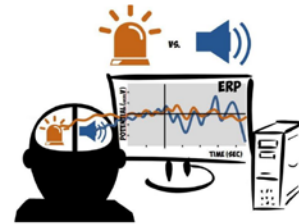


## Early neurophysiological markers of age-related cognitive decline



*This invention tackles the early detection of age-related cognitive degeneration in order to treat and prevent dementia in early stages.*

*Age-related cognitive decay leading to brain pathologies such as Alzheimer's disease (AD) affect 47 million people worldwide, AD accounting for more than half of the cases, and these numbers are expected to triple by 2050. Preceding the disease there is a stage where the person experiences certain cognitive impairment. This invention addresses the identification of patients susceptible of developing dementia later on and proposes a method for the follow-up of these disorders.*

### DESCRIPTION

The invention is based on the coupling of an experimental cognitive paradigm called Hold-Release (HR), that involves engagement versus disengagement of focused attention in the patient being tested, with the recording of Event-Related Potentials (ERP) by electroencephalography (EEG).

### ADVANTAGES

- Detect early changes in neural brain activity associated with subtle cognitive deficits such as incipient AD and related
- Monitor changes in brain activity on follow-up after therapeutic interventions
- Easily implemented and cost-effective compared to other brain imaging methods (MRI, PET)

Patterns of brain electrical activity (ERPs) revealing either the engagement of attention or its release



### STAGE OF DEVELOPMENT

Test validated in a large cohort of around 100 patients recorded at four hospital sites in Switzerland.

### INTELLECTUAL PROPERTY

European Patent application N°:18157181.1 "Computer-implemented method and apparatus for detecting and predicting the neural signature of disorders of executive functions", priority date 16.02.2018

Applicant: Centre Hospitalier Universitaire Vaudois (CHUV)

Inventor: J.F. Demonet

### COLLABORATION OFFER

PACTT offers to grant exclusive or non exclusive license to industrial partners able to develop and commercialize the technology.

### REFERENCE

IDF 21/17