

## Call for Contributions

**1. Inform the Chair:** with the Title of your Contribution

**2. Submission URL:**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=COGNITIVE+2018+Special>

Please select Track Preference as **AHRI**

### Special track

## **AHRI: Assisting Humans through Robotics in Industry 4.0**

### **A Human-centered Framework Enabling Cooperation and Performance Augmentation**

Chair and Coordinator: PhD Loris Roveda, ITIA-CNR, Italy

[loris.roveda@itia.cnr.it](mailto:loris.roveda@itia.cnr.it)

along with

COGNITIVE 2018, The Tenth International Conference on Advanced Cognitive Technologies and Applications

<http://www.aria.org/conferences2018/COGNITIVE18.html>

The fourth industrial revolution is expected to deeply change the future manufacturing and production processes, leading to Smart Factories that will benefit from the design principles of Industry 4.0. Robotics plays a key role in this development, since the capabilities of the robotic systems (e.g., sensing, mapping, localization, navigation, motion control technologies) are reaching a sufficient maturity level, defining a new class of smart robots allowing higher levels of dexterity and flexibility, the ability to learn tasks without formal programming and to autonomously collaborate with other autonomous devices and human operators, thus reaching also non-manufacturing industries and fields.

In such a scenario, assisting humans is a main point to be achieved. Robotics aims at assist operators at both application planning and execution levels. In such a way, a more flexible and efficient production will be the target result, relieving humans from heavy and onerous physical applications, and placing him/her in a central added-value role.

#### **Topics include, but not limited to:**

- Machine learning for human-robot interaction optimization;
- Teaching-by-demonstration;
- Task planning and task allocation;
- Virtual and augmented reality;
- Human robot cooperation;
- Interaction control design;
- Shared control;
- Safety;
- Safe and compliant actuation design and control;
- Sensor fusion for safe and redundant human-robot cooperation;
- Human tracking in cluttered environments.

#### **Contribution Types**

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on [www.aria.org](http://www.aria.org)]
- Presentations: slide only [slide-deck posted on [www.aria.org](http://www.aria.org)]
- Demos: two pages [posted on [www.aria.org](http://www.aria.org)]

## **Important Datelines**

- Inform the Chair: As soon as you decided to contribute
- Submission: Nov 3, 2017
- Notification: Dec 3, 2017
- Registration: Dec 17, 2017
- Camera ready: Jan 15, 2018

*Note: These deadlines are somewhat flexible, providing arrangements are made ahead of time with the chair.*

## **Paper Format**

- See: <http://www.iaia.org/format.html>
- Before submission, please check and comply with the editorial rules: <http://www.iaia.org/editorialrules.html>

## **Publications**

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iaiajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

## **Paper Submission**

<https://www.iaiasubmit.org/conferences/submit/newcontribution.php?event=COGNITIVE+2018+Special>

Please select Track Preference as **AHRI**

## **Registration**

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaia.org/registration.html>

## **Contact**

Chair: Loris Roveda, ITIA-CNR, Italy [loris.roveda@itia.cnr.it](mailto:loris.roveda@itia.cnr.it)

Logistics: [steve@iaia.org](mailto:steve@iaia.org)