Special Issue

Halogen and Chalcogen Bonding in Crystal Design

Message from the Guest Editors

Halogen (XB) and chalcogen bonds (ChB) are two subclasses of noncovalent interactions and they are studied in a diverse range of fields such as crystal engineering, molecular recognition, materials science, synthesis, catalysis, etc.

There are two main factors that make XBs and ChBs extremely useful tools in the design of 1D, 2D or 3D crystal structures – their high directionality and the possibility of modulating their strength through introducing an electron-withdrawing/releasing group at the core structure of molecules. Thus, the rational selection of substrates can result in the formation of supramolecular architectures, which in turn determine the properties of the obtained materials.

In this context, expanding the knowledge of XBs and ChBs is of fundamental importance. Thus, this Special Issue, "Halogen and Chalcogen Bonding in Crystal Design", intends to gather scientific papers on recent advances in the construction of organic, inorganic or hybrid crystalline materials where XB and ChB are involved. All approaches will be considered, including original theoretical papers, experimental studies, and review reports.

Guest Editors

Dr. Teresa Olszewska

Prof. Dr. Jarosław Chojnacki

Dr. Jan Alfuth

Deadline for manuscript submissions

30 November 2025

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/222694

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

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)

MDPI