

- to learn theoretical and practical aspects of motor control and modelling for neurorehabilitation
- with top speakers in this novel field
- organised by the European Network on Robotics of NeuroRehabilitation (<u>www.rehabilitationrobotics.eu</u>)
- Committee: Etienne Burdet, Thierry Keller, Andrew Pennycott, David Ram, Vittorio Sanguineti, Duncan Turner, Sivakumar Balasubramanian, Nathanael Jarrasse



- 40 "students" and 15 speakers&mentors
- in Obertauern (between Salzburg and Graz)
- Hotel der Schuetz: http://www.hotel-schuetz.at

- 27-31 January 2014
- Tue, Wed, Thu, Fri morning (i.e., travel on Monday&Friday or can stay on the WE)
- everyday (8-12am): 3-4 lectures in the morning
- afternoon: practicals in ski biomechanics and sensorimotor control
- evening (7-9pm): mini-project in groups of 4-5

HOW TO GO THERE?

Arriving at Salzburg airport

- Shuttle service (~31 EUR single, see http://www.obertauern.com/en/winter/local-info//fly-shuttle/fromto-salzburg.html)
- Train from Salzburg to Radstadt (~1h20', ~15 EUR), see https://ticketing.oebb.at. Once in Radstadt, you continue to Obertauern (Passhöhe) using the postbus or taxi (takes ~30'), see http://www.obertauern.com/en/winter/local-info/arrival/rail-bus-taxi.html

HOW TO GO THERE?

Arriving at Munich airport

- Take the train from Munich to Radstadt. Train is every 2 hours (~3h15', ~50 EUR), see http://www.bahn.com/i/view/GBR/en/
- Once in Radstadt, you continue to Obertauern
 (Passhöhe) using the postbus or taxi (takes ~30'), see
 http://www.obertauern.com/en/winter/local-info/arrival/rail-bus-taxi.html

TUESDAY: COMPUTATIONAL MOTOR CONTROL METHODS

- Making sense of muscle activity in sensorimotor deficits and neurorehabilitation (Lena Ting, Emory University and Georgia Tech)
- Multisensory integration, motor adaptation and motion optimisation (Etienne Burdet, Imperial College London)
- Reinforcement learning, reward, optimal control (Emmanuel Guigon, Universite Pierre & Marie Curie)
- Mini projects (Nathanael Jarrasse, CNRS)

WEDNESDAY: MECHANISMS OF MOTOR RECOVERY

- Understanding motor recovery post stroke (Gert Kwakkel, Vrije Universiteit, Amsterdam)
- Mechanisms of brain recovery (Duncan Turner, University of East London)
- Muscle synergies and neuromotor recovery (Andrea d'Avella, Fondazione Santa Lucia)
- Sensor-based assessment of the sensorimotor function (Sivakumar Balasubramanian, Tecnalia)

THURSDAY: MODELS TO IMPROVE THERAPY

- Modelling cortical reorganisation following stroke (Holly Rossiter, University College London)
- Neuromotor recovery at functional level (Vittorio Sanguineti, Università Degli Studi di Genova)
- Use of arm induced by therapy (Nicolas Schweighofer, University of Southern California)

FRIDAY:

Results of lab activities: All attendees

 Panel discussion on computational neurorehabilitation: All speakers