

About the scientific network

The scientific network „Users' Body Experience and Human-Machine Interfaces in (Assistive) Robotics” deals with the body experience of subjects using assistive robots or other body/user-proximal robotic devices. The objectives of the scientific network are to explore the technical potential of improving experience by appropriate human-robot interfaces and robot designs. Therefore, the participants jointly analyze and discuss measures to assess experience and consider it in novel design methods. This includes the identification of promising perceptual channels as well as the preparation of foot- and hand-robots for the experimental investigation of rubber limb illusions and interface designs. Further, serious games are examined as a possibility to assess performance and stimulus-signal mapping. Currently, no organizational structure covers the range of aspects considered in this scientific network. Besides closing this gap, the participants plan a joint publication based on sharing knowledge within the scientific network. A mid-term goal of the network is to pave the way for further joint research and explore topics and issues for joint follow-up projects.

Objectives of the meeting

- Introduction of network goals and participants
- Stimulation of exchange and discussion
- Keynotes and guest talks
- Integration of (post) doctoral researchers
- Kick-off of the network activities



How to get to TU Darmstadt (Campus Stadtmitte)

By public transport

From Darmstadt Hauptbahnhof (main railway station), you can take bus lines F (Oberwaldhaus), H (Alfred-Messel-Weg) and K (TU Lichtwiese/Mensa) or tram lines 2 and 3. Get off at Schloss. The TU entrance building karo 5 is just a few minutes walk from the stop at Karolinenplatz.

From Frankfurt Airport

The international airport Frankfurt Rhein-Main is located 25 km from Darmstadt. At the airport, regional bus lines depart from arrivals area B at Terminal 1 and arrivals areas D+E at Terminal 2. We recommend the express bus AirLiner (Terminals 1 and 2), which offers a convenient and fast 30-minute connection to Darmstadt Hauptbahnhof, Luisenplatz and darmstadtium Congress Centre.

See also: <http://www.tu-darmstadt.de/universitaet/orientierung/anreise/index.en.jsp>

This meeting is supported by:



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Users' Body Experience and Human-Machine Interfaces in (Assistive) Robotics

First Meeting of the Scientific Network
Technische Universität Darmstadt Germany
June 13th – 15th 2016
urobody.wordpress.com



Monday, June 13th

Arrival and registration until **12:45**

13:00 Philipp Beckerle: Welcome to URoBody

13:20 – 14:10 Body experience

13:20 Intro and talk: Oliver Christ
From Hand to Foot...the Rubber Limb Illusion and Application

13:40 Talk: Robin Bekrater-Bodmann
Body ownership experiences for prosthetic devices in limb amputees

13:55 Talk: Bigna Lenggenhager
The sense of a bodily Self and its alterations - insights from neurology, psychiatry and virtual reality

Coffee break

14:30 – 15:15 Human-robot interfaces

14:30 Intro and talk: Claudio Castellini
Multi-modal myography: a chance to improve prosthetic control

14:50 Talk: Strahinja Došen
Human-machine interfaces for smart upper limb prosthetics

15:05 Talk: Risto Kõiva
Sensors for capturing tactile interaction patterns

Coffee break

15:45 – 16:15 Robot design

15:45 Intro and talk: Philipp Beckerle
Design and application of robotic limbs for the exploration of human body experience

16:05 Talk: David Abbink
Haptic Shared Control – exploiting neuromuscular control to enhance interaction with robots and vehicles

Short break

16:30 Keynote: Max Oritz Catalan
Direct neural sensory feedback and control via an osseointegrated implant

19:00 Dinner*

Tuesday, June 14th

9:00 – 11:00 Network research topics

9:00 Brainstorming of research topics (in groups)

10:00 Discussion of research topics

Coffee break

11:30 Keynote: Sami Haddadin
TBD

12:30 Lunch*

13:30 Keynote: Josef Wiemeyer
Serious Games for motor learning and training in sport and health - Chances & challenges

Coffee break

15:00 – 16:30 Posters and coffee

15:00 Poster spotlight presentation

15:30 *Coffee break* and poster session

16:30 – 17:50 Guest talks

16:30 Talk: Christine Sutter
Limitations of human information processing in human-machine interactions

17:10 Talk: Betty Mohler
Using Virtual Reality to Investigate Body Size Perception and Implications for Actions

19:00 Dinner*

Wednesday, June 15th

9:00 – 13:00 Internal meeting**

9:00 Internal discussion of network participants (plans for projects, papers, etc.)

Coffee break

10:30 Internal discussion of network participants

11:30 Lunch*

12:30 Final discussion and conclusion
Departure after **13:00**

* 1 meal and 1 non-alcoholic drink are included for network participants**, keynote speakers and guest speakers.

** Network participants are the PostDoc researchers that are funded within the DFG project.

Further Information

The meeting will take place in S3|20 (Rundeturmstr. 10) in Room 18 at Campus Stadtmitte. It is located behind the darmstadium Congress Centre and the Fraunhofer IGD.



See also: http://www.tu-darmstadt.de/universitaet/Orientierung/lageplaene/lageplaene_stadtmitte/lageplaene_s3/index.de.jsp
