Vacancy 010145 PhD student Cognitive Neuroscience

Project description

Selective serotonin transporter (5-HTT) inhibitors (SSRIs) are commonly-used antidepressants during pregnancy, leading to high serotonin levels in the foetus. While the treatment is beneficial and safe for the mother, it may be harmful for the unborn child, because serotonin plays an important role in brain development during the prenatal phase. This possibility is suggested by reports of anxiety- and depression-like symptoms during adulthood, after developmental SSRI exposure in rodents. These behavioural symptoms are also seen in 5-HTT knockout (5-HTT-/-) mice and rats, and in association with the common human 5-HTT polymorphism. From the perspective of neuronal circuits, it has been established that 5-HTT-/- rodents show altered neuronal organization of the somatosensory cortex, and that the 5-HTT polymorphism is associated with large scale functional changes in corticolimbic circuits. Yet, because of lack of methodological consistency across studies, it remains unclear how behavioural changes induced by prenatal SSRI exposure are reflected in the brain. This NWO Brain & Cognition project aims to uncover the effects of SSRI-use during pregnancy by conducting multidisciplinary studies that will encompass analyses of behaviour and neural connectivity.