



IEEE T-UFFC CALL FOR PAPERS

Special Issue on:

Recent advances in piezoelectric materials for electromechanical transducer applications.

Since the time Joseph Valasek (then Ph.D. student at University of Minnesota) discovered ferroelectricity in 1920 a smidge longer than 100 years ago it made an enormous impact on science and technology. Whereas Dr. Valasek's original research motivation was prompted by the need to develop an earthquake sensor, at present the ferroelectric materials are included in high energy capacitors, energy harvesting systems, night vision sensors, transmitters and receivers in underwater acoustics and diagnostic and therapeutic transducers in biomedical ultrasonics for not mentioning a bevy of actuators. In short, thanks to their outstanding piezoelectric properties, ferroelectrics are the mainstay materials for numerous electromechanical devices, such as already mentioned medical imaging transducers, actuators and ultrasonic motors, to name a few. The progress in the past 100 years was huge and it does continue: for example, the piezoelectric coefficient d of ferroelectrics has increased from a few pico-Coulomb per Newton to thousands pico-Coulomb per Newton, for the benefit of all sensing and actuating devices.

To celebrate the 100th anniversary of the discovery of Ferroelectrics, IEEE Transaction on Ultrasonic, Ferroelectrics and Frequency Control plans to launch a special issue focusing on the piezoelectricity of ferroelectrics and its ever-expanding applications. The initiative is spearheaded by the **Guest Editors:** Fei Li, Andrew Bell, Dragan Damjanovic, Wook Jo, Zuo-Guang Ye and Shujun Zhang.

The wide range of topics selected for this special issue includes, but is not limited to:

- PbTiO₃ based ferroelectrics
- Lead-free ferroelectrics
- Relaxor-PT ferroelectric crystals
- Textured ferroelectric ceramics
- Organic and polymeric ferroelectrics
- High temperature piezoelectrics
- Novel processing (including cold sintering) of piezoelectrics
- Novel concepts for ferroelectric material design
- Emerging piezoelectric applications

- Electrostriction effect for electromechanical applications

Manuscript submission:

Both “Research Paper” or “Review Paper” manuscripts are welcome.

The instructions to authors, can be accessed [here](#).

The authors are also encouraged to familiarize themselves with the [guidelines](#) that would markedly facilitate preparation of the manuscript.

The deadline for submissions: **March 31st, 2022.**

We sincerely hope that you will contribute to this special issue and look forward to your submission(s).