Brain-Computer Interface (BCI)

w o r k s h o p & h a n d s - o n s e m i n a r

October 3, 2013

g.tec medical engineering Austria and The University of Padua

BCI research is one of the most fascinating fields in neuroscience. Mental tasks or focused attention lead to changes in the brain's activity patterns which can be measured, analyzed and classified. The transformation of such changes into a control signal allows to communicate or control external devices just by thinking. An amazing technology helping patients who are about to loose any other ability to interact with their environment. This workshop informs about the major methodological approaches, technical issues, application examples, opportunities and limitations, current trends and many more.

This workshop is intended for people interested in learning the new skill of BCI communication and for people who are interested in combining BCI technology in their field of expertise. The workshop contains material about human computer interaction, biosignal analysis in off-line and real-time mode, rehabilitation, biomedical and electrical engineering, computer sciences and Virtual Reality. In a practical session an introduction of hard- and software used for research and development will be given. Participants can perform live experiments such as P300-spelling, motor imagery BCI for rehabilitation and SSVEP control.

program

09:15	Welcome, introduction
09:30	Introduction to major methodological approaches of BCI (or other topic)
11:00	Special talk held by Dott. Francesco Piccione and Eng. Stefano Silvoni: "Clinical Application of BCI techniques for rehabilitation."
11:45	Special talk held by Dott. Ing. Luca Tonin: "Brain-actuated assistive mobility."
12:30	Lunch break
13:30	Practical part: introduction to hard- and software
14:00	Hands-on sessions: P300-Speller, SSVEP-BCI, Motor imagery BCI (or other topic)
16:00	Final discussion & questions
Date:	October 3, 2013
Venue:	Intelligent Autonomous Systems Laboratory (IAS Lab) Via Tiepolo, 85 35129 - Padova (PD), Italy Tel: +39-049-827-7831

Special thanks to the host of the workshop, Prof. Emanuele Menegatti, Ph.D. He is Associate Professor at the Intelligent Autonomous Systems Laboratory (IAS-Lab).

speakers

F. Piccione is Director of the Dept. of Neurorehabilitation- UOC Miolesions - SLA at IRCSS San Camillo Research Hospital, Italy.

Luca Tonin received his PhD from the École Polytechnique Fédérale de Lausanne (Lausanne, Switzerland) in 2013 under the guidance of Prof. Dr. José del R. Millán. During his PhD, he worked in the framework of the European ICT Project TOBI (Tools for Brain-Computer Interaction). His research is currently focused in exploring a novel Brain-Computer Interface based on covert visuospatial attention for control and rehabilitation purposes as well as Brain-actuated assistive technology (AT) systems.

Stefano Silvoni is a freelance researcher at the Department of Neurophysiology (IRCCS S.Camillo, Venice). His research interests concerns development of non-invasive brain-computer applications for neurorehabilitation. With a team of the IRCCS S.Camillo, he tested a BCI-system for communication in a group of Amyotrophic Lateral Sclerosis patients and a closed-loop brain-machine interface for motor-functional recovery after stroke.

Christoph Guger and Christoph Kapeller from g.tec Guger Technologies OG are working on EEG, ECoG and spike based BCI projects within g.tec. They will give a theoretical overview about BCIs and will also held the practical sessions. They are involved in EC projects like Vere, Renachip, ALIAS, BrainAble, Decoder and Better and will also talk about these projects.

Attendance is free of charge, but registration is required because space is limited. Please contact Markus Bruckner (bruckner@gtec.at)

g·tec
GUGER TECHNOLOGIES

Brain-Computer Interface (BCI)

w o r k s h o p   &   h a n d s - o n   s e m i n a r

g.tec medical engineering Austria and The University of Padua

registration form

**Please fill in and fax back: 0043 7251 22240 39
or email it to Markus Bruckner: bruckner@gtec.at**

Venue: _____

Date: _____

Name & Degree *(as to appear on conference materials)***:**

_____

Institution/Affiliation:

_____

Department:

_____

Business Address:

_____

City: _____ State: _____ Zip: _____

Business Phone: _____

E-mail Address (important for receiving the confirmation)

_____