

# 第113回フロンティア材料研究所講演会

講師: Professor Jing-Feng Li

School of Materials Science and Engineering,  
Tsinghua University, Beijing, China

10月3日(木) 10時半～ R3棟1階セミナー室にて

## 演題: **Lead-free Niobate-based Perovskite Piezoelectrics: From Bulk to Thin Film**

Developing high-performance lead-free piezoelectrics has been one of the most active materials research topics in the last decades, and extensive studies have been concentrated on sodium potassium niobate (K,Na)NbO<sub>3</sub> (KNN), whose piezoelectricity has been pushed to a high level close to that of PZT family. This talk will give an overview on our research activities to develop high-performance KNN-based lead-free piezoceramics, of which the overall performances are superior to the other representative lead-free piezoelectric ceramics and are comparable to the commercialized PZT-based ceramics. I will also introduce our works on the sol-gel processing techniques and characterization of KNN-based thin films, which have received increasing attention because of their promising applications in microelectromechanical systems and some emerging nanotechnologies.

Prof. Jing-Feng Li is Changjiang scholar distinguished professor, School of Materials Science and Engineering, Tsinghua University, and also serves as deputy director of Tsinghua University-Toyota research center and Director of the Center for New Energy Materials, School of MSE, Tsinghua University. His research interests include piezoelectric and thermoelectric materials as well as their MEMS microfabrication technologies. He has published >450 papers (cited>14000, h-index 64) and co-authored 2 books, 5 book chapters, holds 34 patents, delivered 80 invited/keynote/plenary talks in international conferences. Prof. Li is now an Editor-in-Chief of Journal of Materiomics and Journal of the Chinese Ceramic Society.

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