

Special Issue on Characterization and Nanofabrication with Multisource Scanning Beams Techniques

CALL FOR PAPERS

The combination of Focused Ion Beam (FIB) and Scanning Electron Microscopy (SEM) was originally a specialized, high energy, scanning Gallium ion and electron beam technique, dedicated to failure analysis in the semiconductor industry. Now it has been developed to be a multifunctional platform with multiple source scanning beams for both nanofabrication and the characterization of advanced materials, and it is utilized in research institutes worldwide.

The creation of many different pioneering FIB/SEM-based techniques has influenced an exponential growth in the volume of possible applications of this scanning technology, across a variety of disciplines. The aim of this special issue is to provide resource for the variety of FIB-SEM applications and become a comprehensive guide both for FIB developers and all levels of users.

The scope of this special issue on FIB-SEM applications includes original research, as well as review articles that describe the current state of the art. We strongly encourage all researchers with work experiences on FIB-SEM applications to share their experiences with using this type of scanning in their specialized academic and technical areas, particularly submissions relating to the current development of emerging techniques, such as Cryo-FIB and plasma FIB applications.

Potential topics include but are not limited to the following:

- ▶ In situ scanning measurements of advanced materials using FIB/SEM techniques
- ▶ Characterization of thin films with FIB/SEM scanning techniques
- ▶ FIB/SEM scanning implantation and surface modification for 2D materials
- ▶ FIB-based Secondary Ion Mass Spectrometry (SIMS) and scanning techniques for elemental reconstruction
- ▶ FIB scanning techniques for porosity and grain size analyses
- ▶ Failure analysis of nanodevices with FIB-SEM techniques
- ▶ Application of plasma FIB to large volume reconstruction
- ▶ Current developments of Cryo-FIB applications in biological materials
- ▶ Recent developments of multisource FIB-SEM instrumentation
- ▶ Fabrication of site-specific specimens using FIB-SEM

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/scanning/afbmm/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Charlie Kong, University of New South Wales, Sydney, Australia
c.kong@unsw.edu.au

Guest Editors

Brandon Van Leer, Thermo Fisher Scientific, Hillsboro, USA
brandon.van.leer@thermofisher.com

Gareth M. Hughes, University of Oxford, Oxford, UK
gareth.hughes@materials.ox.ac.uk

Hai-Feng Du, Hefei Institutes of Physical Sciences, Hefei, China
duhf@hmfl.ac.cn

Juliane Weber, University of Arizona, Tucson, USA
julianeweber@email.arizona.edu

Submission Deadline

Friday, 3 January 2020

Publication Date

May 2020