

September 12 – 15, 2017 - Limassol, Cyprus

Call for Papers / Invitation to Special Session

SS07. Safe Human-Robot Collaboration

Special Session Organizers

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Aim:

The special session is promoted within the FourByThree project (<http://www.fourbythree.eu/> - FoF H2020) and is organized in synergy within the “Track 7 - Intelligent Robots & Systems” of ETFA 2017.

Industrial robots have previously demonstrated their excellence in industrial applications requiring dexterity, accuracy and efficiency. This is especially the case for large production batches, repetitive operations, and risky or unpleasant working conditions. However, when collaboration between robots and workers is required, including working in a shared space, it is often not feasible to use standard robots due to safety concerns. Safe robotic products have appeared on the market, but they lack flexibility (e.g., in terms of possible physical configurations) or are often prohibitively expensive. Furthermore, currently available collaborative robots are offered as isolated products. They are limited by fixed, rigid programming mechanisms, and do not come with integrated, rich perception capabilities or adequate responsive behaviours.

This special session aims to gather contributions in human-robot collaboration that respond to the challenge of creating new technologies and robotic solutions based on innovative hardware and software enforcing efficiency and safety. Such solutions should address real industrial needs providing suitable applications in possible human-robot scenarios in a given workplace without physical fences, i.e., coexistence (human and robot conduct independent activities) and collaboration (they work collaboratively to achieve a given goal).

This special session will be focusing on (but not limited to) the following topics:

- How safe are today's robots to allow human-robot interaction in shared workspaces?
- What are the best technologies currently available to achieve safe robots?
- Human perspective (including trust towards and acceptance of robotic systems);
- How can planning and scheduling be applied to the safe human-robot interaction problem?
- What role do validity, verification and dependability play in safe human-robot interactions?
- Long-term autonomy in human-robot collaborative scenarios;

Submission of Papers: The working language of the conference is English. Papers are limited to 8 double column pages in a font no smaller than 10 points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site.

Paper Acceptance: Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

No-show Policy: The ETFA2017 Organizing Committee reserves the right to exclude a paper from distribution after the conference at IEEE Xplore if the paper is not presented at the conference.

Author's Schedule:

Deadline for submission of special sessions papers:	April 9, 2017
Notification of acceptance of special sessions papers:	May 15, 2017
Deadline for submission of final manuscripts – special sessions:	July 2, 2017

<http://www.etfa2017.org>