

Special Issue

Multiscale Modelling and Crystal Plasticity of Metals

Message from the Guest Editor

The following fields are of high-interest to the progress of multiscale modelling: 1) the development of algorithms for the accurate generation of synthetic microstructures, i.e., based on microstructure geometrical descriptors, statistics, or artificial intelligence; 2) the development of multiscale bridging and optimization methods to speed up the numerical computation of statistical and high-resolution synthetic microstructures as well as to enable the application to component scale; 3) the understanding and proper management of material properties needed in multiscale modelling (i.e., constitutive behaviour of the individual phases and their mechanical interactions) with respect to the microstructural characteristics resulting from the applied thermal processing; and 4) smart strategies to compare simulations output results with experimental results at different length-scales. For all the above-described aspects, this Special Issue aims to present the latest research findings in the field of multiscale modelling of metallic alloys for structural applications.

Guest Editor

Dr. Carola Celada-Casero

Materialia Research Group, Centro Nacional de Investigaciones Metalúrgicas (CENIM-CSIC), Av. Gregorio del Amo 8, 28040 Madrid, Spain

Deadline for manuscript submissions

closed (29 February 2024)



Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



mdpi.com/si/147590

Crystals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
crystals@mdpi.com

mdpi.com/journal/

[crystals](https://mdpi.com/journal/crystals)





Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



[mdpi.com/journal/
crystals](https://mdpi.com/journal/crystals)



About the Journal

Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University of Pisa, 56126 Pisa, PI, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Crystallography) / CiteScore - Q2 (Condensed Matter Physics)