

## **NENS Exchange Grant Report**

Name: Ekim Luo

Home Lab: Body, Mind And Behaviour Laboratory, Department of Psychology, University of Cambridge, Cambridge, United Kingdom

Host Lab: Social Cognitive And Affective Neuroscience Unit (SCAN-unit), Department of Psychology, University of Vienna, Vienna, Austria

Duration of stay: 3 months

Dates of stay: October 1, 2022 - January 1, 2023

I would like to thank the NENS Exchange Grant, which took me to the Social Cognitive And Affective Neuroscience Unit (SCAN-unit) headed by Prof. Claus Lamm. Given that my PhD topic explores the analgesic effect of social power (defined as having control over valuable resources or social influence) on empathy for pain, and Prof. Claus Lamm's expertise in using functional magnetic resonance imaging (fMRI) to explore the neural correlates of empathy for pain, my research stay has been most productive. I have also structured my PhD so that I may build upon Prof. Lamm's inspirational and groundbreaking work, specifically using a behavioral task that elicits empathy for pain in the fMRI scanner previously developed in his lab, so I am especially grateful to have been given the opportunity to shadow ongoing projects in his lab and meet other like-minded researchers working on a range of interesting, diverse topics.

The aim of my research stay was to get started on learning imaging data analysis and imaging theory. To that end, I was fortunate to have been able to participate in an Imaging Data Analysis course offered at the University of Vienna and taught by a member of the SCAN-unit, Dr. Isabella Wagner, the content of which covered a detailed overview of neuroimaging methods, including those related to electroencephalogram (EEG), single cell recordings, and fMRI, as well as the pre-processing and analysis of fMRI data. Additionally, I have been shadowing Dr. Ronald Sladky, the Senior Scientist at the SCAN-unit and an expert in fMRI methodology, who has been most helpful in answering my endless questions about fMRI theory and data analysis. Having obtained his PhD in Medical Physics in Vienna and an expert on the role of amygdala, Ronny's continued enthusiasm in his area of expertise as well as kind support has greatly benefited me in my learning trajectory, not to mention inspirational. Moreover, given that I am currently running my first EEG experiment that explores the event-related potential components of empathy for pain, I have been fortunate to receive help from Dr. Markus Rütgen, a Senior Postdoc at the SCAN-unit who previously worked with EEG to examine empathy for pain and has answered my many technical questions about running an EEG experiment from the ground up, not to mention letting me keep one of his textbooks for the entirety of my research stay. Last but not least, Prof. Claus Lamm and Dr. Alexandrina Guran, both of whom have handheld me throughout my research stay in learning fMRI methodology and discussing research ideas with me, not to

mention having offered an exciting opportunity for me to collaborate on an fMRI experiment together with them, have been instrumental in making my stay meaningful.

Having met a wonderful team of researchers who are passionate and knowledgeable about their area of expertise, I left the SCAN-unit with a renewed passion and commitment to science. They have not only helped me gain a deeper understanding of a methodology that can be especially daunting to an early-career researcher like me, not to mention the fact that for so long I have felt as if I stood outside knocking at the gate of neuroscience with some degree of fortitude, but I feel that the supportive and warm environment I witnessed at the SCAN-unit has served as a reminder of a fundamental element that makes science so great: it is the togetherness that makes for meaningful advances, for we each contribute our unique piece to the cathedral of science. Without the NENS exchange grant, I would not have been able to partake in this wonderful research stay.

