CCCP 2018

Cortical Codes: Control & Perception

National Research University Higher School of Economics
Moscow, Russia, October 29-30, 2018

<u>Preliminary program</u>

- Day 1
  - **Session 1 Neurointerfaces for rehabilitation**
    - <u>10:00-11:00 Invited lecture 1: **Galit Pelled** </u>Aquatic inspired neuromodulation
    - 11:00-11:40 A. Frolov, P. Bobrov, Motor Imagery BCI in post-stroke recovery: clinical study
    - 11:40 – 12:00 A. Ossadtchi, N. Smetanin, Multiagent EEG Motor imagery and EMG-based interfaces at HSE
    - 12:00 - 12:15 *Coffee break*
    - 12:15 – 13:15 <u>Invited lecture 2 **Jose L Contreras-Vidal** </u>Non-invasive neurorobotic systems for rehabilitation and assistance of upper and lower limb movements after spinal cord injury, stroke and limb amputation
    - 13:15 13:35 A. Kuznetsova, Smetanin Foot motor imagery triggered locomotion in exoskeleton: first experience
  - 13:40 – 14:40 Lunch

  - **Session 2 Deep learning in BCI**
    - <u>15:00 – 16:00 Invited lecture 3 **Tonio Ball** Deep learning for brain-machine interfacing</u>
    - 16:00-16:20 K. Volkova, Artur Petrosuan Deep learning vs classical methods for decoding of movement parameters from the EcoG data
    - 16:20-17:00 S. Shishkin, B. Kozyrski Deep Learning for eye-brain-computer interfaces
    - 17:00 – 17:20 A. Ossadtchi, A. Lebedev, I. Dybushkin Deep learning for learning individual fMRI-EEG relationships
    - 17:20-17:30 *Coffee break*
    - 17:30 – 18:30 **Mikhail Lebedev** Animal studies of Invasive brain-computer interfaces
    - 18.30-19.15 Tour over Institute for cognitive Neuroscience facilities
    - 19:30-21:00 *Dinner*

- Day 2
  - **Session 3 Neurofeedback and bidirectional BCIs**
    - <u>10:00-11:00 Invited lecture 4: **Mehdi Ordikhami** - "Brain-computer interfaces for augmenting attention",</u>
    - 11:00-11:20 V. Bulkagova, Smetanin Spatial-temporal dynamics of brain activity under vibration stimulation
    - 11:20-11:35 *Coffee break*
    - <u>11:35 – 12:35 Invited lecture 5: **Guenter Edlinger** BCI with multisensory feedback</u>
    - 12:35 - 13:35 Tour over non-invasive BCI facilities @ HSE

- 13:35-14:35 *Lunch*

- **Session 4 Open issues and future hopes**
  - <u>15:00-16:00 Invited lecture 6: Guido Nolte –Estimating brain connectivity from EEG and MEG data: concepts, interpretations and limitations</u>
  - 16:00-17:00 V. Nikulin "Pre-stimulus and resting state neuronal dynamics as factors defining performance in sensorimotor and cognitive tasks"
  - 17:00 – 17:15 *Coffee break*
  - 17:15 – 17:35 A. Ossadtchi, N. Smetanin, A. Belinskaya Towards zero-latency neurofeedback
  - 17:35 – 17:55 N. Novikov, TACs-working memory
  - 18:00 - 19:30 **Poster session & vine**
  - 19:30 – 20:00 Mikhail Lebedev Concluding remarks
  - 20:00 – 22:00 Farewell dinner