

European Motor Control Conference 2024

Day1 (Sep 4th) Wednesday

09:00-09:30 Registration and Coffee

09:30 Opening Remark : David Franklin (TUM)

Chair: David Franklin (TUM)

09:45 Talk A by Emmanuel Guigon (Sorbonne Université)

- "A computational model of motor control and motor learning"

10:30 Coffee (30min)

Chair: Hari Teja Kalidindi (UCLouvain)

11:00 Talk 1 by Iain Hunter (TUM)

- "Learning to reach, reaching to control"

11:30 Talk 2 by Judith Rudolph (Donders Centre for Cognition)

- "Online interference of declarative memory in force field adaptation"

12:00 Talk 3 by Ernst-Joachim Hossner (University of Bern)

- "The Berne sensorimotor group: Complex motor behavior under uncertainty"

12:30 Lunch (90min)

Chair: Nina van Mastrigt (Justus Liebig University Giessen)

14: 00 Talk 4 by Joachim Hermsdörfer (TUM)

- "Effects of a 2-years training on handwriting kinematics of the dominant left hand in converted left-handers"

14: 30 Talk 5 by Qihang Zhu (Sorbonne Université)

- "The computational model of the detection threshold in hand redirection"

15: 00 Talk 6 by Dimitris Voudouris (Justus Liebig University)

- "Aging and the predictive gaze during manual actions"

15: 30 Coffee (30min)

Chair: Marko Jamšek (Jožef Stefan Institute)

16:00 Talk 7 by Hari Teja Kalidindi (UCLouvain)

- "Linking neural population dynamics to optimal feedback control of sensorimotor behavior"

16:30 Talk 8 by Le Mouel Charlotte (CNRS)

- "Decreased locomotor complexity as a hallmark of increased spinal excitation"

17:00 Talk 9 by Clara Seifert (TUM)

- "Cortical representation of novel tool use: understanding the neural basis of mechanical problem solving"

17:30 Talk 10 Luc Selen (Radboud University, Donders Institute)

- "Perceptual decision correlates in the motor system"

18:00 Beer Garden (Weather permitting)

Day2 (Sep 5th) Thursday

09:00-09:30 Registration and Coffee

Chair: Johannes Keyser (Justus Liebig University Giessen)

09:30 Talk 11 by Atsushi Yokoi (CiNet, Japan)

- “Evaluating the Integrity of the Locus Coeruleus using Ultra-High Field MRI and Its Relationship to Motor Learning Behavior”
- 10:00 Talk 12 by Veit Kraft (TUM)
 - “Effects of Aging on Motor Memory Formation – A Systematic Review”
- 10:30 Coffee (30min)
Chair: Matthew Millard (University of Stuttgart)
- 11:00 Talk 13 by Raz Leib (TUM)
 - “Adaptation to unambiguous force field reveals modulation of dynamics representation”
- 11:30 Talk 14 by Astrid Doyen (UCLouvain)
 - “Partial interference between adaptive and flexible control policies indicates shared neural mechanisms”
- 12:00 Talk 15 by Mathias Hegele (Justus Liebig University)
 - “Dancing through the Uncanny Valley”
- 12:20 Group Photo
- 12:30 Lunch (90min)
- Poster Session
- 14: 00 Poster session (please see the poster titles below)
- 15: 30 Coffee (30min)
Chair: Dimitris Voudouris (Justus Liebig University Giessen)
- 16:00 Talk 16 by Pascal Nietschmann (TUM)
 - “Contrasting Visual and Auditory Motion as a Contextual Cue in Dual Motor Adaptation”
- 16:30 Talk 17 by Daniel Braun (Ulm University)
 - “Bounded rational motor control in single and multi-agent systems”
- 17:00 Talk 18 by Patrick Forbes (Erasmus MC)
 - “Perceptual and postural control loops in standing balance: unraveling human physiology through closed-loop robotics”
- 17:30 Talk 19 by Amartya Ganguly (TUM)
 - “Towards Next Generation Prosthetics: Applying Biomechanical Principles to Meet Individual Needs”
- 18:00 End of the day

Day3 (Sep 6th) Friday

- 09:00-09:30 Registration and Coffee
Chair: Atsushi Yokoi (CiNet, NICT)
- 09:30 Talk 20 by Matthew Millard (University of Stuttgart)
 - “A benchmark of muscle models to length changes great and small”
- 10:00 Talk 21 by Clémence Vandamme (UCLouvain)
 - “Flexible and rapid modulation of gait control assessed by long-range autocorrelation”
- 10:30 Coffee (30min)
Chair: Raz Leib (TUM)
- 11:00 Talk B by JJ Orban de Xivry (KU Leuven)
 - “Is there a motor reserve in the cerebellum?”

- 11:45 Talk C by Dagmar Sternad (Northeastern University)
○ “Predictability and stability in the control of complex objects”
- 12:30 Lunch (90min)
Chair: Iain Hunter (TUM)
- 14:00 Talk 22 by Tjasa Kunavar (Institute Jozef Stefan)
○ “Explicit Strategies in Human Motor Learning”
- 14:30 Talk 23 by Philipp Gulde (TUM)
○ “To what extent does sensorimotor capacity translate into everyday life? A story of clinical tests, living labs, and wearable sensors”
- 15:00 Talk 24 by Rieko Osu (Waseda University, Japan)
○ “Inter-individual variability in motor learning due to differences in effective learning rates between generalist and specialist memory stores”
- 15:30 Coffee (30min)
Chair: Laurent Opsomer (UCLouvain)
- 16:00 Talk 25 by Matto Leeuwis (Erasmus MC)
○ “Optimality and energy expenditure in standing and walking”
- 16:30 Talk 26 by Yiming Liu (TUM)
○ “The impact of haptic communication on interpersonal coordination and role distribution in collaborative object manipulation”
- Lab Tour
- 17:00 Lab tour (Franklin Lab, 3 demos) and Social (60min)
- 18:00 End of the Conference

Poster Presentations

- #1 Nina van Mastrigt
○ “Combining visual and kinesthetic information in fast motor decisions”
- #2 Christoph Schneider
○ “Bayesian inference as a framework for the sense of agency”
- #3 Yuki Ito
○ “Reaching Movement Adaptation to Visuospatial Modulation”
- #4 Johannes Keyser
○ “Pain perception of electrocutaneous stimuli is influenced by their intensity sequence”
- #5 Stephan Zahno
○ “Risk optimization during ongoing movements: Insights from movement and gaze behaviour in throwing”
- #6 Laurent Opsomer
○ “Movement direction drift during targeted movements in weightlessness”

#7 Yuto Kurihara

- “Behavioral Analysis of Mutual Prediction During Dual Ball-catching Task”

#8 Fabian Wachsmann

- “Tactile Perception During Kicking”

#9 James Cooke

- “Modelling causal inference in action”

#10 Johanna Happold

- “Evolution of Muscle and Neural Synergies in Real-Time Control Tasks”

#11 Clara Günter

- “Passer Kinematic Cues Enable Object Weight Prediction in a Simulated Robot-Human Handover”

#12 Jing Zhang

- “Separate context processing for sequential and sensorimotor learning”

#14 Jef Leplae

- “Objectively measured bicycle skills in children - preliminary data”

#15 Niklas Heimbürger

- “Bimanual Impedance 3D Setup”

#16 Ziyu Chen

- “A Gradient-Based Method for Automated Muscle Path Calibration”

#17 Kevin Liu

- “Optimal Feedback Control in Human Navigation”

#18 Charlotte Le Mouel

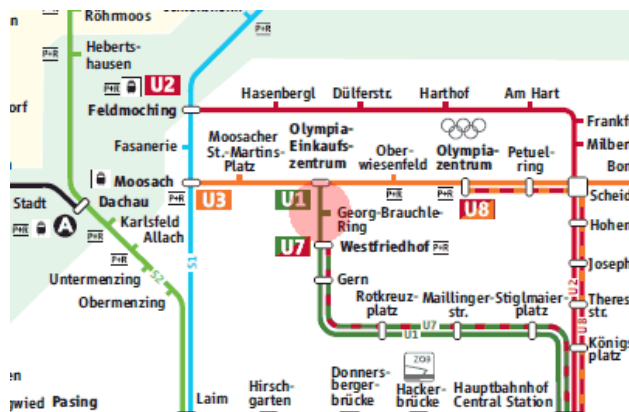
- “Optimal merging of kinematic and kinetic information to determine the position of the whole body Center of Mass”

#19 Eric Maris

- “Compensating for a sensorimotor delay requires a memory buffer, a state observer, and a predictor”

#20 Patricia Capsi-Morales

- “Human hand coordination skills during single-handed complex manipulation tasks”



Conference Address:

Location: TUM/MIRMI Germany

Address: Room M001 Georg-Brauchle Ring 56-58, Munich

Postcode: 80992

LUNCH OPTIONS NEAR CONFERENCE VENUE:

Name:	Address:	Food:	Eat in/out:
Bäckerei Ziegler	Gneisenaustr. 20, 80992 München - Walking distance 5 min.	Sandwiches, Salad, Soup or pasta of the day	In / out possible
Allguth	Georg-Brauchle Ring 30, 80992 München - Walking distance 1 min.	Sandwiches, Thai curry, Thai fried noodles, other warm dishes	In / out possible

O2 Tower bakery	Georg-Brauchle Ring 50, 80992 München - Walking distance 1 min	Sandwiches, Salad	Out only
KFC	Hanauer Str. 44, 80992 München	KFC food	In / out possible
Japanese Food Truck (Only on Thursday)	At the Georg-Brauchle Ring inside park in front of the Conference building	Japanese curry, Donburis...	Out only
OEZ (Olympia Shopping Mall)	Hanauer Str. 68, 80992 München - Walking distance 10 minutes - U Bahn 1 stop	Gastronomie Olympia- Einkaufszentrum München	In / out possible