

## IROS 2015 WORKSHOP

### Towards truly human-like bipedal locomotion: the role of optimization, learning and motor primitives

**Organizers: Katja Mombaur, Diego Torricelli**

09:00 – 09:15	Opening – Katja Mombaur and Diego Torricelli
09:15 – 10:00	Debora Clever, University of Heidelberg and Dominik Endres, University of Marburg: Unifying movement primitives and optimal control for efficient humanoid gait planners
10:00 – 10:30	Florentin Wörgötter, University of Göttingen: Neural control of movement
10:30 – 11:00	Coffee Break
11:00 – 11:45	Ivan Koryakovskiy, TU Delft and Manuel Kudruss, University of Heidelberg: Combining Model predictive control methods and reinforcement learning approaches for bipedal walking
11:45 – 12:15	Qi Liu, TU Kaiserslautern: Definition of motor skills learning strategies and cost functions
12:15 – 12:40	Katja Mombaur, University of Heidelberg: Optimality in human movement
12:40 – 14:00	Lunch Break
14:00 – 14:45	Jose Gonzalez, CSIC, Madrid and Massimo Sartori, Göttingen: Control of human locomotion using neuromuscular primitives
14:45 – 15:15	Oussama Khatib: SupraPed for Locomotion in 3D Unstructured Environments
15:15 – 15:45	Giovanni de Magistris, JRL CNRS-AIST, Tsukuba: Design of optimized flexible soles and walking pattern generators for humanoid robots
15:45 – 16:15	Coffee Break
16:15 – 17:00	Philippe Souères, LAAS-CNRS, Toulouse and Albert Mukoskyi, University of Tübingen: Learning movement primitives for the humanoid Robot HRP-2
17:00 – 17:30	Vittorio Lippi, University of Freiburg: Learning in the context of DEC control
17:30 – 18:00	Final discussion