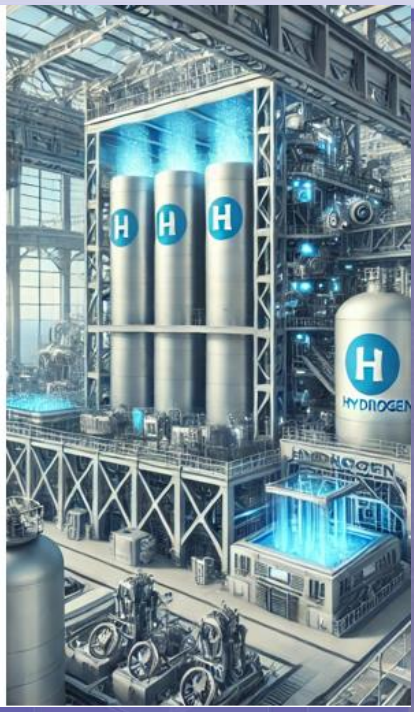
www.mattech-journal.org ISSN 0032-6895

Matériaux & Techniques



Call for papers

Themed Issue on

'Opportunities and Challenges of Hydrogen Use for Steelmaking Decarbonization'

Guest Editors:

Dr. Ismael Matino, Scuola Superiore Sant'Anna, Pisa, Italy
Prof. Valentina Colla, Scuola Superiore Sant'Anna, Pisa, Italy
Dr. Akhilesh Swarnakar, European Steel Technology Platform (ESTEP), Bruxelles, Belgium

Background

European Green Deal requires significant efforts from the steelmaking sector to achieve the expected targets of greenhouse gas emissions reduction and climate neutrality. Hydrogen exploitation is considered one of the most promising solutions towards decarbonized and green steel production. It can be exploited to improve sustainability of existing upstream and downstream processes and it is at the basis of new C-lean steelmaking production routes. Hydrogen, indeed, can allow replacement of fossil-carbon sources by also decreasing dependence from markets that are often geopolitically unstable. For this last reason, hydrogen is considered strategic also in other industrial fields. However, despite several opportunities and advancements in the field, further technological improvements are required, limitations and challenges have to be addressed concerning, for instance, infrastructure, safety and permitting issues, upskilling and social aspects.

Aim and Scope of the Themed Issue

The aim of this special issue is to achieve the following goals:

- providing updates about the hydrogen-based steelmaking also covering aspects related to opportunities and limitations, operating conditions challenges and optimization;
- addressing topics belonging to hydrogen-based heating technologies in downstream metal processes and in other sectors;
- covering further opportunities of hydrogen exploitation in the steelmaking sector as well as carbon capture and usage;
- highlighting existing issues related to safety and regulatory frameworks for hydrogen exploitation;
- giving elements of renewable energy and hydrogen integration including aspects related to hydrogen availability and related infrastructures;
- focusing on aspects related to upskilling requirements and social aspects to be addressed.

ESTEP
European Steel Technology Platform
H_2 FOR GREEN STEEL
3rd INTERNATIONAL CONFERENCE

The articles will be based on presentations in the H_2 for Green Steel 3rd International Conference held during the ESTEP Annual Event 2024 (https://www.estep.eu/events/estep-annual-2024); further contributions are possible by invitations to high level contributors working in the topic areas covered by this special issues.

Submissions

All relevant 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, technical papers and review articles can be submitted online via the journal's submission and peer review site. Please register choosing the title of the special issue 'Opportunities and Challenges of Hydrogen use for steelmaking decarbonization'.

Please find the instructions for authors at **https://www.mattech-journal.org/author-information/instructions-for-authors** and the Word template at **https://www.mattech-journal.org/doc_journal/instructions/EDP-template_02.docx**; LaTeX Template will be available under demand to mattech@edpsciences.org

Submission deadline – May 31st 2025

Article submission and editorial system **here.**

Charges

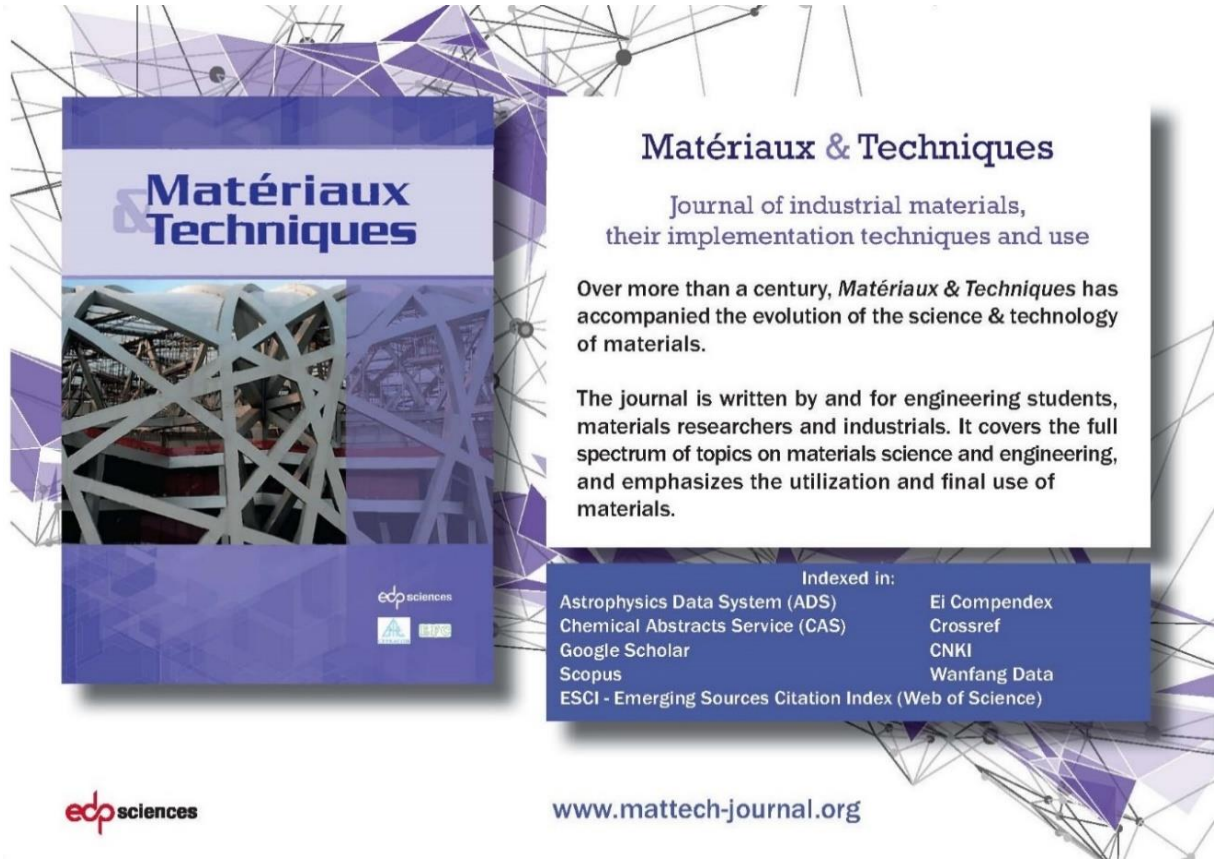
1. There is no submission charge in **Matériaux & Techniques**.

2. For papers that have not chosen the Open Access Option (those papers will be read only by subscribers), there are **no publication charges.**

3. **Open Access Option**
   To favour a broad and easy access to all published scientific information, *Matériaux & Techniques* uses a service called Open Access Option (OAO). It offers the possibility for authors to make their papers freely available to all interested readers (subscribers or non-subscribers) as soon as the articles are published online, in exchange for payment of a basic fee of 1600 € (for 2024).

   - ***Special discount concerning this Special Issue***
     A reduced Article Processing charge (APC) of 900 € *(instead of 1600 euros)* ***is proposed to the Authors in this Special Issue.*** *Please note that the APC has to be paid only if a paper has been accepted. The payment will be due after peer-review in the journal. If corresponding author comes from French institutions having signed the National Open Access agreement in France, Open Access publication is allowed without any fee.*

General information about Matériaux & Techniques



Abstracted/Indexed in:

- Astrophysics Data System (ADS)
- Cabells journalytics
- Chemical Abstracts Service (CAS)
- Compendex®
- Crossref
- CNKI
- ESCI - Emerging Sources Citation Index (Web of Science)
- Google Scholar
- Scopus
- Wanfang Data

2023 Impact Factor*: 1.3

2023 5-Year Impact Factor*: 0.7

*Journal Citation Reports™ from Clarivate, 2024