

## CALL FOR PAPERS

ASME Journal of Mechanisms and Robotics

### Special Issue on Mechanisms and Robots for Safe Human-Robot Physical Interaction

#### Description

Humans and robots are expected to coexist, collaborate, and interact in service domains ranging from industrial, medical, rehabilitation, and assisted living environments. The physical proximity and active physical interactions (between humans and robots) creates a need for ensuring the safety of the human user. Safety and performance can now be ensured through a range of design sensing and control approaches.

This special issue will mainly focus on solutions for achieving safe physical human robot interaction (PHRI) within the context of the application domains outlined above. We encourage papers focused on PHRI safety that present novel contributions in areas such as:

- Safety related devices and applications for healthcare, surgery, and elder care
- Passive and active safety mechanisms for human-robot interaction, including minimal actuation mechanisms, e.g., statically balanced devices; under actuated mechanisms; toggle and break-away/bistable mechanisms for limiting interaction
- Compliant mechanisms, series-elastic actuation, continuum robots, soft robots, and wearable assistive technologies
- Active safety for human-robot interaction including robots with direct sensing of contact/forces/joint effort, estimation of contact, robots with intelligent control for enforcing safety during physical human-robot interaction
- Safe multi-point physical interaction haptic interfaces

#### Publication Target Dates

- Paper Submission Deadline: **February 28, 2019**
- Initial Review Completed: **April 1, 2019**
- Final Manuscripts Due: **May 6, 2019**
- Special Issue Publication Date: **August 2019**

Accepted papers will be published online AS SOON AS THE ENTIRE ISSUE IS READY, and in the August 2019 print issue of the ASME Journal of Mechanisms and Robotics.

#### Submission Instructions

Papers should be submitted electronically to the Journal at <http://journaltool.asme.org>. If you already have an account, log in as an author, and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps to create an account. In either case, at the **Paper Submittal page**, select the **Journal of Mechanisms and Robotics** and then in the special-issue dropdown menu choose "*Mechanisms and Robots for Safe Human-Robot Physical Interaction*". Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

#### Special Issue Editor

**Venkat Krovi, PhD**

Michelin Endowed Chair

Professor of Vehicle Automation

Mechanical Engineering and Automotive Engineering

Clemson University

[vkrovi@clemson.edu](mailto:vkrovi@clemson.edu)

#### Special Issue Guest Editors

**Nabil Simaan, PhD**

Professor of Mechanical Engineering Computer Science

and Otolaryngology

Vanderbilt University

[nabil.simaan@Vanderbilt.edu](mailto:nabil.simaan@Vanderbilt.edu)

**Carl A. Nelson, PhD**

Professor

Department of Mechanical and Materials Engineering

University of Nebraska–Lincoln

[cnelson5@unl.edu](mailto:cnelson5@unl.edu)

**Med Amine Laribi, PhD**

Associate Professor

PPRIME Institute, UPR 3346

CNRS – University of Poitiers – ISAE-ENSMA

[med.amine.laribi@univ-poitiers.fr](mailto:med.amine.laribi@univ-poitiers.fr)