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Supervisor

Name:  

Thesis title:  

Deficit of temporal binding in old humans: behavioural analyses and brain imaging

Keywords:  Declarative memory, temporal binding, aging, brain imaging

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Abstract

Mnemonic aging is characterized by a preferential decline in declarative memory. Recent studies in rodents have shown that impaired ability to form relationships between temporal discontinuous information (temporal binding) was the key element that prevented the formation of declarative memory. This process is sustained by the hippocampo-frontal system. Behavioral procedures that have allowed such a demonstration in rodents have recently been adapted to the same in humans, through virtual reality. Studies have shown declarative memory deficits in old humans similar to those observed in aged mice. This research topic aims to establish a continuum between animals and humans to demonstrate that, in the elderly, as in aged mice, the decline in declarative memory result from a decline in the temporal “binding” process. To this end, behavioral approaches combined with functional imaging techniques will determine the psychological and neurobiological components of the temporal binding process and its alteration during aging

Qualification required

Candidates with a behaviourial/cognitive neurosciences background, an experience in assessing cognitive abilities in old humans with skills in brain imaging will be preferred for this position.