



## X-ray Technologies for Chemical and Material Applications

Guest Editors:

**Dr. Yohei Uemura**

FXE Beamline, European XFEL,  
22869 Schenefeld, Germany

**Dr. Kiyofumi Nitta**

Japan Synchrotron Radiation  
Research Institute, SPring-8, 1-1-1  
Kouto, Sayo, Hyogo 679-5198,  
Japan

**Prof. Dr. Hiroki Wadati**

Graduate School of Material  
Science, University of Hyogo, 3-2-  
1 Kouto, Kamigori-cho, Ako-gun,  
Hyogo 678-1297, Japan

Deadline for manuscript  
submissions:

**closed (15 January 2022)**

### Message from the Guest Editors

Dear Colleagues,

X-rays are widely utilised in materials research as a basic characterisation tool to determine the atomic coordination or electronic properties of materials. It is possible to monitor dynamic changes in chemical systems or materials (i.e., in situ/operando measurements) using synchrotron facilities (SRs). Recent developments in 3rd/4th-generation SRs and X-ray free electron lasers (XFELs) have brought new opportunities to observe/characterise a tiny part of materials or address heterogeneities inside substances on a small scale (i.e., micrometre or nanometre) by focusing X-rays.

Research utilising advanced X-ray methodologies should be a main topic. However, research related to the development of new X-ray techniques/instruments or state-of-the-art techniques are very welcome. This Special Issue is intended to be a showcase for recent progress on applications of advanced X-ray techniques.





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Giulio Nicola Cerullo**  
Dipartimento di Fisica,  
Politecnico di Milano, Piazza L.  
da Vinci 32, 20133 Milano, Italy

## Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

## 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, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q1 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

## Contact Us

---

Applied Sciences Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/applsci](http://mdpi.com/journal/applsci)  
[applsci@mdpi.com](mailto:applsci@mdpi.com)  
[X@Applsci](#)