**PROJECT RESUME**

**TITLE**: Detangling Disappointment: Mapping the Fasciculus Retroflexus from Diffusion MRI in Depression

The fasciculus retroflexus allows the habenula (involved in emotional and reward processing) to influence serotonin, noradrenaline and dopamine release from the brainstem. This structure modulates the behavioural and emotional aspects of failed reward, i.e. disappointment . The fasciculus retroflexus has proved difficult to isolate anatomically and not been properly characterised on MRI due to it complicated anatomy. This project aims to isolate the tract from diffusion MRI using anatomical principles and investigate differences in the structure of the tract in depressed individuals. Reliably characterising the fasciculus retroflexus from MRI images may open up new therapeutic avenues for deep brain stimulation of various neuropsychiatric conditions.

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