

Matériaux & Techniques

Call for papers Themed Issue on 'Non-Conventional Machining Processes'

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Background

Non-traditional machining, also referred to as "non-conventional machining" or "modern machining," is an innovative method used for material removal, deformation, property alteration, or plating, utilizing various forms of energy like electricity, heat, light, electrochemical reactions, chemical reactions, sound, or specialized mechanical energy.

In contrast to traditional machining techniques such as turning, drilling, shaping, and milling, non-traditional machining processes are preferred when working with extremely hard and brittle materials. These processes prove necessary when traditional methods are not feasible, satisfactory, or cost-effective, the workpiece is excessively flexible or thin, or when intricate shapes are required. To meet such demanding machining conditions and to overcome the limitations of traditional techniques, various types of non-conventional machining processes have been developed, such as ultrasonic machining, laser beam machining, water jet machining, abrasive water jet machining, electron beam machining, and others. These processes are essential for achieving precise accuracy, producing clean and highly finished surfaces, and machining non-machinable or difficult-to-machine materials.

The advantages of non-conventional machining have garnered attention from both the industrial sector and researchers, leading to increased academic publications in this field.

This special volume aims at recent advancements in non-conventional machining, covering a range of topics including product design, process development, process simulation, material properties, and analysis of influencing parameters. By exploring these topics, the volume seeks to further enhance the understanding and application of non-conventional machining techniques for various industries and research endeavors.

Selected papers from The Scientific and Technical Days in Mechanics and Materials (JSTMM), held in December 2022 in Monastir, Tunisia, if accepted after the peer-review, will be published in this special volume.

Aim and Scope of the Themed Issue

This themed issue addresses original research and review articles that contribute to advancing the state-of-the-art of Non-Conventional Machining Processes. The special volume targets the recent theoretical and experimental developments in non-conventional machining and aims to foster collaborative works among researchers and engineers from academia and industry. The scope of this special issue includes, but is not limited to:

- Abrasive jet machining
- Chemical machining
- Electrical discharge machining
- Electrochemical grinding
- Electrochemical machining
- Electrolytic machining
- Electro jet drilling
- Electron beam machining
- Laser beam machining

- Plasma arc machining
- Ultrasonic machining
- Water jet cutting

The papers will be based on the selected communications presented during The Scientific and Technical Days in Mechanics and Materials (JSTMM), organized in Monastir from December 20 to 21, 2022. The submissions will undergo the usual peer-review process of the journal.

Submissions

All relevant papers can be submitted either in English or in French (in this last case, the title and abstract must also be provided in English). The papers will be carefully considered, peer-reviewed by a distinguished team of international experts, and published in accordance to the Journal's standard policies. Full research papers and review articles can be submitted online via the journal's submission and peer review site. When registering, please choose the special issue 'Non-Conventional Machining Processes'.

Article submission and editorial system [here](#).

Please find the instructions for authors at: <https://www.mattech-journal.org/author-information/instructions-for-authors>.

Submission deadline – August 31, 2023

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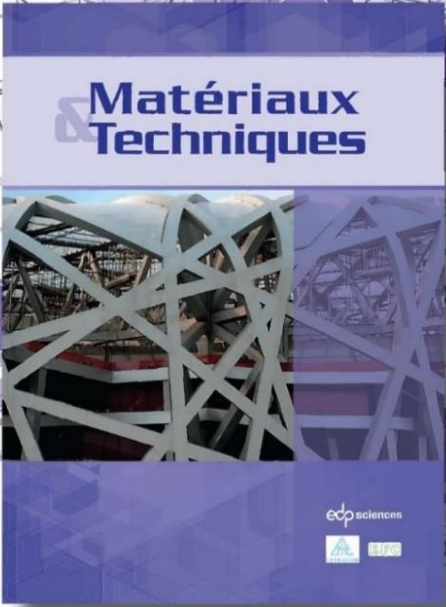
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Matériaux & Techniques

Journal of industrial materials,
their implementation techniques and use

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