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# Call for Papers

Submit an Abstract

Deadline: October 28, 2021, 11:59 pm EDT

Please contact the symposium organizers with questions.

## Symposium SF10—Emerging Functional Materials and Interfaces

Progress in delicate control of interfaces, defects, surfaces, and geometrical configurations, plays a key role in the development of emerging materials with novel functionalities. This symposium focuses on recent advances in the area of functional materials and their interfaces displaying diverse properties, such as ferroelectricity, ferromagnetism, multiferroicity, high-*k* dielectrics, ion conduction, and novel quantum phenomena.

Topics of interest include the advances in modeling, rational design of new functional oxides, control over strain, interfaces, composition, defects and dopants, structural and functional imaging, such as scanning probe and electron microscopies providing information on local functionality including electronic and dielectric properties with a broad range of spectroscopies. The goal of this symposium is to provide an interdisciplinary forum for researchers from academia, national laboratories, and industry with expertise in theory and modeling, growth, characterization, and device fabrication and measurements to discuss novel functionalities, key challenges and opportunities in these multifunctional oxides and interfaces. We will also encourage submissions that are focused on new approaches to functional material discovery by using new high-throughput strategies in combination with materials informatics.

## Topics will include:

Interplay of charge, spin, orbital, lattice correlations for novel multiferroicity and quantum phenomena
Thickness, interface, composition, defects, strain engineering in oxides and heterostructures
Ferroelectricity in hafnium oxide thin films and novel high-k dielectrics
Interfacial ion transport behavior
Structural and functional imaging at the atomic scale
Material discovery, modeling, and machine learning-assisted characterizations

## Invited Speakers (tentative):

**Nina Balke** (North Carolina State University, USA)
**Laurent Bellaiche** (University of Arkansas, USA)
**Albina Y. Borisevich** (Oak Ridge National Laboratory, USA)
**Woo Seok Choi** (Sungkyunkwan University, Republic of Korea)
**Sung-Yoon Chung** (Korea Advanced Institute of Science and Technology, Republic of Korea)
**Michele Conroy** (Imperial College London, United Kingdom)
**Alexander A. Demkov** (The University of Texas at Austin, USA)
**Sinead Griffin** (Lawrence Berkeley National Laboratory, USA)
**Ryo Ishikawa** (The University of Tokyo, Japan)
**Robert Klie** (University of Illinois at Chicago, USA)
**Eunha Lee** (Samsung Advanced Institute of Technology, Republic of Korea)
**Stephen McVitie** (University of Glasgow, United Kingdom)
**Ramesh Ramamoorthy** (University of California, Berkeley, USA)
**Quentin Ramasse** (SuperSTEM, United Kingdom)
**Jayakanth Ravichandran** (University of Southern California, USA)
**Wenhao Sun** (University of Michigan, USA)
**Jiaqiang Yan** (Oak Ridge National Laboratory, USA)
**Xiuzhen Yu** (RIKEN, Japan)

# Symposium Organizers

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