



Photographs and videos may be taken during the event.

Anyone attending the event consents to such photography and filming without compensation and confirms that the organizers shall be entitled to use such photographs and videos, which may include photographs and videos of visitors, for the purpose of marketing events in the future and for exploitation in any and all media, without liability.



Academic Publishing Workshop

at 1st ENFiber Training School – Fiber 101

Mr. Aleksandar Markovic
Deputy Managing Editor

Content

1. Welcome to MDPI
2. Writing and structuring scientific papers: advices for authors at all career stages
3. Peer review and editorial processes (MDPI)



Welcome to MDPI

1.



Lecturer:



Mr. Aleksandar Marković
Deputy Managing Editor

Education:

Faculty of Forestry, University of Belgrade, Serbia
Poznań University of Life Sciences, Poland

MDPI Experience:

6 years

Assistant Editor; Section Managing Editor;
Journal Relations Specialist, Deputy Managing Editor



About MDPI

Multidisciplinary Digital Publishing Institute (MDPI) was officially founded in 1996 by Dr. Shu-Kun Lin, with the launch of the journal *Molecules*.

500+ Journals

26 New Journals Launched in 2025

333 Journals Indexed in Web of Science

193 Journals Ranked in JCR Q1 or Q2

14 Journals with an Impact Factor of 5.0 or Higher

1000+ Institutional Partners

200+ Global Society Partners

8000+ Global Staff



13 Countries
24 Offices

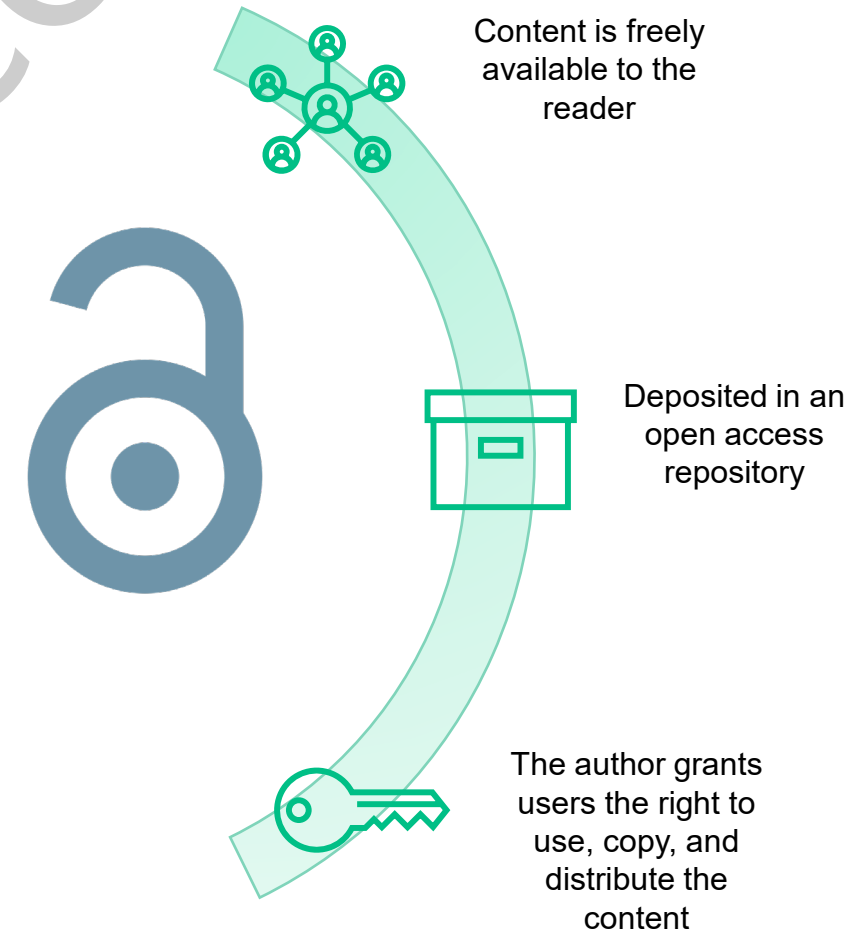
Switzerland (Basel, Head Office), China (Beijing, Wuhan, Tianjin, Nanjing, Dalian, Chengdu), Spain (Barcelona), UK (Manchester), Canada (Toronto), Singapore (Singapore), Japan (Tokyo), South Korea (Seoul), Thailand (Bangkok), Serbia (Belgrade, Novi Sad), Romania (Cluj-Napoca, Bucharest), Poland (Krakow), USA (Philadelphia)



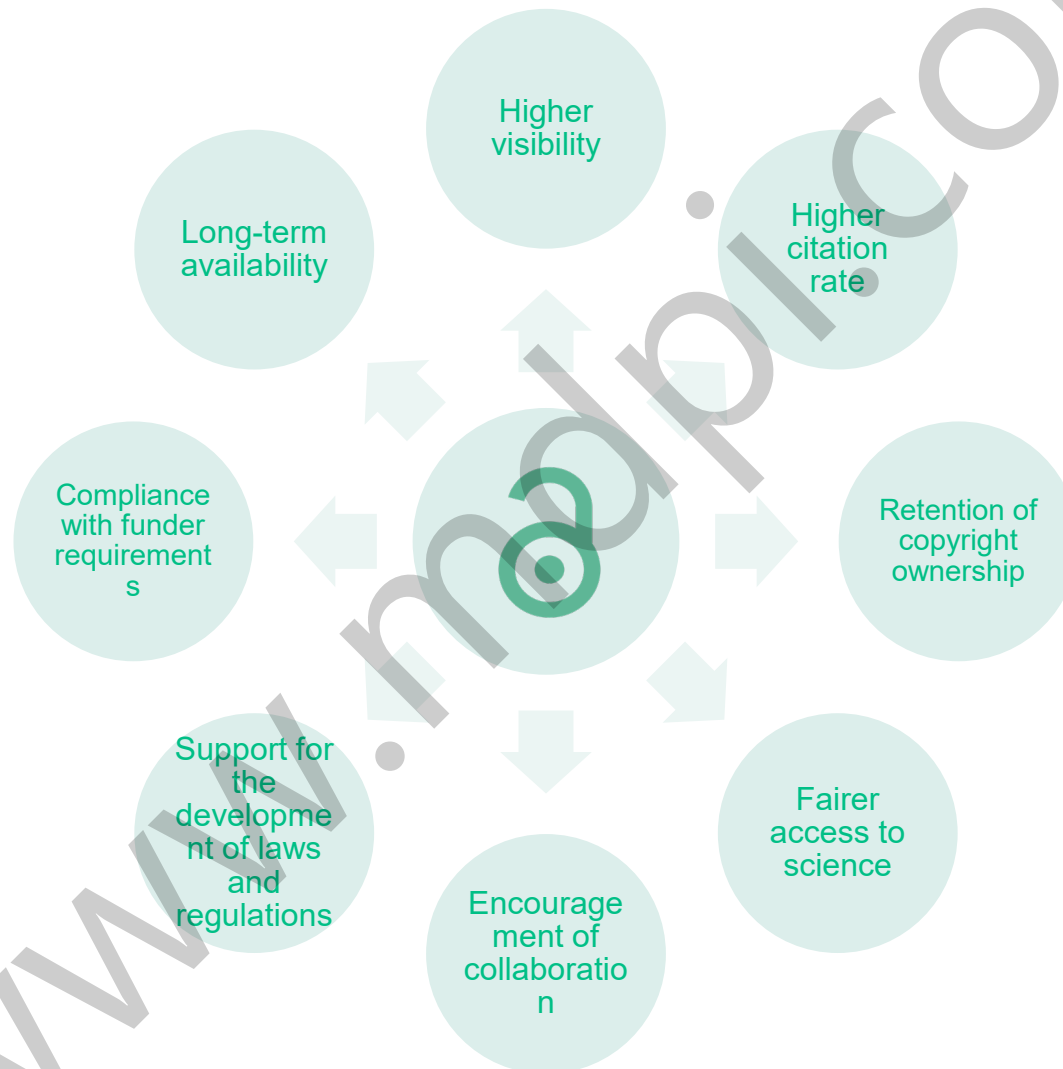
The Principle of Open Access and Its Importance

- ***Open access (OA) refers to free access to information and the unrestricted use of electronic resources that are available to everyone. Any type of digital content can be open access, ranging from texts and data to software, audio, video, and multimedia materials.***
- Key Aspects:
 - Increased visibility and higher citation rate
 - Faster knowledge dissemination and accelerated scientific progress
 - Broader access to research for a wider audience of readers

Open access enables global equality in access to knowledge!



Advantages of Open Access



Open Access and Closed Access (Subscription Model)

Open Access Model

- Publications are available to readers online and free of charge.
- All publications are published under a Creative Commons license (CC BY).
- Editorial work is funded through Article Processing Charges (APCs), which are paid by authors and their institutions.



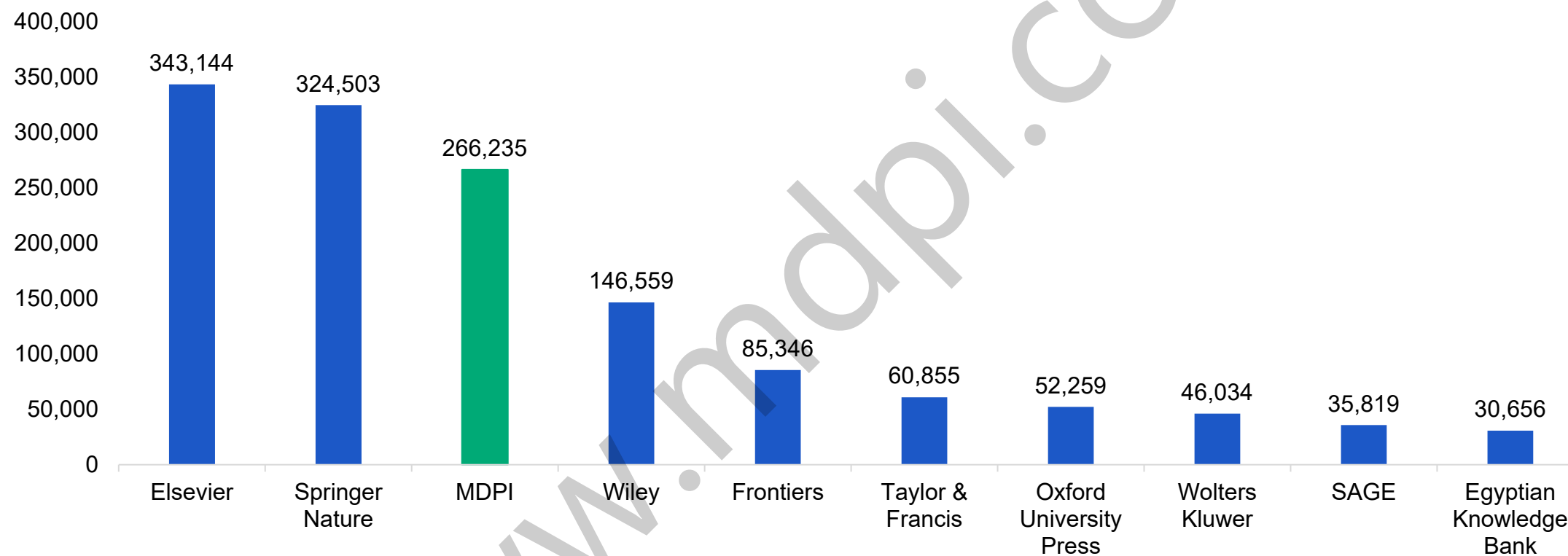
Closed Access

- Publications are available to researchers if their university has a subscription with the publisher.
 - All articles are published under restrictive copyright licenses that have been transferred to the publisher.
- Authors often have to pay additional charges for color figures or page counts.



The subscription model limits access to knowledge, whereas OA enables the free exchange of information. However, OA is still evolving, and challenges remain, such as how to ensure fair APC costs and the sustainability of the model.

The Landscape of OA Publishing in 2025



The Role of MDPI in Open Science

MDPI as a Leading OA Publisher

The first Open Access publisher in the world.

Speed and efficiency of publishing

40 days from manuscript submission to publication without compromising the quality of the peer review process

Transparency and Innovation in Peer Review

Open peer review

Support for Researchers

Various Initiatives and Services



In addition to its core activity of publishing scientific articles in journals across various fields, MDPI also offers numerous other initiatives and services that support the concept of open science and contribute to the dissemination of scientific research results!

MDPI initiatives

Open Platforms for the Dissemination of Scientific Research and Support for Researchers



Writing and structuring scientific papers: advices for authors at all career stages

2.

Why Scientific Writing Matters?

Although it may seem that writing scientific papers is less important than conducting scientific research itself, the writing and publication of scientific papers are inseparable parts of scientific progress.

Your results become visible to the world only when they are presented through a scientific paper, whether published in a journal or presented at a scientific conference.

A well-written paper will not only clearly present the significance of your research, but will also help increase its impact.

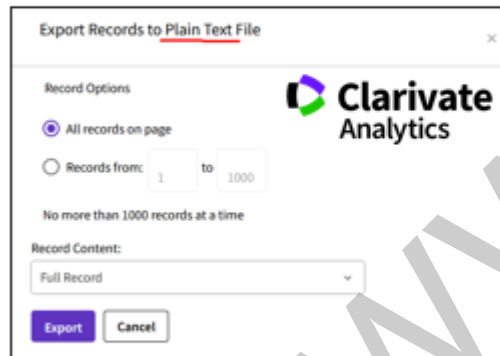


Before You Start Writing

Exploring Literature

Identify relevant keywords in the field:

- Determine which bibliometric databases of scientific papers should you explore to identify the relevant keywords and authors, for example, Web of Science, CiteSpace, Scopus, etc.
- Use bibliometric analysis tools to identify the relevant keywords and researchers, for example, by using VOSviewer or similar tools.



Reading Literature

Read **enough** literature! How much is *enough*?

Enough is when you can say that you've mastered all 3 levels in your research field:

Level 1: Understanding the problem through reading many published papers with the same of similar topic.

Level 2: Ability to assess the quality of the analysis and the achieved results.

Level 3: Be familiar with key research teams, their research directions, current scientific-technical questions, as well as the gaps and questions in the research field.

Reference Management

Remember to keep track of all literature that you read!

There are many reference management tools available to help you with this:



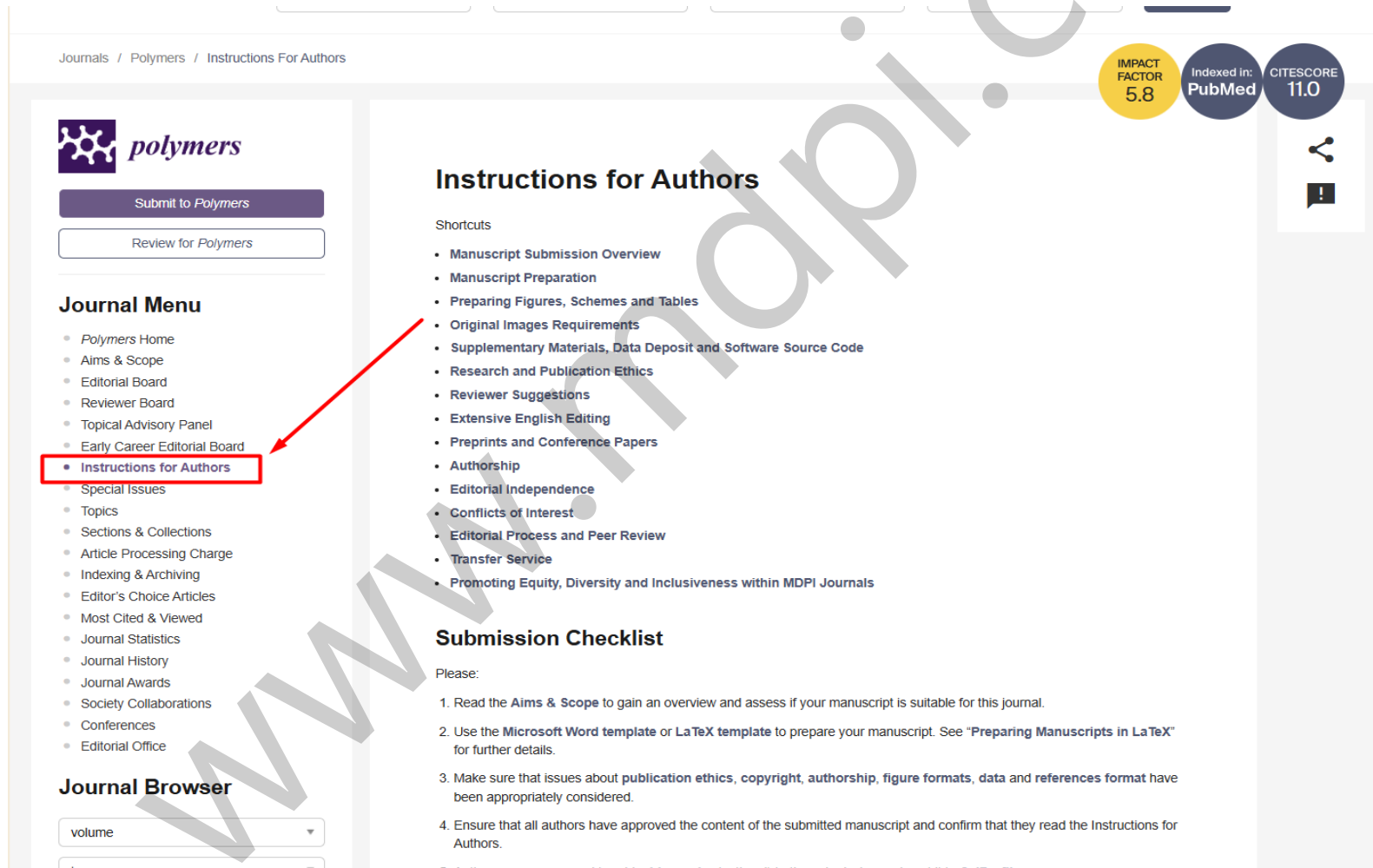
Things to Consider

Before you start with the writing process, you should answer these questions:

- Who is my audience?
- What does the reader want to learn from my paper?
- What do I want the reader to learn from my paper?
- What is the key message of my work?
- Are there any additional sources that can help guide me?

Things to Consider

If you know where you plan to submit your manuscript, remember to check 'Instructions for Authors' for that publishing venue, so you can adapt your manuscript to suitable format.



The screenshot displays the MDPI Polymers journal website. The top navigation bar includes 'Journals / Polymers / Instructions For Authors'. The left sidebar features the 'polymers' logo, a 'Submit to Polymers' button, a 'Review for Polymers' button, and a 'Journal Menu' with various links. The 'Instructions for Authors' link in the menu is highlighted with a red box and a red arrow. The main content area is titled 'Instructions for Authors' and includes a 'Shortcuts' section with a list of links, a 'Submission Checklist' with four numbered steps, and a 'Journal Browser' section at the bottom.

Journals / Polymers / Instructions For Authors

IMPACT FACTOR 5.8 Indexed in: PubMed CITESCORE 11.0

polymers

Submit to Polymers

Review for Polymers

Journal Menu

- Polymers Home
- Aims & Scope
- Editorial Board
- Reviewer Board
- Topical Advisory Panel
- Early Career Editorial Board
- Instructions for Authors**
- Special Issues
- Topics
- Sections & Collections
- Article Processing Charge
- Indexing & Archiving
- Editor's Choice Articles
- Most Cited & Viewed
- Journal Statistics
- Journal History
- Journal Awards
- Society Collaborations
- Conferences
- Editorial Office

Instructions for Authors

Shortcuts

- Manuscript Submission Overview
- Manuscript Preparation
- Preparing Figures, Schemes and Tables
- Original Images Requirements
- Supplementary Materials, Data Deposit and Software Source Code
- Research and Publication Ethics
- Reviewer Suggestions
- Extensive English Editing
- Preprints and Conference Papers
- Authorship
- Editorial Independence
- Conflicts of Interest
- Editorial Process and Peer Review
- Transfer Service
- Promoting Equity, Diversity and Inclusiveness within MDPI Journals

Submission Checklist

Please:

1. Read the **Aims & Scope** to gain an overview and assess if your manuscript is suitable for this journal.
2. Use the **Microsoft Word template** or **LaTeX template** to prepare your manuscript. See "**Preparing Manuscripts in LaTeX**" for further details.
3. Make sure that issues about **publication ethics, copyright, authorship, figure formats, data and references format** have been appropriately considered.
4. Ensure that all authors have approved the content of the submitted manuscript and confirm that they read the Instructions for Authors.

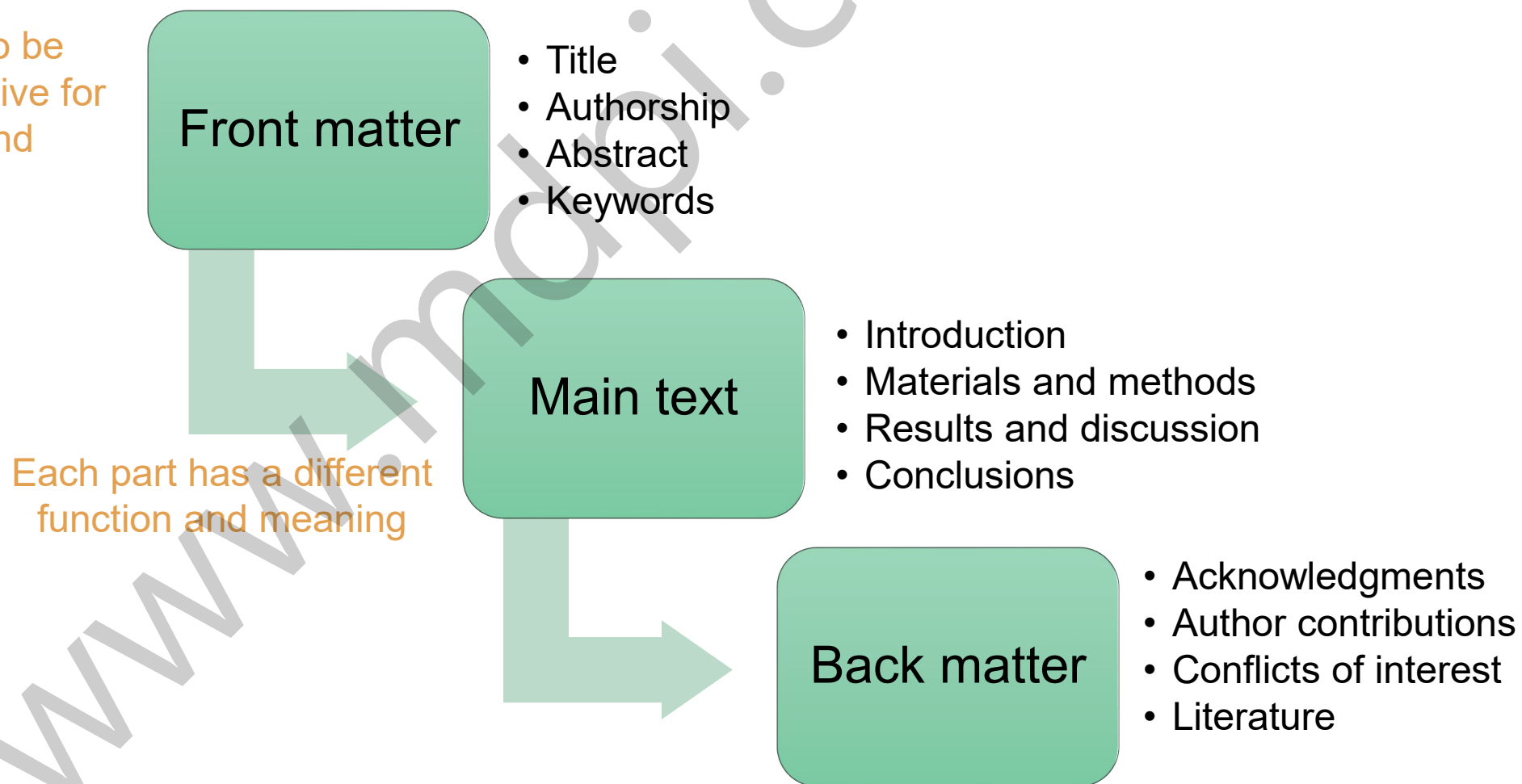
Journal Browser

volume

Structuring Your Paper

Basic Structure

Everything needs to be accurate and informative for easier indexing and searching



Title

The title should be a clear and concise description of the study. It helps the readers determine if they want to continue reading the paper. Use keywords and highlight methods and technologies used in the study.

Prediction of Short Fiber Composite Properties by an Artificial Neural Network Trained on an RVE Database



Goal



Subject of your study



Tools / techniques / methods

Title

A good title should contain as few words as possible, while still clearly describing the contents of the paper.

YES

NO

Mention key aspects of your research.



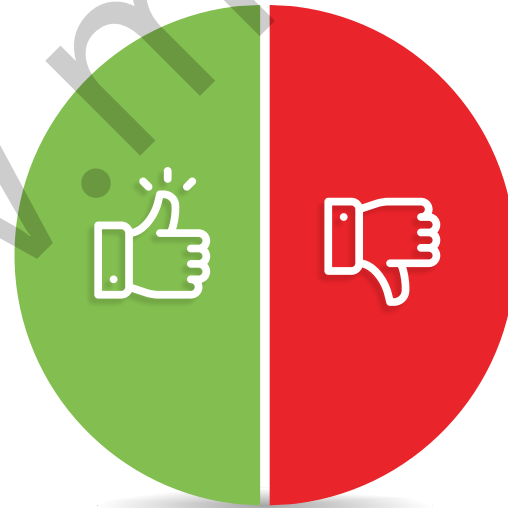
Be direct.



Be concise.



Begin the title with an important keyword to attract readers attention.



Don't use slang.



Don't use uncommon abbreviations.



Don't use ambiguous terms.



Don't add unnecessary details.

Keywords

Keywords are important for indexing: they make your paper easier to find and cite!

- They are used for indexing in international databases
- They can increase citations
- They will make your paper easier to find

Good keywords:

- Should be key terms used in the paper
- Should be nouns or phrases
- Should not be uncommon abbreviations
- Should not be very common terms

Keywords

Title:

Detection of Floricane Raspberry Shrubs from Unmanned Aerial Vehicle Imagery Using YOLO Models

Keywords:

- CNN;
- convolutional neural network
- UAV
- YOLOv8
- Rubus
- drone
- multispectral
- deep learning

Abstract

It enables the reader to quickly identify the key contents of the paper, to determine if the paper is relevant to their interests and to determine if they should read the whole paper.

Good abstract should:

- List key targets and scope of the paper
- Explain used methods
- Summarize the results
- Mention key conclusions
- Fit into a single paragraph of 150-200 words

Abstract

In this study, an artificial neural network is designed and trained to predict the elastic properties of short fiber reinforced plastics. The results of finite element simulations of three-dimensional representative volume elements are used as a data basis for the neural network. The fiber volume fraction, fiber length, matrix-phase properties, and fiber orientation are varied so that the neural network can be used within a very wide range of parameters. A comparison of the predictions of the neural network with additional finite element simulations shows that the stiffnesses of short fiber reinforced plastics can be predicted very well by the neural network. The average prediction accuracy is equal or better than by a two-step homogenization using the classical method of Mori and Tanaka. Moreover, it is shown that the training of the neural network on an extended data set works well and that particularly calculation-intensive data points can be avoided without loss of prediction quality.

1. Lists key targets and defines research scope

2. Describes used methods

3. Summarizes results

4. Mentions the key conclusions

Introduction

Explains why your work is an important contribution to the research area.

- Research background
- Key findings of previous studies
- Identifying gaps in the literature
- Highlighting novelty of your work
- Presenting the hypothesis

YES

Describe the 'problem' and the hypothesis

Ensure that the cited literature isn't biased and that it is recent and relevant



NO



Don't describe the entire research field



Don't list only your previous papers, or papers of your colleagues



Don't overuse the terms "new" and "for the first time"



Don't plagiarize

Methodology

Experimental part needs to provide information so that a qualified reader can reproduce the experiment.

YES

No

Describe how, when, where and what did you do



Give full details of your methods



Identify and highlight any dangers



Mention the equipment source



Follow ethical guidelines



Don't include results here.



Don't skip details.



Don't avoid mentioning any errors or failures

Results and Discussion

Results

- Objectively presents key results, without interpretations, in a structured and logical format, using text and illustrative materials (tables and figures).

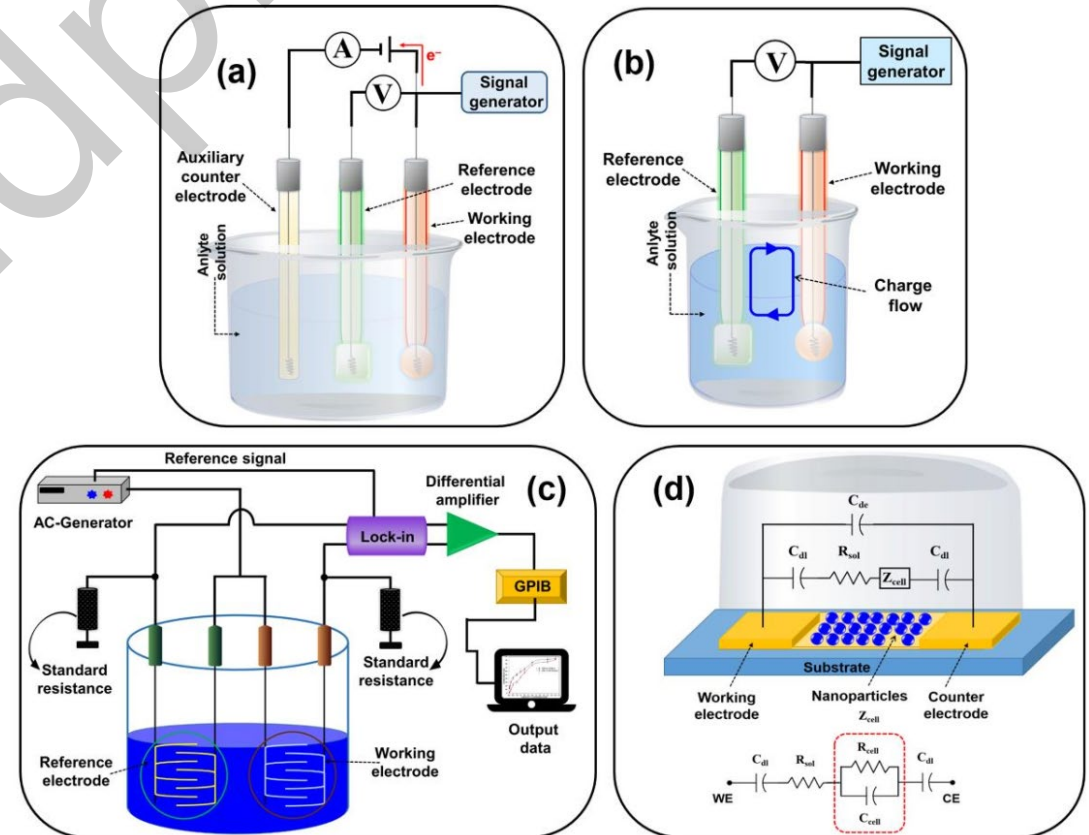
Discussion

- Present and discuss the results of your study considering what is already known in the research field. Explain the new understanding of the problem which led from your results.
- Discussion will always be related to the Introduction through the hypothesis and the cited literature, but it shouldn't just repeat the Introduction. Instead, it shows how your research changed the understanding of the problem compared to what you had shown in the introduction.

Visualisation

Tables and figures help the reader to understand data when it was not possible to present it clearly in the text.

- Quality of figures and tables is key for understanding and analysis of your results by the reader.
- Readers will often look at the graphs and tables before determining if they want to read the whole paper.



Visualisation

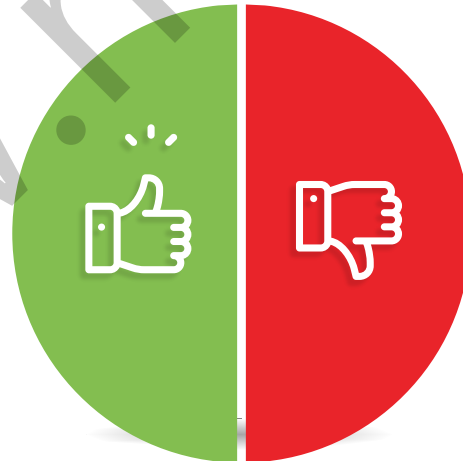
Figures can be graphs, photos, sketches, flow charts, etc.

YES

Ensure that all details are visible.

Use high quality figure even in the initial manuscript.

List figures soon after they are first mentioned in the text.



NO



Don't use figures without copyright permissions.



Don't use blurry figures.



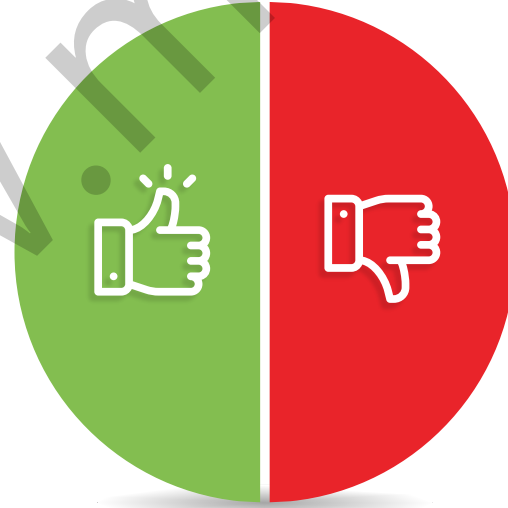
Don't use black and white photos.

Visualisation

Tables enable the reader to view a large quantity of data.

YES

- Ensure that tables have a minimum of 3 rows and 3 columns
- List the table soon after it was first mentioned
- Remember to cite all data that needs to be cited even in the table
- Make sure all rows and columns are clearly defined



NO



- Don't use the word 'ditto' to point out that some data is repeating
- Don't use 'hard return' to add space between table rows
- Don't use copyrighted data without permission

Conclusions

Present your conclusions about the results and novelty of the work; consider future research.

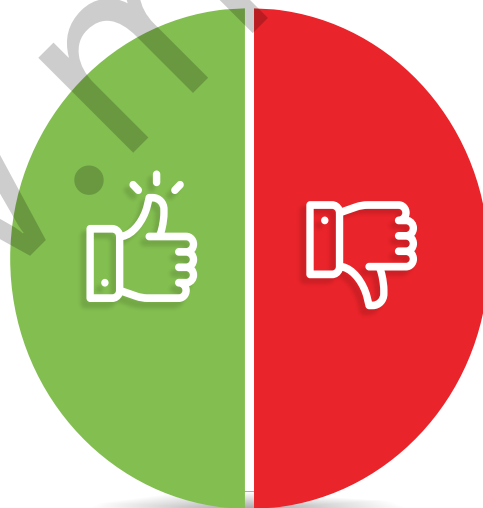
YES

NO

Describe how your results contribute to the research field.



Suggest future experiments.



Don't repeat previous sections.



Don't be too speculative.



Don't exaggerate the importance of your results.

Conclusions

1. Describe how your research contributes to the research field.

2. Recommend (announce) further research.

6. Conclusions

The effectiveness of U-jacketing in shear-critical T-beams using EB-FRP sheets is investigated. The following conclusions can be drawn within the scope of this study:

- U-jacketing is an open-form strengthening technique with inadequate anchorage at the edges of the externally applied EB-FRP sheet. The lack of any special anchorage system at these edges significantly affects the shear capacity and the overall behavior of the U-shaped retrofitted RC T-beams. Substantial low potential shear strength and low values of the effective strain of the applied EB-FRP materials are reported due to the occurrence of premature debonding failures.
- U-jacketed beams failed due to brittle shear exhibiting severe diagonal cracking of concrete along with the debonding and the peeling-off of the C-FRP sheets from the concrete surface of the beam. However, the examined FRP-strengthened beams demonstrated higher shear strength values than the corresponding non-strengthened beams (control specimens). More specifically, the U-jacketed beams with 2 and 3 plies of C-FRP sheets exhibited 39% and 72% increased shear capacity with respect to the control specimen without transverse reinforcement.
- The failure of the strengthened beam with 2 plies of C-FRP sheets and an additional mechanical anchor of the sheets is also governed by brittle shear although the applied anchorage system prevented the peeling-off of the EB-FRP sheets and the concrete diagonal cracking was not visible since it was hidden behind the C-FRP sheets. Nevertheless, the applied mechanical anchor of the U-shaped C-FRP sheets delayed the debonding resulting in a 72% increase of the shear capacity with respect to the control specimen without transverse reinforcement.
- The provisions and consequently the predictions of the Greek Code of Interventions (KAN.EPE.), Eurocode 8 part 3 and the ACI Committee 440 for shear strengthened RC T-beams using U-shaped EB-FRP jackets or strips vary. Different expressions for the estimation of the effective design strain or/and the corresponding stress are used. Comparisons between 165 test data of T-beams from existing studies and analytical design predictions derived from these provisions indicate that for the majority of the examined beams the Codes provide safe estimations. However, unsafe estimations of all three Codes are observed for certain specimens.
- The present and recent relative studies reveal that although a lot of analytical and experimental investigations on the shear strength of EB-FRP-retrofitted RC beams with rectangular cross-section have been conducted, there is a lack of research concerning the performance of T-beams. Furthermore, ongoing research aims to reduce the scatter in the predictions of the design models. However, additional questions concerning the effectiveness of these estimations also arise from the existing variety of the examined code provisions concerning the shear capacity of EB-FRP strengthened RC T-beams presented herein. The observed discrepancies between test results and analytical predictions and between the existing models are justified, up to a point, by the fact that the shear problem involves the influence of complex interacting phenomena and a number of parameters, such as the properties and the efficiency of the applied EB-FRP materials, the existence of the internal steel reinforcement, the effect of the slab on the shear performance and on the anchorage of the composite sheets among others. Thus, further research efforts are required to understand better the aforementioned issues, to obtain more and reliable experimental results, and to interpret them in order to refine the existing models and code standard provisions.

Author Contributions

CRedit (Contributor Roles) taxonomy enables transparency in author contributions in scientific publications.

Categories of CRediT taxonomy for co-authors:

1. Conceptualization
2. Methodology
3. Software
4. Validation
5. Formal analysis
6. Investigation
7. Resources
8. Data curation
9. Writing – original draft
10. Writing – review & editing
11. Visualization
12. Supervision
13. Project administration
14. Funding acquisition

Author Contributions

Conceptualization, K.C.L. and S.Y.W.; **Methodology**, A.B., K.C.L and V.Y.W.; **Investigation**, N.K., A.N.V., N.A.V., K.C.L and V.Y.W.; **Writing – Original Draft**, K.C.L and V.Y.W.; **Writing – Review & Editing**, S.C.P. and S.Y.W.; **Funding Acquisition**, K.C.L and V.Y.W.; **Resources**, M.E.V and C.K.B.; **Supervision**, A.B., N.L.W., and A.B.D

Conflict of Interest

All authors must reveal any connections or interests which could inappropriately influence their work or result in bias.

Example of a Conflict of Interest statement:

“The funding sponsors had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, and in the decision to publish the results. Andre Dekker, leader of the Knowledge Engineering division at MAASTRO Clinic, and Seán Walsh declare that in a separate research project they **received financial support from Varian Medical Systems**, a company developing a rapid learning health-care system. Erik Roelofs and Yvonka van Wijk **consult for ptTheragnostic B.V.**, a company developing biomarkers and software to individualize radiotherapy treatment. Philippe Lambin is **co-inventor of several radiomics patents**.” (<http://www.mdpi.com/2072-6694/10/2/55/htm>).

References

References are important as they show the foundation of your research and enable the reader to check the sources of information, bringing credibility to your work.

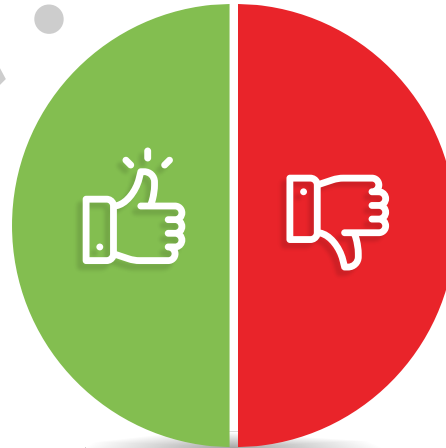
- Use relevant and up-to-date sources
- Use standardized citing styles (APA, MLA, Chicago, Vancouver...)
- Keep the reference format consistent throughout the paper

YES

Make sure the references are listed correctly

Use the references to show the extent of your research

Use reference management tools (EndNote, Zotero, Mendeley)



NO



Don't cite unreliable sources



Avoid excessive self-citations



Don't skip referencing out peoples' ideas



Don't mix citations styles

Final Remarks on Paper Writing

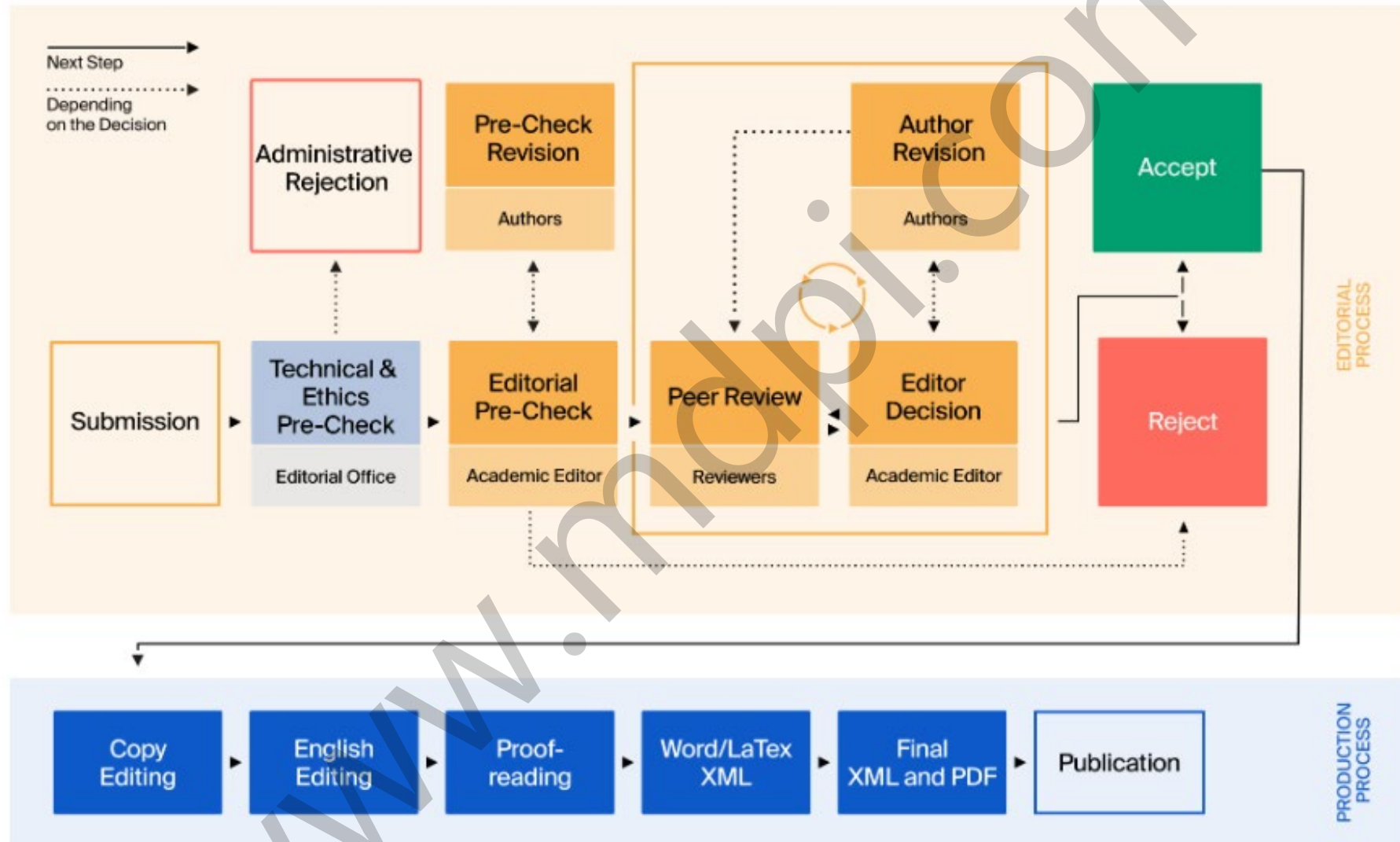
What You Should Do

- **Keep sentences short** (aim for 12–17 words) to help the reader follow your logic easily.
- **Use simple punctuation** and avoid long, complex phrases that might cause confusion.
- **Follow the "One Sentence, One Idea" rule** to keep your writing focused and organized.
- **Place the most important words at the beginning** of your sentences to highlight your main points.
- **Avoid unnecessary words** and "filler" phrases that do not add value to your research.
- **Check your grammar and spelling** multiple times before submitting your final draft.

Peer review and editorial processes (MDPI)

3.

The MDPI Editorial Process



TECHNICAL & EDITORIAL PRE-CHECK



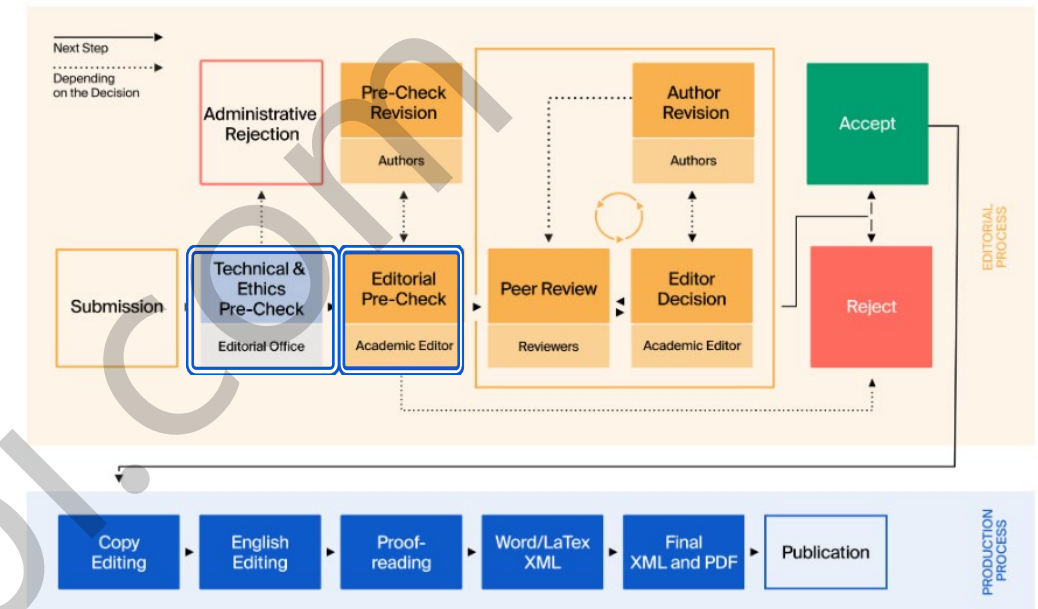
Technical pre-check
Editorial Office

- Overall suitability of the manuscript to the journal/section/Special Issue
- Manuscript adherence to high-quality research and ethical standards (image manipulation, paper mills, use of AI, increased self-citation, ethical approvals, etc.)
- Standards of rigor to qualify for further review



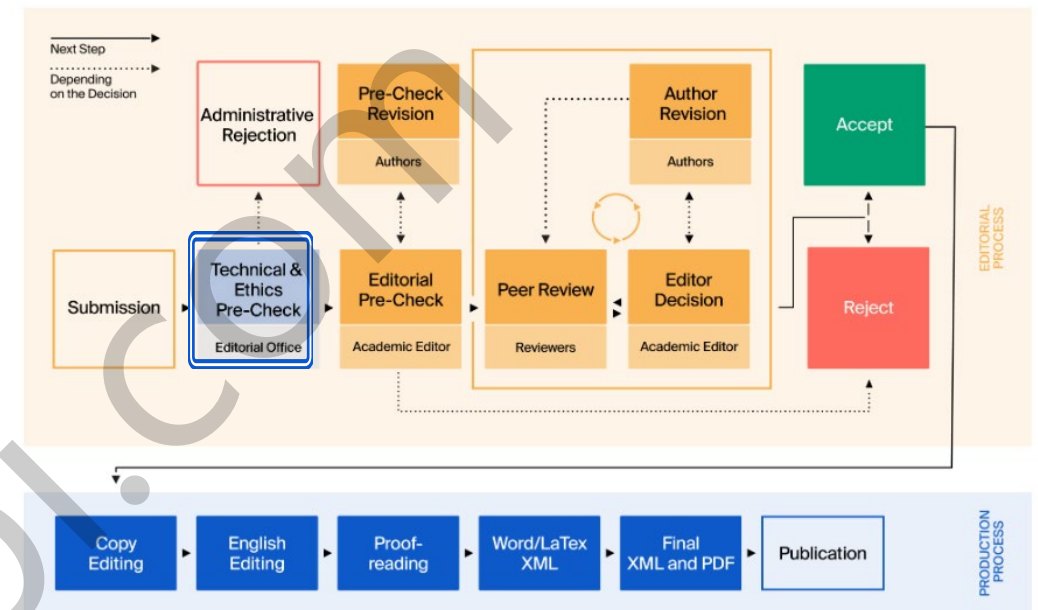
Editorial pre-check
Academic Editors

- Suitability of the submission with respect to the scope of the journal
- Overall scientific soundness of the manuscript
- Relevance of the references
- Correctness of the applied methodology and clear and correct manuscript language



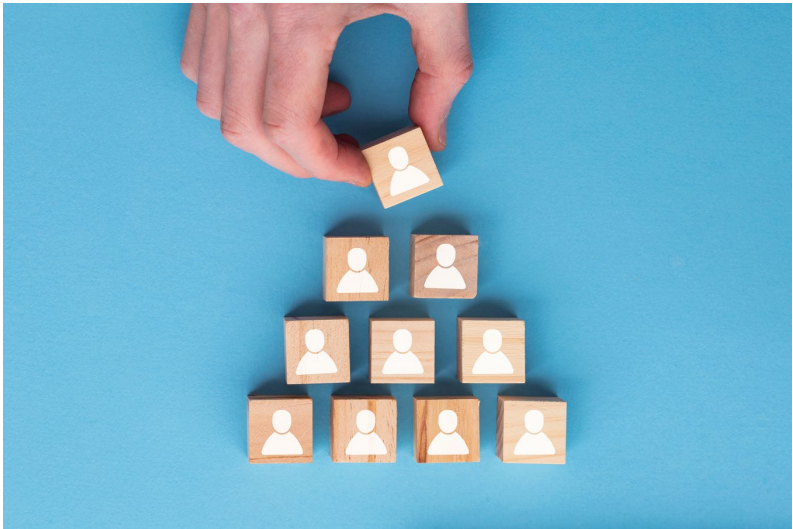
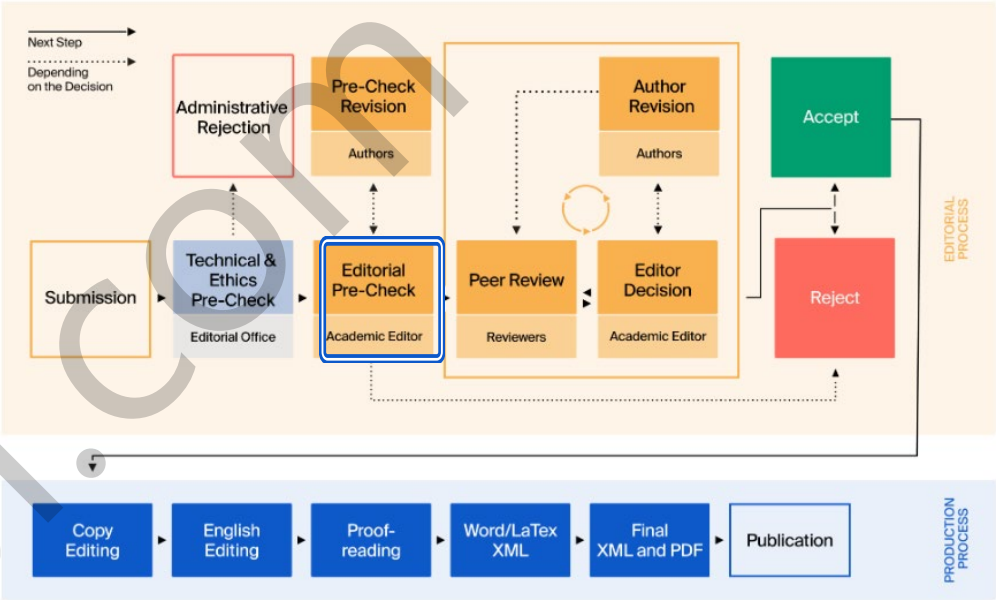
TECHNICAL PRE-CHECK - PLAGIARISM

- All manuscript submissions are screened by **iThenticate** to detect potential plagiarism issues.
- There is no acceptable level of similarity – all manuscripts are judged individually.
 - Self-plagiarism should be avoided
 - Pre-Prints are excluded from the similarity percentage.
 - Authors should clearly cite sources when using material from other sources (including their own published writing) and obtain permission where appropriate.
 - Authors should not engage in excessive self-citation.



EDITORIAL PRE-CHECK - EDITORIAL BOARD

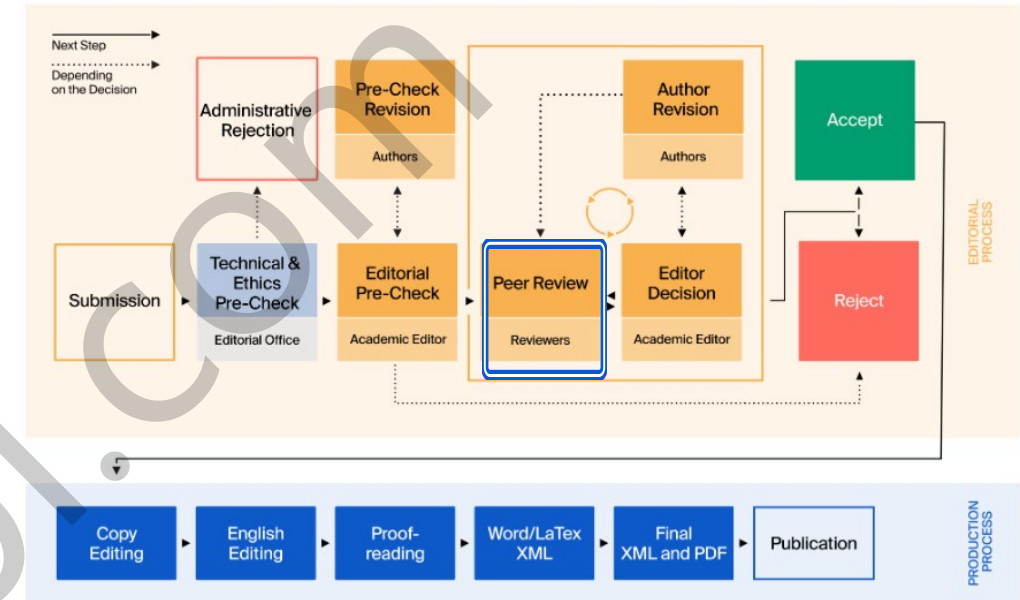
Editor-in-Chief (EiC)	Supervises journal activities, with the aim to ensure the success of the journal within the scientific community.
Section Editor-in-Chief (SEiC)	A leader in their field, responsible for the scientific quality of a particular section of a journal.
Editorial Board Member (EBM)	Responsible for final decisions on manuscripts in their field of expertise. May also edit Special Issues and be invited to review manuscripts.
Guest Editor (GE)	Makes decisions on manuscripts submitted to their Special Issue.



PEER-REVIEW - REVIEWERS

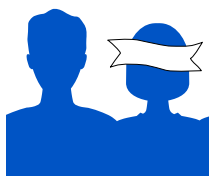
Requirements for Scientific Reviewers

- Hold an PhD or MD ,preferably with postdoctoral experience.
- Be affiliated with a recognized institution (university or research center) and have a proven publication record in the article's field (Scopus, Google Scholar, ORCID...).
- Have no conflicts of interest with the authors:
 - Same institution
 - Co-author, collaborator
 - Personal/financial relationship



PEER-REVIEW - REVIEWERS

Types of Peer-review

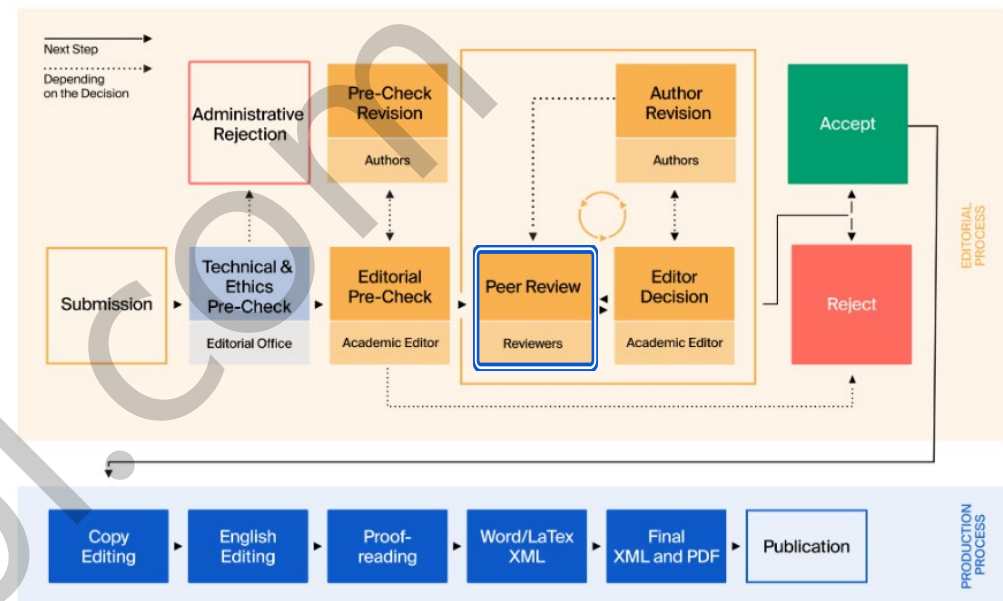


Single Blind Review



Open Review

- Reviewers know the identity of the authors.
- Authors do not know the identity of the reviewers.
- Confidential identity: Reviewers must not reveal their identity.
- Open reports: The possibility of publishing reviewer reports and author responses alongside the article.
- Open identity: Reviewers have the option to include their names in the published reports.
- Benefits:
 - Greater transparency and trust.
 - Encourages high-quality feedback.
 - Provides recognition for reviewers.



Open Access Feature Paper Review Peer-Reviewed

Peer-Review Record

Behavioural Synchronisation between Dogs and Humans: Unveiling Interspecific Motor Resonance?

Animals **2024**, *14*(4), 548; <https://doi.org/10.3390/ani14040548>

by Angélique Lamontagne ^{1,2,*} and Florence Gaunet ¹

Reviewer 1: Betty McGuire

Reviewer 2: Anonymous

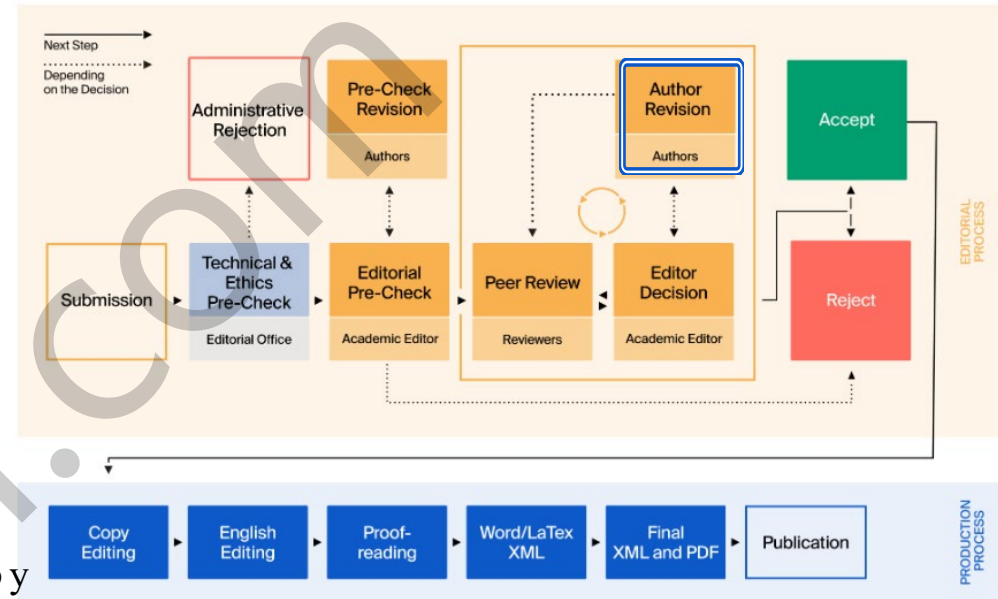
<https://doi.org/10.3390/ani14040548>

Submission received: 1 December 2023 / Revised: 5 February 2024 / Accepted: 6 February 2024 / Published: 7 February 2024
(This article belongs to the Section Companion Animals)

REVISION

Decisions Types

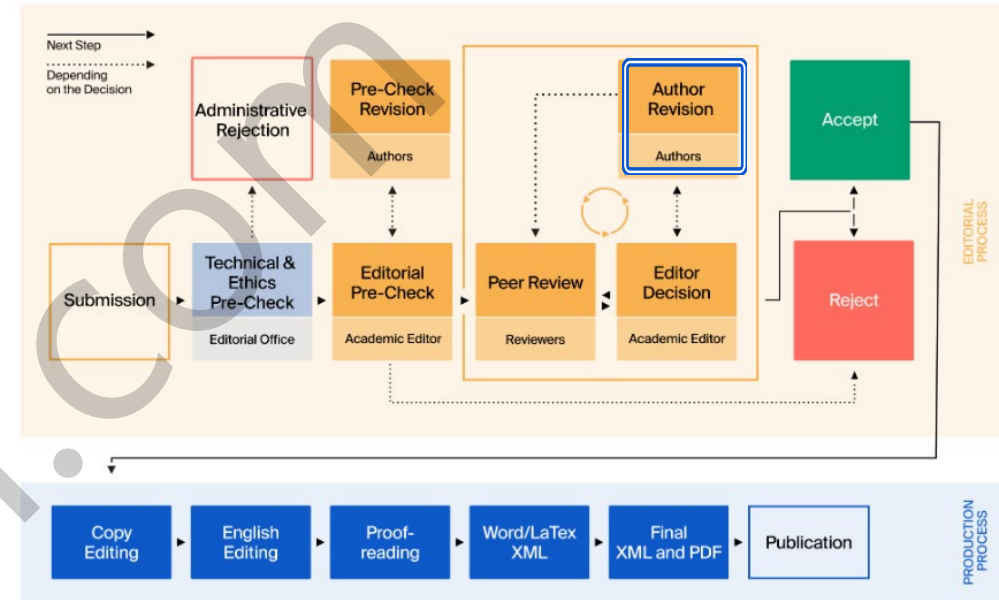
- 01 ➡ Copy all reviewer comments into a Word document.
- 02 ➡ Complete your revisions on the manuscript copy provided by the publisher (this is the version reviewers will use).
- 03 ➡ Use the "Track Changes" function to make all corrections visible to Editors and reviewers, including minor grammar and punctuation changes.
- 04 ➡ As you make changes, draft a response letter to each reviewer:
 - Explain how and why you made each revision.
 - Respond to any comments you disagree with and justify your reasoning.



REVISION

Prepare a Point-by-Point Response

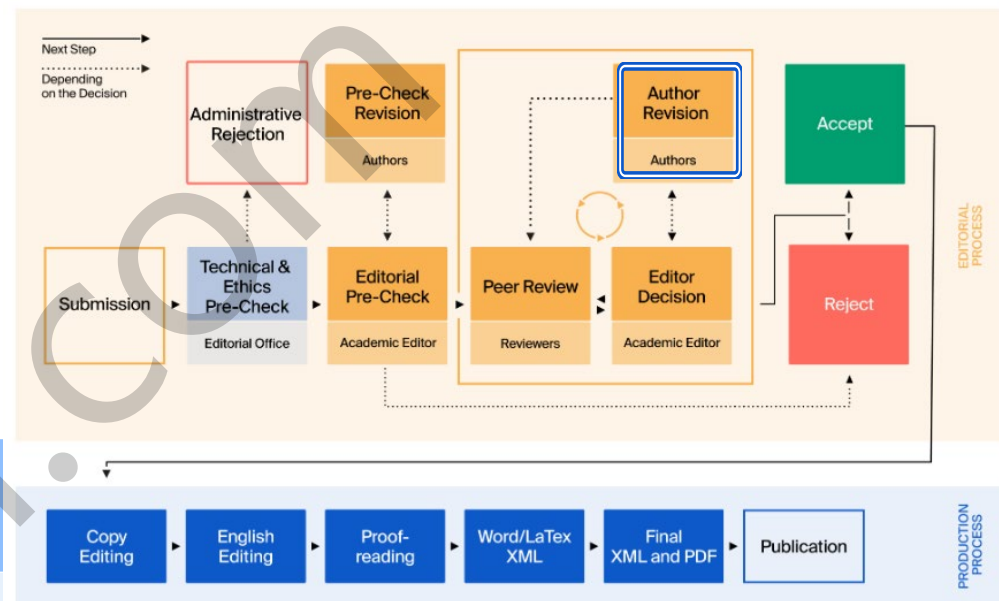
- ✓ **Start with gratitude** – Thank the reviewers for their time and for providing insightful, constructive feedback.
- ✓ **Provide a brief summary** – Outline the key changes made to the manuscript.
- ✓ **Address each comment individually** – List the reviewer's comments and your responses in a clear, structured format.
- ✓ **Indicate where changes were made** – Specify the page and paragraph numbers for each revision.
- ✓ **Maintain a professional and polite tone** – Even when defending your work, be respectful and constructive in your responses.



REVISION

Sentence Starters for Responding to Reviewers' Comments

Say this...	And avoid saying this...
We would like to thank the Reviewer for your interest in this topic...	I do not think the Reviewer understands my point...
The Reviewer has correctly pointed out that...	It is not necessary to change according to the Reviewers' suggestion because...
We acknowledge that..., yet...	We simply do not have such data...
We concur with the Reviewer that...; nonetheless...	Repeating the experiments/analysis would not change our conclusions...



REVISION

Examples of how to respond to unconstructive reviewer comments

Comment from Reviewer 2 asking for discussion or analyses that are not possible given constraints on the data available.

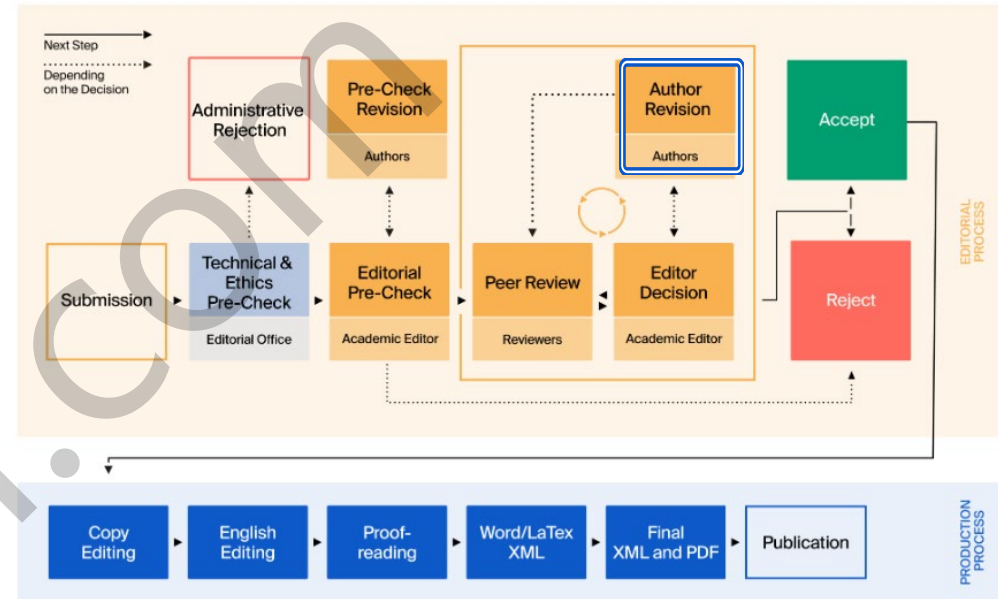
Author response: Thank you for pointing this out. Although we agree that this is an important consideration, it is [beyond the scope/not appropriate for inclusion/cannot be analyzed] in this manuscript because [provide a justification for why the content cannot be added to the manuscript].

In general, I did not find this study to make a valuable contribution to the literature or to science.

Author response: While we appreciate the reviewer's feedback, we respectfully disagree. We think this study makes a valuable contribution to the field because [describe the knowledge gained, insights provided, questions answered, etc., by your study and/or its results or findings].

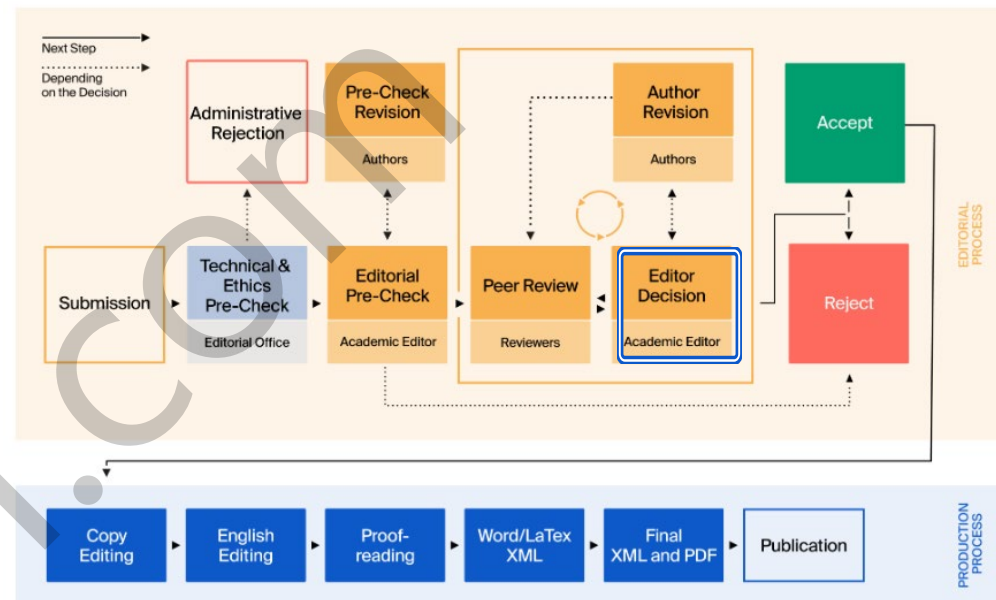
Comment from Reviewer 1 asking the authors to cite unsuitable references

Author response: Thank you for taking the time to suggest some references however we have chosen not to include them in our study. After checking them, we do not believe they will help to improve the quality of our work



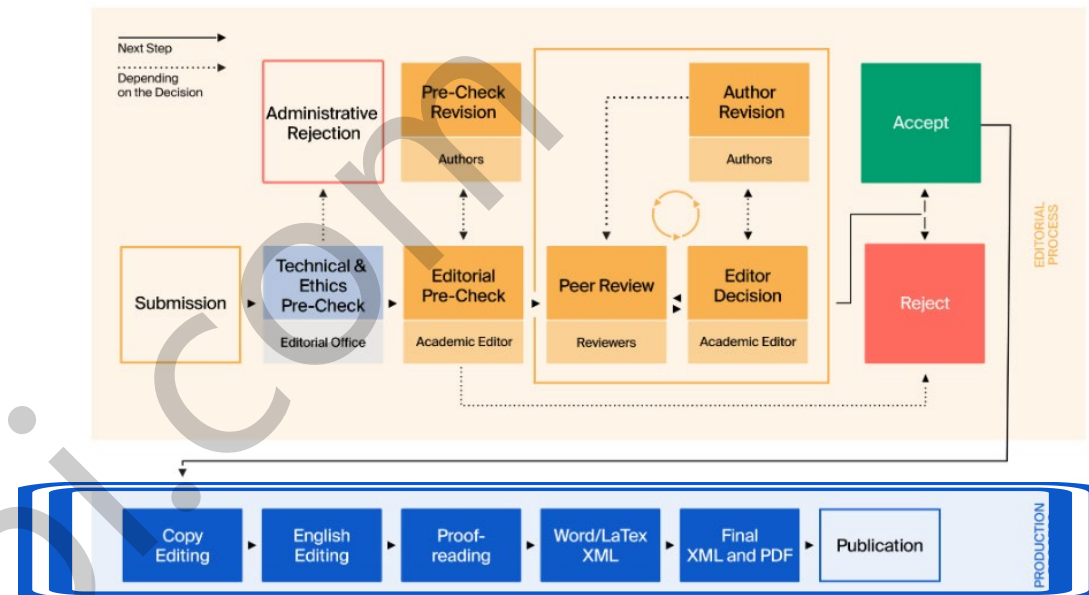
EDITOR FINAL DECISION

Decisions Types



Profreading

- Authors' names, emails, affiliations, contribution
- High-resolution figures
- References
- Acknowledgments
- Funding



Identifying and Remediating Soil Microbial Legacy Effects of Invasive Grasses for Restoring California Coastal Sage Scrub Ecosystems¶

Brooke Pickett^{1,2}, Irina C. Irvine¹, Keshav Arogyaswamy³, Mia R. Maltz^{4,5}, Hannah Shulman⁶ and Emma L. Aronson^{4,7}

¹ Division of Biological Sciences, University of California-San Diego, La Jolla, CA 92093, USA; hnickett@ucsd.edu

² U.S. National Park Service, Pacific West Regional Office, San Francisco, CA 94129, USA; ³ lrina_irvine@nps.gov

²→ CosmosID, Germantown, MD 20874, USA; arogyaswamy@gmail.com

⁶ University of Tennessee, Knoxville, TN 37996, USA; hsbu1001@ucr.edu

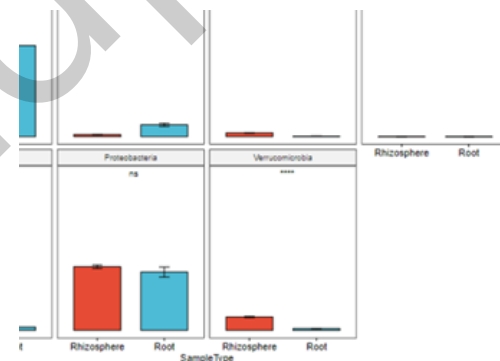
*→ Department of Microbiology, University of California, Riverside, CA 92521, USA†

Abstract: As invasive grasses encroach upon native ecosystems, they have the potential to transform intact California coastal sage scrub (CSS) into non-native grasslands. This occurs—in part—due to legacy effects: changes in soil microbial composition elicited by grass invasions with long-term impacts on soil and native vegetation. Along with direct effects on CSS vegetation, legacy effects may alter microbial communities which may in turn impact native plant growth. To tease apart these factors, we monitored growth in three CSS species inoculated with either uninvaded soil or sterilized uninvaded soil that were subsequently planted into a site characterized by observed microbial legacy effects. Our findings indicate native plant growth can be explained by changes in soil microorganisms. Specifically, native *Artemisia californica* and *Baccharis pilularis* grew larger in plots with unsterilized uninvaded soil inoculum, which contained a larger abundance of *Gemmatimonadetes* and *Glomus*, compared to the sterilized soil inoculum plots. Therefore, microbial augmentation may not only improve restoration in post-invasive sites but long-term changes in soil microbial communities may be linked to native plant growth. Furthermore, adding uninvaded soil replete with native microbes has the potential to support restoration of invaded sites by promoting native plant survival and establishment in these restored ecosystems.

Citation: Pickett, B., Irvine, L.C., Aronowicz, K., Maltz, M.R., Stulman, H., Aronson, E. + Identifying and Remediating + Microbial Soil Legacy Effects of + Invasive Grasses for Restoring CSS Ecosystems. *Diversity* 2022, 14, x. <https://doi.org/10.3390/xxxxx>

<https://doi.org/10.3390/xxxxx>

MDPI



undances of genera (Acidobacteria, Actinobacteria, Bacteroidetes, Chloroflexi, Gemmatimonadetes, Nitrospirae, Planctomycetes, Proteobacteria, and Verrucomicrobia) were significantly different between root and rhizosphere samples. Standard deviation is shown in the figure by the error bars attached to each column. ¶

Treatment

minated the rhizosphere samples, with *Acidobacteria*, *Actinobacteria*, *Proteobacteria*, *Gemmatimonadetes*, *Planctomycetes*, *Firmicutes*, and *Chloroflexi* accounting for 95% of each sample. Thirty-three additional taxa, but not dominant in the rhizosphere of both UT and ST treatments, showed significant differences in the relative abundance of *Gemmatimonadetes* ($p < 0.05$).

MDPI Please provide the explanation for the **** and ns in the figure.

Reply



Hvala na pažnji!

 [@MDPIOpenAccess](https://twitter.com/MDPIOpenAccess)

 facebook.com/MDPIOpenAccessPublishing

 linkedin.com/company/mdpi

 [MDPI AG – YouTube](https://www.youtube.com/MDPIAG)

 instagram.com/mdpiopenaccess

www.mdpi.com

