Postdoctoral position in Biostatistics
Bordeaux Population Health Inserm Center

The Research Center Bordeaux Population Health from the National Institute of Health and Medical Research (Inserm) offers a 1-year position renewable twice for a postdoctoral researcher in Biostatistics. The candidate will work on two projects regarding development and application of statistical models for predicting the risk of dementia from high dimensional brain imaging data and biomarkers.

The project **RHU SHIVA** (PI Stephanie Debette) funded by the French Agency of Research (ANR) aims at stopping cognitive decline and dementia by fighting covert cerebral small vessel disease (cSVD). The **Memento cohort** (PI Geneviève Chêne and Carole Dufouil) funded by the ministry of research is a national cohort on the natural history of Alzheimer's disease and related dementia. It has included 2323 participants with early signs of cognitive changes (subjective complaints or light deficits) that are followed up over 10 years with repeated clinical, neuropsychological, biological and neuroimaging (MRI, FDG-PET, amyloid PET) examinations.

Under the joint supervision of two Inserm directors of research in Biostatistics and Epidemiology, Hélène Jacqmin-Gadda (Biostatistics team) and Carole Dufouil (Vintage team), the candidate will contribute to
- **WP4 of the SHIVA project** that aims at developing risk prediction models for cSVD complications (mainly cognitive decline and dementia)
- and to **Memento scientific programme** on the added value of neuroimaging markers to predict clinical course.

Prediction models will be developed using either only initial values of the markers or accounting for change over time of these markers. Supervised and unsupervised approaches will be compared. To develop a prediction model accounting for change over time of multiple markers and competing risk of death, implementation of extensions of joint models for time-to-event and longitudinal markers will be required.

Required Profile:
PhD in biostatistics with good skills in statistical modelling and mastery of the R statistical software and programming language or another programming language. Knowledge of statistical methods for time-to-event and longitudinal data and development of prediction models will be appreciated. Aptitude to work in team, dynamism and autonomy. Fluent in English

Salary: Following university salary scale
Duration: 1 to 3 years;
Beginning: As soon as possible from January 2021
Application: send a CV and letter of motivation to Carole Dufouil and Helene Jacqmin-Gadda

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