proper acknowledgment, and addressing potential conflicts. The following resources and references are ranked by importance for easier navigation:

- **Must-read documents:**

  o The European Code of Conduct for Research Integrity (ALLEA Code)

  o Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations)

  o European IP Helpdesk factsheet - Inventorship, authorship and ownership

- **For more information:**

  o AGREEING ON AUTHORSHIP Recommendation for research publications

  o Harvard Medical School Authorship Guidelines

  o Academic Authorship