Impact of AI-Based Optimization on Marine Environment Resistant Composite Materials for Renewable Energy Systems

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**Research Article**

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Received: 15 September 2025

Accepted: 25 October 2025

Published: 10 January 2026

**Keywords**

Engineering

Technology

Applied sciences

Architecture

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**Abstract**

The abstract must clearly emphasize the objective of the study, experimental procedure(s), key results, and conclusions. The abstract should be written as a single paragraph, with a word limit between 150 and 300 words. It must serve as a standalone summary of the study, clearly conveying the key aspects without relying on citations or undefined abbreviations. This ensures that readers can understand the core content of the paper without needing prior knowledge of the full text. Choose 3-5 specific keywords that reflect the main themes of your study. Avoid generic terms and ensure the keywords align with your research focus for better visibility in search databases. *Scientific Research Communications* publishes both theoretical and experimental high quality papers of permanent interest, not previously published in any other journal, which aims to promote the theory and practice of technology and engineering. In addition to peer-reviewed original research papers, the journal welcomes state-of-the-art reviews in the broadly defined field of engineering, science, technology, architecture, city and regional planning, forestry, agriculture and aquaculture.

# Introduction

This document serves as a template for authors submitting manuscripts to *Scientific Research Communications*. Authors should utilize this template when preparing their manuscripts for submission. Manuscripts must be written in English and saved in .doc or .docx format. Authors can replace the text in the relevant sections by typing or copying and pasting, or by applying the predefined styles provided in the template.

A concise and informative title should accurately reflect the core focus and findings of the research while being specific and engaging to the target audience. Avoid unnecessary jargon, abbreviations, or overly long phrases, and ensure the title is clear and descriptive, capturing the essence of the study in as few words as possible.

The main text of the manuscript should be written in Book Antiqua font, size 11. Headings and subheadings should be written in Bahnschrift, size 12, bold. For formatting, paragraph spacing should be set to “Before: 0 pt, After: 6 pt” in the body text, “Before: 18 pt, After: 6 pt” in headings, and “Before: 12 pt, After: 6 pt” in subheadings. The entire manuscript should maintain “Single” line spacing throughout. Table 1 presents the formatting requirements for various manuscript elements.

**Table 1.** Formatting rules for text, headings, and captions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Material Type** | **Font** | **Alignment** | **Line spacing** | **Paragraph spacing** |
| Main text | Book Antiqua, 11 | Justified | Single | Before: 0 After: 6 |
| Headings | Bahnschrift, 12, bold | Justified | Single | Before: 18 After: 6 |
| Subheadings | Bahnschrift, 12, bold | Justified | Single | Before: 12 After: 6 |
| Figure & table captions | Book Antiqua, 11 | Centered | Single | Before: 0 After: 6 |
| Table text | Book Antiqua, 10 | Cent./left | Single | Before: 0 After: 0 |

Page margins should be set as follows: top, left, and right at 2.5 cm, and bottom at 1.75 cm, with the page size set to A4.

# Materials and Method

The **Materials and Method** section should provide a detailed description of the materials, equipment, and procedures used in the study, allowing for full reproducibility of the research. Authors should ensure the section is concise yet comprehensive, including specifics like material sources, experimental conditions, and analytical techniques, while avoiding unnecessary duplication of established methods.

* 1. **Figures in the manuscript**

Ensure each figure has a descriptive caption that provides sufficient information for understanding the figure without needing to refer back to the main text. All figures must be referred to in the text and should be cited sequentially as “Figure 1,” “Figure 2,” etc. For example, “As shown in Figure 1, the trend indicates...” or “Figure 2 illustrates the experimental setup.” Figures should be positioned close to the first instance where they are referenced in the text, ensuring smooth readability. Figures should be aligned centrally on the page.



**Figure 1.** Sample figure caption

When mentioning figures in the text, briefly describe their content and significance to the discussion. Avoid restating what is already visible in the figure; instead, focus on interpreting or emphasizing its relevance to the study. Maintain uniform formatting for figure citations throughout the manuscript. For example, avoid mixing styles like “Figure 1,” “Fig. 1,” or “fig.1.” Use a consistent style as per the journal’s guidelines: Figure 1. When discussing trends, patterns, or data across multiple figures, cross-reference them clearly. For example, “Figures 3 and 4 compare the results from two different methods.” Do not repeat data presented in tables or text within the figures.

* 1. **Tables**

Always refer to each table in the text before it appears, using the format “Table X” (e.g., Table 1). Ensure the reference is sequential, following the order in which the tables appear in the manuscript. Avoid phrases such as “the table below” or “the table above,” as tables may be repositioned during formatting. For example, “Table 2 shows the tensile and compressive strength results of the composite materials.” Tables should be centrally aligned on the page and written in Book Antiqua font, size 10.

**Table 2.** Tensile and compressive strength results of the composite materials

|  |  |  |  |
| --- | --- | --- | --- |
| **Material Type** | **Tensile Strength** **(MPa)** | **Compressive Strength** **(MPa)** | **Observation** |
| Untreated fiber | 35.4 | 28.7 | Brittle failure  |
| Alkali-Treated Fiber | 45.6 | 35.4 | Improved strength  |
| Hybrid Composite A | 51.3 | 49.3 | Balanced properties |
| Hybrid Composite B | 78.9 | 37.6 | Lower tensile strength |
| Polymer Matrix Only | 22.1 | 18.9 | Weakest |

Provide enough context for readers to understand the purpose or significance of the table. Mention the specific information it contains and its relevance to the discussion or results. For example, “The water absorption rates for all tested materials are summarized in Table 3, illustrating significant differences between treated and untreated fibers.” Use consistent terminology and style when mentioning tables. Always capitalize “Table” followed by the table number (e.g., Table 4). Avoid abbreviations like “Tab.” Tables should be placed as close as possible to their first mention in the text, typically after the paragraph where they are discussed.

If cross-referencing is needed, ensure the table numbering aligns with the correct figure. For example, “Detailed test results are presented in Tables 4 and 5.” When referring to a table, point out specific data or trends within it to guide the reader. Avoid generic mentions that require readers to interpret the table without guidance. For example, “As shown in Table 6, the polymer blend with 30% filler exhibited the highest thermal stability.” Do not repeat all the data from the table in the text. Instead, summarize or highlight the most critical findings, while directing readers to the table for detailed information. Two examples are given below:

Poor: Table 7 shows that sample A has a modulus of 2.5 GPa, sample B has 2.3 GPa, and sample C has 2.4 GPa.

Better: Table 7 indicates that all samples exhibit similar modulus values, ranging from 2.3 to 2.5 GPa.

* 1. **Writing the equations**

In the manuscript, equations should be numbered sequentially (e.g., Eq. 1, Eq. 2) and referenced in the text using their respective numbers, such as “As shown in Eq. 1...”. For proper formatting, use MathType or any equation editor, that ensures clarity and consistency. Ensure that equations are displayed clearly, and each equation number should appear in parentheses, centered, and to the right of the equation. Referencing should be done accurately to maintain the logical flow and structure of the text.

|  |  |  |
| --- | --- | --- |
|  | $$x\left(t\right)=x\_{N}(t)=A\left(t\right)B$$ | (1) |

Create a table with one row and three columns, without borderlines, as shown in the examples. The width of columns 1 and 3 should be set to 5%, while column 2 should be set to 90%. The equation should be written in column 2, left aligned, and the equation number should appear in column 3, centered in parentheses. Column 1 should remain empty.

|  |  |  |
| --- | --- | --- |
|  | $$x\left(t\right)=x\_{N}(t)=\sum\_{n=0}^{N}\left.a\_{n}\right.B\_{n}(t),$$ | (2) |

* 1. **References and citation style**

The manuscript must follow APA 7th edition referencing style for both in-text citations and the reference list. For detailed guidance, refer to the *Publication Manual of the American Psychological Association*.

All in-text citations should appear at the end of the relevant sentence or paragraph. Use parenthetical citations, such as “(Author, Year)”. For example, “This phenomenon is well-documented (Koca and Sevilgen, 2024).” Another type of in-text referencing is narrative citation, where the author’s name is integrated into the text, followed by the publication year in parentheses. For example, “Görüş et al. (2024) documents this phenomenon in detail.”

Ensure that every source cited in the text appears in the reference list and vice versa. The reference list should include all works referenced in the manuscript and be formatted according to APA 7th edition guidelines. Do not include any reference in the list that has not been cited in the text. Each entry must have a corresponding in-text citation. Double-check that the details of each reference (author names, publication year, title, journal, volume, issue, pages, and DOI) match the in-text citations. The reference list should be alphabetized by the surname of the first author. Use a hanging indent of 1.3 cm for each reference entry.

* 1. **Abbreviations and symbols**

Abbreviations should be defined at their first occurrence in the text and used consistently throughout the manuscript to ensure clarity. For example, “High-Density Polyethylene (HDPE) is commonly used in composite materials.” If the manuscript includes numerous abbreviations, provide a separate list of abbreviations for reference to enhance readability and comprehension.

# Guidelines for Responding to Reviewer Comments

When revising a manuscript based on reviewer feedback, authors must provide clear and detailed responses to all comments. Follow these steps to ensure a smooth revision process:

* 1. **Document responding to reviewer comments**
* Prepare a separate document addressing each reviewer comment.
* Clearly list each comment, followed by your response. Number the comments for clarity if they are not already numbered by the reviewers.
* Specify the changes made to the manuscript in response to each comment. Use direct references to page numbers, sections, or lines in the revised manuscript.
* If a suggestion is not incorporated, provide a brief explanation.

Example format:

Reviewer Comment: “The introduction lacks references to recent studies.”

Author Response: “We have added citations to recent studies on this topic (e.g., Acarer, 2020; Hasanah et al., 2024; Beer et al., 2012) in the introduction on page 2, paragraph 3.”

* 1. **Revised manuscript (clean copy)**

Submit a clean copy of the revised manuscript that incorporates all changes. Ensure the revised document does not include tracked changes or comments, presenting a finalized version suitable for evaluation.

Maintain a professional, respectful tone in all responses. Avoid defensive or dismissive language, even when explaining why a suggestion was not adopted.

Submit your response and revised manuscript within the timeframe specified by the editorial office. Delays may affect the review process.

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Originality is of utmost importance, and the journal maintains a zero-tolerance policy for plagiarism. Manuscripts are routinely checked using plagiarism detection tools like iThenticate to ensure compliance with ethical publishing standards. Authors are strongly advised to verify the originality of their work before submission.

Ethical considerations are critical, especially for studies involving humans or animals. Authors must include the necessary ethical permissions and approvals in their submissions. Manuscripts lacking such documentation may not be accepted.

Non-native English authors are encouraged to seek professional language editing services to enhance the clarity and readability of their manuscripts. The use of advanced Language Learning Models (LLMs), such as AI-based tools, for polishing the language is also recommended. These tools can assist in improving grammar, style, and coherence while saving time.

Supplementary information may be included as appendices. Appendices should be numbered and titled sequentially, such as Appendix A, Appendix B, and so on. Ensure that all supplementary materials are relevant and clearly labeled for ease of reference.

Authors must use SI units and adhere to international standards for measurements and formats. Consistent formatting of units is essential; for example, use “mm” instead of “MM.” This consistency ensures clarity and professionalism in the manuscript.

While online submission is preferred for its efficiency, email submissions are also accepted at admin@scientificrc.org or cevik2002@gmail.com. Ensure that submissions adhere to the guidelines provided to facilitate a smooth review process.

# Authorship Contribution Statement

Single author example: The author is solely responsible for the conceptualization, methodology, data collection, analysis, and manuscript preparation.

Multiple author example: Each author contributed significantly to the study. [Author 1] led the conceptualization and methodology, [Author 2] was responsible for data collection and analysis, and [Author 3] oversaw the manuscript preparation and review. All authors have read and approved the final manuscript.

# Conflict of Interest

The authors declare no conflict of interest.

# Acknowledgments

The author wishes to thank TÜBİTAK for their sponsorship. / This study is supported by XXX University. (Including this information is mandatory if the study is funded or supported by any institution or organization.)

# Data Availability

Data will be made available on request. (Providing this information is optional.)

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