

Einladung zum Vortrag

EMERGENT COORDINATION BETWEEN HUMANS AND ROBOTS

Utilizing Movement Synchronization to Improve Human Robot Interaction

von

Tamara Lorenz, PhD
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■ **TERMIN:** Dienstag, 28. Juni 2016, 13:00 Uhr (s.t)

■ **ORT:** Computerlabor (Raumnr. ECA0426)

■ **ABSTRACT**

Emergent coordination or movement synchronization is an often observed phenomenon in human behavior. Humans synchronize their gait when walking next to each other, they synchronize their postural sway when standing closely and they also synchronize their movement behavior in many other situations of daily life. Movement synchronization plays a role in children's development and learning; it is related to our social and emotional behavior in interaction with others; it is an underlying principle in the organization of communication by means of language and gesture; and finally models explaining movement synchronization between two individuals can also be extended to group behavior. Overall one can say that movement synchronization is an important principle of human interaction behavior.

Human movement synchronization is also a simple but striking human interaction principle that can be applied in human robot interaction to support human activity of daily living on the example of pick and place tasks. In my talk I will outline how movement synchronization being emergent in human-human interaction can be researched, modeled and implemented to allow robots not only to actively engage in interaction tasks, but to also to engage the human in mutual interaction.

■ **BIOGRAPHICAL INFORMATION**

Tamara Lorenz is an Assistant Professor at the University of Cincinnati. She is jointly affiliated with the Department of Psychology, the Department of Electrical Engineering and Computation Science and the Department of Mechanical and Materials Engineering. She received her diploma (Dipl.-Ing.) in Mechanical Engineering from Technische Universität München in 2008 and her Ph.D. from the Graduate School of Systemic Neurosciences at Ludwig-Maximilians University (LMU) in Munich, Germany in 2015. During her Ph.D. she was affiliated with both the General and Experimental Psychology Department at LMU and the Institute of Information-Oriented Control at Technische Universität München. Her major research interests are the dynamics of human interaction and their relevance and usability for Human-Robot Interaction (HRI). Therefore she explores movement synchronization, adaptation and behavior during human joint action and during the interaction with robots in order to create models for safe and acceptable HRI. Besides, Tamara Lorenz is also interested in exploring human-machine interaction in general and with applications to human factors in daily life and work surroundings.

■ **WEITERE INFORMATIONEN**

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