



IEEE  
**ISAF 2025**  
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# CALL FOR PAPERS

## DEADLINES

**20 December 2024**

Abstract Submission

**31 March 2025**

Author Registration Deadline

**14 February 2025**

Acceptance Notification

**12 July 2025**

Proceedings Deadline

## ISAF TOPICS

- » Fundamentals of ferroelectrics and multiferroic materials (theory, modeling and experiments)
- » Processing of piezoelectric crystals, ceramics, thick and thin films, composites, polymers, glassceramics and MLCCs
- » Emergent Ferroelectrics, Dielectrics, and Piezoelectrics (Fluorite Ferroelectrics, Wurzites, Lead-free, Hybrid materials)
- » Structure characterization and properties of ferroelectric materials (dielectric, piezoelectric, ferroelectric, pyroelectric, electrocaloric, flexoelectric, photovoltaics, and photocatalytics, etc.)
- » Applications of ferroelectrics (sensing, transducing, thermal imaging, energy harvesting, and storage, etc.)

## ISIF TOPICS

- » Materials for non-volatile memory and neuromorphic computing (including ferroelectrics, phase change, RRAM, magnetic)
- » Integrated dielectrics (energy storage, 5G, high K, gate dielectrics)
- » Piezoelectric MEMS and NEMS (resonators, energy harvesters, sensors, actuators, and transducers)
- » Wearable and implantable devices (biosensing, neural stimulation, prosthetics, hard coatings)
- » Processing routes for heterogeneous materials integration (oxides, chalcogenides, metals, and carbons)
- » Hybrid perovskites (photovoltaics, nonlinear optics, semiconductors)

## PFM TOPICS

- » Instrumental aspects of PFM, ESM, SS-PFM, and related techniques
- » Nanoelectromechanics of materials and PFM/ESM theory
- » Ferroelectric tunnelling and memristor effect via PFM/ESM
- » Multiferroic phenomena on the nanoscale
- » Disordered ferroelectrics and mesoscopic effects by PFM
- » Ferroelectric data storage and polarization lithography
- » Ionic conductors, battery materials, and fuel cells on the nanoscale
- » Ferroelectric photovoltaics and tip-enhanced phenomena
- » Ferroelectric semiconductors and surface phenomena
- » Interface engineering via PFM
- » Biocompatible & organic polar materials on the nanoscale
- » 1D and 2D nanostructured materials via PFM

## ICE TOPICS

- » Solid Electrolytes and Mixed Dynamics: Fundamental Aspects
  - cation and anion dynamics in ceramic materials
  - defects and transport in oxides incl. surfaces and interfaces
  - mixed conducting ceramics and opto-ionics
- » Electroceramics: Preparation, Characterization and Devices
  - memory devices: memristors, ferroelectric/magnetic memories
  - sensors and actuators (thermistors, varistors)
  - advanced characterization techniques and ceramic/thin film processing
- » Electroceramics Inspired by Energy Applications
  - ceramics for energy conversion: thermoelectric, piezoelectric generators, photo-assisted processes
  - all-solid-state batteries, metal batteries
  - solid oxide fuel cells, electrolysis cells
  - interfaces in energy systems, electrochemical interfaces

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