

# IEEE Transactions on Haptics: Call for Papers

## Special Issue on Applications of Smart Materials to Haptics

The emergence of flexible displays and wearable devices that are not only small, thin and light weight, but also mechanically robust requires novel haptic interfaces. These interfaces rely on soft, small and power efficient actuators and sensors that can be embedded in flexible displays and wearable devices. In the area of materials science, various types of electro-active materials have been investigated for some time. For example, electroactive polymers (EAPs) have been proposed as one class of materials for flexible actuators and sensors. Besides electrically controlled smart materials, magnetic composites such as magnetorheological elastomers and fluids have also demonstrated a high potential for haptic applications and are especially promising if the magnetic field generation can be configured to be lightweight and flexible. Owing to their benefits that include low mass, flexibility, non-geometric constraints, cost effectiveness, and miniaturization, soft actuators configured in a thin film are potentially available for use in haptic interfaces for flexible touchscreens, braille displays, and wearable tactile devices. Soft actuators and sensors also have many applications in artificial muscles, biomimetic robots, MEMS devices as well as in haptic interfaces. However, many issues such as power consumption and scalability are open research topics that need to be tackled in order for this type of actuator and sensor to be commercially viable.

The scope of this special issue includes applications of smart materials to the creation of haptic systems (e.g. sensors, actuators), and also fabrication techniques and power optimization for these systems.

Topics of interest include:

- **The design and implementation of flexible actuators and sensors based on smart materials**
- **Applications of new actuator and sensor technologies to haptics**
- **Studies highlighting the capabilities and performance of new actuator and sensor technologies**

### Timeline

May 1, 2017	Deadline for paper submissions
July 1, 2017	First decisions to authors
September 1, 2017	Second decisions to authors
November 1, 2017	Final publication materials due from authors
December 1, 2017	Special issue publication

### Submission Process

Visit <http://www.computer.org/toh> to view formatting requirements, and submit your paper at <https://mc.manuscriptcentral.com/th-cs>. When uploading your paper please select the appropriate special issue title under the category "Manuscript Type."

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