Special Issue

Non-toxic Actuator Materials

Message from the Guest Editor

There are five key trends in the recent development of actuator materials: "*Performance to Reliability*", "*Hard to Soft*", "*Macro to Nano*", "*Homo to Hetero*" and "*Single to Multi-Functional*". This Special Issue will collect papers on Non-Toxic Actuator Materials. Worldwide toxicity regulation is accelerating the development of Pb-free piezoelectrics as a replacement for conventional PZTs. Piezoelectric polymers and polymer–piezoelectric ceramic composites have been revived and commercialized. "Homo to hetero" structure change is also a recent research trend. Topics of interest include:

- Advanced Pb-free actuator (piezoelectric/ electrostrictive) ceramic materials;
- Polymer actuator materials (including elastomer actuator materials);
- Non-toxic composite actuator materials;
- Non-toxic flexoelectric actuator/sensor materials;
- Other unique non-toxic actuator materials.

Guest Editor

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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