

Conferences

Thoughts are free – Who can guess what they are?

Brain Products supported a neurosciences seminar organized by the Foundation of German Business (Stiftung der Deutschen Wirtschaft)

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At the initiative of the Brain-Computer Interfaces (BCI) researcher Thorsten Zander from Berlin, Brain Products was invited to a seminar in Tübingen to present its P300 Speller. This seminar was organized by the Foundation of German Business (Stiftung der Deutschen Wirtschaft – SDW), which is a major German scholarship organization. The SDW provides funding and supervision for awardees in all fields of science. It also hosts seminars where these students can explore other fields besides their speciality. During the weekend of 7-9 May 2010, a neuroscience seminar took place in the beautiful city of Tübingen. Four work groups on the following topics were set up: Neuroenhancement, BCI, Neuroinformatics and Neuroeconomics. Our group, the BCI group, was hosted by Thorsten, and we had seven students from several German universities. Their fields of study were Law, Medicine, Molecular Biology, Electrical Engineering and Mechanical Engineering. Maria and I arrived in Tübingen at noon on Saturday. In the afternoon, Thorsten presented a three-hour report on the field of BCI and neurofeedback. He explained the basics of BCI, such as the P300 wave and the mu rhythm, and he also focused on some hot topics, e.g. mental supervision and research on bluffing. In the evening, we performed BCI experiments on two volunteers. We set up two laptops with amplifiers

and actiCAPs in a lecture room. During the experiments the other students were also present in the room, so the noise level significantly exceeded that of normal laboratory conditions. We prepared eight electrodes for each person. Even during the training phase the other students asked many questions about the equipment and the paradigm. After the training in the Analyzer 2 was complete, we loaded the parameters into the RecView Module and began the feedback session. Both subjects were naive about BCI. One achieved an error rate of precisely zero, while the other student was unable to perform at all. Because of the shortage of time, we were unable to optimize the second student's performance any further. It remains an open question whether he suffers from BCI illiteracy; to answer this would need many more runs of the P300 experiment. Other reasons for this failure could be individual stress, too few electrodes, or that the subject was just having a bad day. Ultimately, the seminar was a great success: firstly for the students, who gained insight into a completely new field, secondly for Thorsten, he presented his research group which almost totally consists of undergraduate students. Thus he transported much enthusiasm to our group of students. Last but not least, we were able to test our P300 Speller in a real-life situation once again. ●