



SEMINAIRE 2025

**06 Octobre
14h**

**Biserte
Meeting Room**

**Invitée par le l'équipe
TREND**

Dr. Paula POUSINHA

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The Hippocampus–Nucleus Accumbens Circuit in Ageing: A Sex-Specific Vulnerability

Ageing is a primary risk factor for dementia and Alzheimer's disease, affecting not only memory but also motivation. These functions rely on the hippocampus and nucleus accumbens, two regions that show age-related atrophy. Using a rodent model, we investigated how ageing impacts the glutamatergic Hippocampus–Nucleus Accumbens circuit. Our findings reveal a sex difference: 18-month-old female mice show preserved cellular and behavioral function, while males exhibit glutamatergic hyperactivity in the HPCd–NAc circuit. This hyperactivity disrupts NAc microcircuitry leading to deficits in appetitive memory. These deficits are rescued by chemogenetic selective inhibition of hippocampal neurons projecting to the nucleus accumbens. Our work may inform new strategies to prevent or delay cognitive and motivational decline in ageing.

