



Joint discussions about joint actions

Format

The workshop will take half day and can take place on October 1st

Organizers

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Abstract

Joint actions be they dancing the salsa with a partner, moving furniture together or supporting a child while learning how to ride a bike, are a big part of everyday life. As robots increasingly move into homes and shared working environments, the consideration of how to configure and manage human-robot joint actions is of growing importance. This half-day workshop will present recent findings in joint action across psychology, robotics and behavioural neuroscience and discuss how this knowledge can be applied to different areas including learning to play a musical instrument or regaining mobility after a stroke. Complementing previous workshops on this topic, we will provide an all-round perspective of joint actions, giving hints for cross-sectional and transversal approaches.

Through a series of interactive modules, experts across both human-human and human-robot joint actions will present the state-of-the-art on topics including human motor control, physical interactions mediated through robots, music learning and rehabilitative training. Playing on the theme of joint actions, each module will be a joint presentation, where two speakers will each present their own research and findings on a single topic before the audience can take part in a moderated live Q&A panel discussion with the speakers. Device demonstrations and a poster session will encourage further audience participation in the state-of-the-art research, open questions and future challenges in bringing joint action research to the industry.

Invited Speakers

Ganesh Gowrishankar Laboratoire d'Informatique de Robotique et de Microelectronique de Montpellier (LIRMM), Univ. Montpellier, CNRS, Rue Ada, Montpellier, France

Etienne Burdet Department of Bioengineering, Imperial College of Science, Technology and Medicine, London, SW7 2AZ, United Kingdom

Dagmar Sternad Department of Biology, Northeastern University, Boston, MA 02115, USA

Lena Ting Wallace H. Coulter Department of Biomedical Engineering, Emory University and Georgia Institute of Technology, Atlanta, GA, USA.

Marc Leman IPEM Institute for Systematic Musicology - Ghent University, Miriam Makebaplein 1, Ghent 9000, Belgium

Lorenzo Grazi BioRobotics Institute, Scuola Superiore Sant'Anna, 56025 Pontedera, Pisa, Italy

Agnieszka Wykowska Social Cognition in Human-Robot Interaction, Istituto Italiano di Tecnologia, Genoa, Italy

Ekaterina Ivanova Queen Mary, University of London | QMUL - School of Electronic Engineering and Computer Science

Domenico Formica Neurorobotics Lab, Newcastle University, Newcastle-Upon-Tyne

Vittorio Sanguineti Department of Informatics, Bioengineering, Robotics and Systems Engineering, University of Genoa, 16145 Genoa, Italy

Program

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|---|--------------------------------|----------------------|
| 8:30 – 8:50 | Arrival and welcome | |
| 8:50 – 9:00 | Opening Remarks | |
| Session 1: Hierarchy in human-human interactions: fixed or emerging | | |
| 9:00 – 9:15 | Talk 1 | Ganesh Gowrishankar |
| 9:15 – 9:30 | Talk 2 | Etienne Burdet |
| 9:30 – 9:40 | Q&A | Ganesh & Burdet |
| Session 2: Dancing in impaired and healthy pairs | | |
| 9:40 – 9:55 | Talk 3 | Dagmar Sternad |
| 9:55 – 10:10 | Talk 4 | Lena Ting |
| 10:10 – 10:20 | Q&A | Sternad & Ting |
| 10: 20 – 10:50 | Coffee Break & Poster Session* | |
| Session 3: Conbots (Collaboration through robots) for physical and musical training | | |
| 10:50 – 11:05 | Talk 5 | Lorenzo Grazi |
| 11:05 – 11:20 | Talk 6 | Marc Leman |
| 11:20 – 11:30 | Q&A | Grazi & Leman |
| Session 4: Non-verbal Turing test | | |
| 11:30 – 11:45 | Talk 7 | Agnieszka Wykowska |
| 11:45 – 12:00 | Talk 8 | Katja Ivanova |
| 12:00 – 12:10 | Q&A | Wykowska & Ivanova |
| Session 5: Haptic communication and haptic negotiation | | |
| 12:10 – 12:25 | Talk 9 | Domenico Formica |
| 12:25 – 12:45 | Talk 10 | Vittorio Sanguineti |
| 12:45 – 12:55 | Q&A | Formica & Sanguineti |
| 12:55 – 13:00 | Closing Remarks | |
| 13:00 – 13:30 | Lunch & Poster Session* | |

* Device demonstrations will take place during Poster Session

Financial Support

The European project CONBOTS (ICT 871803) will provide a coffee break and lunch for speakers and attendees.