

## Call for Papers

### Special Section on Tactile Robotics

#### Aims and Scope

Like for humans, the sense of touch is essential for future robots to interact with the physical world and perform dexterous tasks. Over 10 years ago, IEEE Transactions on Robotics ran a special issue on the ‘Robotic Sense of Touch’ that had a major impact on the community. In the intervening years, tactile data has been collected widely from various touch sensors and skins that has enabled tactile intelligence in various robotic applications. Works on tactile robotics have been covered by many workshops and tutorials in the most prestigious robotics conferences. Given the huge advances that have taken place in robotics in the last decade, and the unique opportunity that tactile information presents for robot dexterity, it is timely to have this special section on tactile robotics. Researchers from academia and industry are invited to submit their original results or review papers on Tactile Robotics.

The scope of this special section includes, but is not limited to, the following topics:

- Tactile sensors and skin designs
- Sensors and actuators for robot touch
- System-level integration of tactile sensors in robots
- Active touch sensing
- Bio-inspired tactile dexterity
- Tactile-based manipulation
- Interpretation of tactile data
- Deep learning for tactile perception
- Physical interactions by touching
- Tactile dexterity
- Interplay of tactile dexterity with other sensory modalities
- Tactile sensing for soft robotics
- Benchmarks for tactile robotics
- Tactile servoing
- Embodied cognition with touch
- Modeling/simulation for touch

We welcome top-quality original (unpublished) articles and review papers, following the [IEEE T-RO journal instructions for authors](#). Each submission will be peer-reviewed and the selection of papers will be based on their originality, impact, and relevance to the scope of the special issue. To ensure that all manuscripts are correctly identified for evaluation for the special section, please select “**Tactile Robotics**” in the [submission process](#).

#### Important Dates

- Submissions open: June 1, 2023
- Submissions close: ~~October 31, 2023~~ February 1, 2024
- Expected publication date: 2024

**Overseeing editor:** Mark Yim, University of Pennsylvania

#### Guest associate editors

**Shan Luo** ([shan.luo@kcl.ac.uk](mailto:shan.luo@kcl.ac.uk)), King’s College London, UK

**Nathan Lepora** ([n.lepora@bristol.ac.uk](mailto:n.lepora@bristol.ac.uk)), University of Bristol, UK

**Wenzhen Yuan** ([yuanwz@cmu.edu](mailto:yuanwz@cmu.edu)), Carnegie Mellon University, USA

**Kaspar Althoefer**, ([k.althoefer@qmul.ac.uk](mailto:k.althoefer@qmul.ac.uk)), Queen Mary University of London, UK

**Gordon Cheng** ([gordon@tum.de](mailto:gordon@tum.de)), Technische Universität München, Germany

**Ravinder Dahiya** ([r.dahiya@northeastern.edu](mailto:r.dahiya@northeastern.edu)), Northeastern University, Boston, USA