

**PostDoc opportunity: Open position for a post-doc in Psychology/Neurosciences in Caen, France**

Laboratory: Inserm U1237, PhIND, Caen, France (dir: Pr Denis Vivien), Team Multimodal Neuroimaging and Lifestyle in Aging and Alzheimer's disease (Dr. Gaël Chételat)

Project: ***Sex differences in risk profiles across the Alzheimer's disease continuum***

**Project**

*This project is a collaboration between the team of Drs Gaël Chételat (Caen, France), Miranka Wirth (Dresden, Germany) and Natalie Marchant (London, UK).*

Recent estimates suggest that 40% of dementia cases can be prevented by acting on modifiable risk factors (cardiovascular, lifestyle, psychological). On the other hand, sex has been associated with a different level of susceptibility to Alzheimer's disease (AD). Still, the effect of sex remains largely unexplored, especially when considering sex-specificities in AD risk. This project will investigate if the relationship between risk profiles and pathological Alzheimer's disease (AD) hallmarks differs by sex.

To do so, the project will use two existing longitudinal cohorts of healthy older individuals and patients along the AD continuum: the DELCODE (DZNE, Germany) and the Age-Well (MEDIT-AGEING, Caen, France) cohorts. Both cohorts are well characterized with overlapping and complementary measures of risk factors and multimodal AD biomarkers, including cardiovascular, lifestyle, psychological, inflammatory marker assessments, detailed neuropsychological evaluation and multimodal neuroimaging (structural and functional MRI, as well as A $\beta$  and FDG-PET) and biomaterial collection (blood samples or CSF samples). In addition, Age-Well participants underwent an 18-month intervention based either on meditation or second language training, while a group of participants received no intervention. This will allow us to determine whether, in healthy older adults, sex-specific risk profiles are modifiable by behavioural interventions.

All data required for the project are already available. The project will require the use of advanced multivariate statistical modelling and deep learning to derive sex-specific risk profiles related to pathological AD hallmarks and clinical progression.

Identifying sex-specific risk profiles associated with AD pathological features will contribute to the development of sex-specific diagnostic procedures for early detection of dementia and will guide recommendations for sex-personalized interventions.

**Position's characteristics**

This is a 2-year position, starting on July 1<sup>st</sup> 2022. Salary will be adapted to the candidate's experience and will follow standard French salaries at Inserm.

The post-doc will be affiliated to the Chételat lab (<http://www.chetelat-lab.fr>; Caen, France). She/he will be in charge of data analyses (behavioral and neuroimaging) and dissemination of the results (communications in conferences and manuscript publication). As part of the Chételat lab, she/he will also be involved in the lab activities (which might include data

processing, quality control etc.). The candidate will also work with the other collaborators of this project (Dr Natalie Marchant, UCL and Dr Miranka Wirth, DZNE Dresden). She/he will be invited in collaborators' laboratories for short periods to work on the project, for example, to access and process DZNE data.

**Candidate profile and requirements:**

- PhD in psychology, neuropsychology, neurosciences, or related field.
- Highly motivated with scientific curiosity and good teamwork skills
- Good statistical skills are required.
- Previous experience in the field of aging, Alzheimer's Disease and/or neuroimaging.
- Proficiency in written and oral English is required.

**Application process:**

Please send a curriculum vitae, a letter on motivation and interests and 2 reference letters before March 31<sup>st</sup> to Julie Gonneaud: [gonneaud@cyceron.fr](mailto:gonneaud@cyceron.fr)

For further information about the Silver Santé Study visit the project website at [www.silversantestudy.eu](http://www.silversantestudy.eu)

For the DZNE-DELCODE study, visit <https://www.dzne.de/en/research/studies/clinical-studies/delcode/>