

Journal of Experimental and Theoretical Analyses



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Message from the Editor-in-Chief

The intricate relationship between theory and experiment is the cornerstone of engineering progress. At the *Journal of Experimental and Theoretical Analyses* (*JETA*), we are committed to exploring these connections through rigorous and innovative research. The journal is a dedicated platform for presenting pioneering analyses that push the boundaries of what is possible in engineering.

Our journal serves as a crucial nexus where theoretical insights meet experimental validation, advancing the understanding of complex engineering phenomena. The comprehensive exploration of these topics not only contributes to academic knowledge, but also leads to practical applications that address real-world engineering challenges. We aim to foster a deep appreciation of the methodologies that make these discoveries possible.

As Editor-in-Chief, I encourage submissions that reflect the journal's commitment to excellence in both theoretical and experimental analysis. I look forward to the invaluable insights that our contributors will share as we work together to expand the frontiers of engineering knowledge.

Editor-in-Chief
Prof. Dr. Marco Rossi

Aims

The Journal of Experimental and Theoretical Analyses (JETA) (ISSN 2813-4648) is an international, peer-reviewed, open access journal that publishes research articles, reviews, and technical notes in the field of engineering. Our primary goal is to provide a comprehensive forum for the dissemination of research that bridges the gap between experimental results and theoretical models, with a strong emphasis on analytical methods.

We welcome submissions that advance the understanding of how analytical techniques can be applied to solve complex engineering problems across various specialized fields, including bioengineering, materials science, electrical and electronic engineering, mechanical engineering, environmental engineering, and food engineering. The journal places a strong emphasis on detailed methodological approaches, encouraging authors to provide extensive experimental and/or methodological details to ensure reproducibility of results.

By encouraging a multidisciplinary approach, JETA aims to make a significant contribution to the advancement of engineering science, providing insights that lead to practical applications and the development of new technologies.

By fostering a multidisciplinary approach, JETA seeks to contribute significantly to the ongoing development of engineering science, providing insights that lead to practical applications and the development of new technologies.

JETA also encourages the submission of papers that integrate the use of Al-driven approaches to computational methods, theoretical analysis, imaging and experimental data analysis in regard to the topics reported below.

Scope

Bioengineering analysis:

- Spectroscopy analysis focused on biotechnology;
- Statistical analysis of experiments, e.g.,
 Z- and t-tests, analysis of variance;
- Bio-medical sensors: functional analysis and testing;
- etc.

Material engineering analysis:

- Microscopy analysis techniques (especially TEM (transmission electron microscopy) and SPM (scanning probe microscopy));
- Diffraction techniques;
- Spectrometry techniques (especially FTIR (Fourier transform infrared spectroscopy) and Raman spectroscopy);
- etc.

Electric and electronic engineering analysis:

- Statistical analysis in electric and electronic engineering;
- Noise reduction using statistics;
- Advances in NDT (non-destructive testing) and real-time measurement approaches;
- etc.

Mechanical engineering analysis:

- Modeling, implementation, and testing methods for Additive Manufacturing;
- Stress and failure analysis;
- System analysis;
- etc.

Environmental engineering analysis:

- Statistics for environmental analysis;
- Advances in environmental analytical methods:
- Qualitative and quantitative methods analysis;
- etc.

Food engineering analysis:

- Quality control and traceability of foodstuffs:
- Microextraction methods for analyte determination in complex matrices;
- Volatile compounds in food matrices;
- etc.

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July 2025

