

Neuromechanics in humans and other animals

Workshop description

Humans and other animals have a remarkable agility which allows them to navigate complex environments with grace. This motor dexterity is still poorly understood scientifically. We believe the reason for this is that motor coordination cannot be understood by studying the nervous system in isolation. Indeed, the biomechanical properties of the human or animal body have a key role in shaping the motor pattern. This workshop brings together researchers working at the interface of experimental biomechanics and computational neuroscience. Its purpose is to discuss the insights that can be gained into neural function by investigating the integration of neural control with musculoskeletal biomechanics.

Program

Tuesday Sept 17th

14h	– 14h30	Ann Halleman, University of Antwerp, Belgium <i>TBA</i>
14h30	– 15h	Jaap van Dieën, University of Amsterdam, Netherlands <i>Strategies for balance control</i>
15h	– 16h	Discussion
16h	– 16h30	<i>coffee break</i>
16h30	– 17h	Anne Koelewijn, FAU Erlangen-Nürnberg, Germany <i>Reflex control in standing and walking</i>
17h	– 17h30	Marcus Gruber, University of Konstanz, Germany <i>Spinal control of human locomotion and posture - training and task specific plasticity</i>
17h30	– 18h30	Discussion

Wednesday Sept 18th

8h30	– 9h	Friedl de Groote, KU Leuven, Belgium <i>TBA</i>
9h	– 9h30	Heiko Wagner, University of Münster, Germany <i>TBA</i>
9h30	– 10h	Susanne Lipfert, TU München, Germany <i>Push-off dynamics in a neuro-mechanical walking model</i>
10h	– 10h30	Discussion
10h30	– 11h	<i>coffee break</i>
11h	– 11h30	Emanuel Andrada, University of Jena, Germany <i>Understanding terrestrial locomotion by combining animal experiments, templates and neuro-musculoskeletal models</i>
11h30	– 12h30	General discussion

Organisation

This workshop is organized by Charlotte Le Mouel and Alexander Spröwitz (Max Planck Institute for Intelligent Systems) as part of the Bernstein Conference for Computational Neuroscience 2019, taking place in Berlin from the 17th to the 20th of September 2019.

Further information on the conference is available here: <http://bernstein-conference.de/>

Registration costs for the workshop are 60€ until 9th July / 80€ until 30th August/ 100€ on site.