



The Neurodegenerative Brain Diseases Group in the VIB Department of Molecular Genetics at the University of Antwerp is looking for a PhD student

PhD project: 'Genetics of frontotemporal lobar degeneration'

Project description:

Frontotemporal lobar degeneration (FTLD) refers to a group of seriously disabling and irreversible clinical conditions that are characterized by progressive neuronal loss in the frontal and/or temporal cortices. Topological differences of the neurodegeneration are reflected in the clinical presentation that can include changes in behavior and social conduct, poor impulse control, stereotypic behavior, loss of semantic knowledge of faces, emotions, objects, and language, and loss of speech fluency. Moreover, motor neuron disease (MND) and parkinsonism complicate the disease in up to 15% of patients, and overlap with symptoms of Alzheimer's disease (AD) is not uncommon. Onset age of FTLD ranges on average from 45 to 65 years and often people who are mid-career and still raising a family are affected. In Europe the number of FTLD patients is estimated at 500.000 and is steadily increasing due to the aging population. At present, no efficient therapy or treatment is available. In addition to clinical heterogeneity, FTLD is markedly heterogeneous at the pathological as well as genetic level. Up to 50% of FTLD patients have a family history of dementia and in these familial patients the disease is often transmitted in an autosomal dominant manner. Mutations in four known genes explain about half of the autosomal dominant FTLD patients suggesting that mutations in other genes must exist. In addition, genetic loci were identified that harbor susceptibility to disease, but together these only explain a fraction of the occurrence of the disease.

Using modern molecular genetics and genomics approaches, the PhD student will further identify rare and low frequency though high penetrant variants as well as and common, low penetrant variants in novel causal or risk genes to uncover molecular pathways contributing to disease etiology. The successful candidate will apply for a personal PhD fellowship and will acquire his/her own research expertise in a dynamic research environment.

Context:

The VIB Department of Molecular Genetics is one of 8 research departments of VIB (<http://www.vib.be/VIB/EN/>). With near 100 researchers working in 4 research groups, the department aims to understand the complex nature of neurological and psychiatric human diseases (<http://www.molgen.ua.ac.be/>). The department has specialized central service facilities like the Genetic Service Facility and the Diagnostic Service Facility, as well as central units with expert knowledge of bio-informatics and technology development. The Neurodegenerative Brain Diseases group is active in the field of neurodegenerative diseases like Alzheimer disease, frontotemporal lobar degeneration and Parkinson disease, as well as related disorders. The group focuses on genetic and genomic approaches as well as functional genomics. Together near 30 researchers and technicians are active in our group.

The VIB Department of Molecular Genetics is located at the University of Antwerp (<http://www.ua.ac.be>), and is affiliated with the Institute Born-Bunge, a research institute with a track record in clinical neurological and pathological research into CNS and PNS diseases (http://www.bornbunge.be/Home/index_nl.shtml), and the faculty department of Biomedical Sciences of the Faculty of Pharmaceutical, Biomedical and Veterinarian Sciences.

Candidate profile:

- Motivated PhD students of all nationalities with a strong commitment to basic and/or clinical research.
- Holder of a MSc in medical or biomedical sciences, biochemistry, biotechnology or biology.
- Fluent in English (spoken and written language).
- Any experience in genetics, genomics or molecular cell biology is an advantage.
- The candidate should possess well-developed social skills directed to working in a team.

Application:

- If you are interested in this PhD position, mail a letter of interest, curriculum vitae (including a list of publications) and the names of 2-3 reference persons to phd@molgen.vib-ua.be.