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Education

BSc in Medicine, University of Antwerp, 2009
MSc in Medicine, University of Antwerp, 2013

Current Position

PhD Student at the University of Antwerp, VIB Department of Molecular Genetics

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Keywords

Alzheimer's disease (AD) – early-onset dementia – molecular genetics – translational research

Science

Alzheimer's disease (AD) is one of the biggest challenges in modern medicine. It is the most frequent cause of dementia, affecting an estimated 36 million people worldwide. Mainly due to the aging population, dementia prevalence is estimated to reach 66 million people by 2030 and 115 million by 2050. Our understanding of the pathogenesis of AD is in large part based on molecular genetic research in families with a rare inherited early-onset Alzheimer dementia (EOAD). However, only a limited proportion of EOAD patients can be explained by known mutations and much of the familial clustering in early-onset AD is still left unexplained. Using next-generation sequencing techniques such as whole exome sequencing we aim to identify additional genes in EOAD. This is expected to extend our knowledge of the biology of neurodegeneration and improve drug development for targeted patient groups. In addition, families with autosomal dominant forms of EOAD hold great potential for translational research, such as studying early life history of dementia, predictive biomarkers, disease conversion and drug response. As a medical doctor I will participate in prospective longitudinal studies in these families, including clinical and neuropsychological assessments, neuroimaging, biomarker analyses and pathology. Healthy mutation carriers will provide information on the temporal evolution of biomarkers throughout the preclinical stages of the disease, whereas affected mutation carriers provide insights into the temporal development of the disease through its clinical stage.

Recent Research Projects and Fellowships

University of Antwerp – Doctoral Fellowship

Period: 01.09.2013 – 31.08.2017

Title: 'Neurogenetic translational research in monogenic Alzheimer's disease'

Role: PhD student

Selected Publications

Cuyvers E, De Roeck A, **Van den Bossche T**, Van Cauwenberghe C, Bettens K, Vermeulen S, Mattheijssens M, Peeters K, Engelborghs S, Vandenbulcke M, Vandenberghe R, De Deyn PP, Van Broeckhoven C, Sleegers K. Mutations in ABCA7 in a Belgian cohort of Alzheimer's disease patients: a targeted resequencing study. *Lancet Neurol.* 2015 Aug;14(8):814-22. doi: 10.1016/S1474-4422(15)00133-7. Epub 2015 Jun 30. PMID: 26141617.