

# Neuro Image-guided decoding of mechanisms involved in healthy, accelerated and pathological aging

<https://neurodegenerationresearch.eu/survey/neuro-image-guided-decoding-of-mechanisms-involved-in-healthy-accelerated-and-pathological-aging/>

## Principal Investigators

Van Der Linden Ponsaert

## Institution

Universiteit Antwerpen

## Contact information of lead PI Country

Belgium

## Title of project or programme

Neuro Image-guided decoding of mechanisms involved in healthy, accelerated and pathological aging

## Source of funding information

FWO

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€ 400,000

## Start date of award

01/01/2015

## Total duration of award in years

4

## Keywords

### Research Abstract

Aging has profound effects on many cellular processes that predispose to neurodegeneration, impairment in cognitive function, as well as changes in brain functional connectivity networks (e.g. default mode network) and synaptic alterations. However, the key mechanisms orchestrating brain aging remain largely unknown. More and more findings in rodents and humans have established that inflammatory processes in the hypothalamus can contribute to

neurodegeneration upon aging via reproductive (HPG) axis. However, the exact mechanisms by which (i) Inflammatory signalling in the hypothalamus contributes to the occurrence of age-related functional connectivity and synaptic alterations, and (ii) hypothalamic HPG signalling modulates age-related neurodegeneration and cognitive changes are not well understood and need further investigation. The main goals of this project are to investigate: (i) how deregulation of the HPG axis impacts brain networks that display aging decline, (ii) how hypothalamic inflammation is steering deregulation of HPG axis in healthy aging, accelerated aging and pathological aging, and (iii) how hypothalamic inflammatory responses become activated upon healthy, accelerated and pathological aging, with specific focus on cellular, connectional architecture of functional networks. This project will contribute new information that will greatly increase our understanding about underlying mechanisms of hypothalamus-driven systematic aging of the brain.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

Belgium

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A