Report of training stay

The acute effects of cannabis on human brain function: Challenges in pharmacological MRI data analysis

As described in the proposal for my training stay, I have used the NENS stipend to visit the group of Professor Steve Williams at the Institute of Psychiatry, King’s College, London in August 2008 in order to learn the pharmacological MRI data analysis process.

From May to July 2008 my colleagues and I performed a pharmacological MRI study in which we investigated the acute effects of cannabis on functional brain systems of healthy volunteers. Since pharmacological MRI, functional MRI in combination with the administration of psychopharmacological agents such as cannabis, has not been done before in Utrecht and the data analysis is complex, I have taken the data from this first study to London to analyze these data with the help of experts in the field.

During my training stay, I have focused on one of our cognitive functional MRI tasks: the associative memory task. For this task, I have passed through the entire data analysis process. In addition, since cannabis can affect cerebral blood flow which may confound our functional MRI data, I have analyzed all our blood flow scans and I have incorporated these blood flow data in the analysis of the associative memory task in order to correct for cannabis-induced blood flow effects.

Thus, this training stay in London resulted in analyzed data of the associative memory task and blood flow scans. Further, the data analysis approach has been laid down in a protocol which will benefit not only the analysis of the other functional MRI cognitive tasks performed in the present study, but also our future pharmacological MRI studies on clinical populations. This training stay has also intensified the collaboration between the neuroimaging departments of the Institute of Psychiatry, King’s College in London and the University Medical Center in Utrecht.

I would like to thank NENS for the opportunity to spend one month in London to learn the pharmacological MRI data analysis process. It has been a very pleasant and useful training stay.