

# Roy Someshwar 31.10.16

## Bio

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Roy Someshwar received his Double Masters in Mechatronics and Micro-Mechatronics Systems from Hochschule Karlsruhe, Germany and Universidad de Oviedo, Spain. He had a brief stint in the R&D of a Spanish robotics company, Treelogic s.a.r.l. working on the development of a mobile robotic platform.

Subsequently, he worked as a Marie Curie Fellow in the Intelligent Systems Group of the Department of Industrial Engineering and Management under Prof. Yael Edan and Prof. Joachim Meyer at the Ben-Gurion University of the Negev, as part of an EU-FP7-ITN project INTRO (Interactive Robotics). His doctoral dissertation revolves around human-robot collaboration and temporal coordination in human-robot teams.

## Abstract

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Robots are still primarily kept and operated in safety cages and separated from human operators. The current trend in industrial automation to integrate robots in our workplace as partners, co-workers and peers provide many promises and challenges. One of the key challenges in these collaborative systems is *temporal coordination* among the human and the robot working as team-partners.

The talk revolves around the development and investigation of the different aspects of temporal coordination among a collaborating human and a robot working in a team sharing work- and time-space for a collaborative handover task. The study employed a bottom-up approach, combining behavioral research and quantitative models to determine the effective coordination strategy for human-robot collaboration with better team-coordination and improved system productivity.

Studies on human-human joint-action will be presented. Human-Robot collaboration models developed as an outcome of this study will also be presented together with its evaluation through experimental studies done in real-world conditions in an integrated human-robot collaborative work-cell.