

Journal of Semiconductors

(<http://iopscience.iop.org/journal/1674-4926>)

A Special Issue on

“Semiconducting Materials Genome: New Concepts and Discoveries”

CALL FOR PAPERS

Advanced functional materials have many applications in clean energy, national security, health, and information technology, thus they are critical to economic development, national defense, and human welfare. History has witnessed many revolutionary progresses after new technology-enabling materials are discovered such as iron and more recently novel semiconductors. However, in the past, many important technology-enabling materials were discovered by trial and error, which tends to take long time to discover and move them from research laboratory to market. Therefore, accelerating the pace of discovery and deployment of advanced functional materials are crucial to achieving rapid development in the 21st century.

In recent years, great progresses have been made in theory and computational algorithms together with the availability of high-performance computing power. Computational materials science now has been widely used in the simulation, modeling, optimization, and design of complex semiconducting materials. Recently, there have been major developments in the theoretical search and design of new functional materials using materials genome techniques and high-throughput calculations with many of the application on semiconducting materials. These recent advances in the ability of new material discoveries have transformed our understanding of the field and provided both opportunity and challenge in developing new semiconductor technology.

To continue accelerating this important research progress, we are glad to announce this special topical issue. We invite submission of original research articles/communications and comprehensive review papers on the following related topics: material genome techniques, high-throughput calculations, machine learning, modeling and simulation of semiconducting materials.

GUEST EDITORS

Su-Huai Wei, Beijing Computational Science Research Center, Beijing 100193, China

E-mail: suhuaiwei@csrc.ac.cn

Jun-Wei Luo, Institute of Semiconductors, Chinese Academy of Sciences, Beijing 100083, China

E-mail: jwluo@semi.ac.cn

Bing Huang, Beijing Computational Science Research Center, Beijing 100193, China

E-mail: bing.huang@csrc.ac.cn

Manuscript Submission

Manuscripts must be prepared according to Journal's guidelines, available at <http://iopscience.iop.org/journal/1674-4926>.

Submit your manuscripts directly via the online submission address at <https://mc03.manuscriptcentral.com/jos-iop> or directly to the listing guest editors via the e-mail addresses above.

Key timetable dates

Manuscript due: **August 31, 2017**

Authors' notification: **September 30, 2017**

Online publication date: **October 30, 2017**

Print publication date: **January 20, 2018**