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**Host lab:** Nielsen Lab, Department of Neuroscience, University of Copenhagen, Denmark

Duration of stay: 6 weeks

I would like to express my gratitude for having been awarded the NENS exchange grant which enabled me to visit the lab of Prof. Jens Bo Nielsen in Copenhagen between 30/04-14/06 this year. I was very fortunate to be able to spend the time in Prof. Nielsen also under the supervision of Prof. Hans Hultborn who attended to my project and supported my education very closely.

My PhD topic concerns an area that at the center of the research interests of Profs. Nielsen and Hultborn's lab, namely spasticity in neurological disorders. The device we have acquired at the university clinic in Tuebingen to measure spasticity objectively has been initially designed and tested in Copenhagen under the supervision of prof Nielsen and Prof. Jakob Lorenzen. It was, for that reason incredibly useful to spend time in the lab with them and get trained on methods to optimize the measurement but also importantly the analysis method. I had the chance to share my preliminary data with the team and get very useful feedback, which will guide my future data collection and analysis. In addition, I have learnt important and fundamental physiological concepts regarding characteristics of muscle firing and motor neuron activity in subjects with spasticity including persistent inward currents and plateau potentials. These phenomena have been initially discovered by prof Hultborn himself.

In addition to spasticity measurements, I had the chance to closely observe and learn in the lab methods concerning H-reflex data measurement including presynaptic inhibition, reciprocal inhibition and post activation depression. The assessment of these mechanisms is quite tricky and challenging and requires years of experience to optimize. A great deal of this experience has been developed in Copenhagen over decades both by Prof. Hultborn, primarily in the cat model and by Prof. Nielsen in human subjects and patients with neurological disorders.

Besides the practical knowledge that I gained, I had very valuable feedback from Prof. Hultborn on my manuscript draft, which validates the method for my main study that will follow. I also took part in the regular journal club of the group, supported my new

colleagues in TMS-related experiments and enjoyed the positive and encouraging environment in the group.

I was lucky to also attend the lectures of the Brain prize that took place at the university of Copenhagen, and has been awarded, among others, to Ole Kiehn, a former PhD student of Prof. Hultborn. Afterwards, I visited the lab of Prof. Kiehn and got introduced by his senior post doc Carmelo Belardita to the research on spasticity in animal models that is being run in their lab. We had very useful and interesting conversations which may initiate a collaboration between our groups. In general, I would regard my stay in Copenhagen as very exciting and formative.

Lastly, the personal interaction with the lab members, and especially Prof. Hultborn who hosted me for two weeks during my stay in his own house, has been a wonderful experience. This experience has filled me with gratitude and excitement to pursue this line of research further and carry my experience with me back to Tuebingen where I will share it with my colleagues to further our ongoing projects. Without the NENS exchange grant I would not have been able to visit Nielsen lab and get the knowledge and experience that I received, so please accept my gratitude for this wonderful experience, which I believe has been important for my PhD and my career.