Julie van der Zee

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BSc Medicine, University of Ghent, 1999
MSc Medical Biology, Free University of Amsterdam, 2003
PhD Biomedical Science, University of Antwerp, 2007

Current Position

Junior Staff Scientist Translational Genetics
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Current Project Members

Predoctoral Researcher: Tim Van Langenhove, MD
Research associate: Lubina Dillen, PhD
Technical staff: Céline Merlin, BSc

Keywords

Translational Genetics – early-onset dementia - frontotemporal lobar degeneration (FTLD) - biobanking

Science

In the previous 8 years my work has focused on the molecular genetics of frontotemporal lobar degeneration (FTLD), together with Alzheimer's disease a common cause of early-onset dementia. Recently, I have positioned myself in the field of translational genetics of early-onset dementia. My research builds on two major research strategies: early-onset dementia genetic research and translational biobanking.

In our early-onset dementia research we aim to contribute to the elucidation of the missing heritability of dementia by focusing on extreme phenotype patients in terms of early onset or high familial load. Study of these high-genetic load patients combined with the latest next-generation sequencing and -omics technologies should lead to the discovery of new genetic factors for dementia, both causal genes and disease modifiers.

With translational biobanking we build upon our existing biobank for neurodegenerative brain disease. We invest in the systematic collection of wide ranges of human samples from thoroughly characterized research participants to allow genetic findings to be translated to patient-derived material, such as body fluids for biomarker studies and brain material for expression or epigenetic studies. Through this integrated approach we aim to facilitate the translation of genetic breakthroughs into biologically and clinically relevant approaches towards

improved diagnostics, genetic counseling, and therapy of both early- and late-onset dementia.

In this research context, together with Prof. Dr. C. Van Broeckhoven, we are coordinating the European Early Onset Dementia consortium (alias: European EOD Consortium). The European EOD Consortium currently holds 40 dementia expertise centers from 16 EU-countries. We are further setting up new collaborations with national and international research groups and clinical centers bringing them together in our European network. Within the network clinical, epidemiological and biological data together with biomaterials are being collected to stimulate high-profile translational research on early-onset dementia.

Selected Research Projects and Fellowships

Research Foundation Flanders (FWO). Research Fellowship
Period: 01.10.2011 – 30.09.2014
Title: 'Molecular genetics and biomarker research of frontotemporal lobar degeneration supported by robust biosampling and biobanking strategies'
Role: Fellow

Research Foundation Flanders (FWO). Investigator Initiated Grant
Period: 01.01.2011 – 31.12.2013
Title: 'In depth investigation of TMEM106B as first common risk factor for FTLD in a Flanders-Belgian population of clinically diagnosed patients'
Role: PI

International Alzheimer Research Foundation (SAO/FRMA). Pilot Award
Period: 01.01.2011 – 31.12.2012
Title: 'Follow-up of genome-wide association studies in a powerful study population of Belgium FTLD patients'
Role: PI

Research Foundation Flanders (FWO). Research Fellowship
Period: 01.10.2008 – 30.09.2011
Title: 'Genetic risk for frontotemporal lobar degeneration: A genome-wide approach'
Role: Fellow

International Alzheimer Research Foundation (SAO/FRMA). Pilot Award
Period: 01.11.2008 – 30.10.2010
Title: 'Biosampling and extended phenotyping of FTLD patients'
Role: PI

Special Research Fund (BOF) of the University of Antwerp. Small Research Project
Period: 01.02.2009 – 31.12.2010
Title: 'Determining PGRN serum levels in Belgian frontotemporal lobar degeneration patients'
Role: PI

All Projects and Fellowships

Selected Publications

Van Langenhove,T., **van der Zee,J.**, Van Broeckhoven,C.: The molecular basis of the frontotemporal lobar degeneration - amyotrophic lateral sclerosis spectrum. Annals of Medicine. Epub 2012 (I.F.: 5.435) (PMID: 22420316)

Gijselinck,I., Van Langenhove,T., **van der Zee,J.**, Sleegers,K., Philtjens,S., Kleinberger,G., Janssens,J., Bettens,K., Van Cauwenberghe,C., Pereson,S., Engelborghs,S., Sieben,A., De Jonghe,P., Vandenberghe,R., Santens,P., De Bleecker,J., Maes,G., Bäumer,V., Dillen,L., Joris,G., Cuijt,I., Corsmit,E., Elinck,E.,

Van Dongen,J., Vermeulen,S., Van den Broeck,M., Vaerenberg,C., Mattheijssens,M., Peeters,K., Robberecht,W., Cras,P., Martin,J-J., De Deyn,P., Cruts,M., Van Broeckhoven,C.: A C9orf72 promoter repeat expansion in a Flanders-Belgian cohort with disorders of the frontotemporal lobar degeneration-amyotrophic lateral sclerosis spectrum: a gene identification study. Lancet Neurology 11(1): 54-65 (2012) Epub: 07-Dec-2011 (I.F.: 21.659) (PMID: 22154785)

Van Langenhove,T., **van der Zee,J.**, Engelborghs,S., Vandenberghe,R., Santens,P., Van den Broeck,M., Mattheijssens,M., Peeters,K., Nuytten,D., Cras,P., De Deyn,P., De Jonghe,P., Cruts,M., Van Broeckhoven,C.: Ataxin-2 polyQ expansions in FTLD-ALS spectrum disorders in Flanders-Belgian cohorts. Neurobiology of Aging (2011) Epub: 27-Oct-2011 (I.F.: 6.634) (PMID: 22035589)

van der Zee,J., Van Broeckhoven,C.: TMEM106B a novel risk factor for frontotemporal lobar degeneration. Journal of Molecular Neuroscience (2011) Epub: 26-May-2011 (I.F.: 2.922) (PMID: 21614538)

van der Zee,J., Van Langenhove,T., Kleinberger,G., Sleegers,K., Engelborghs,S., Vandenberghe,R., Santens,P., Van den Broeck,M., Joris,G., Brys,J., Mattheijssens,M., Peeters,K., Cras,P., De Deyn,P., Cruts,M., Van Broeckhoven,C.: TMEM106B is associated with frontotemporal lobar degeneration in a clinically diagnosed patient cohort. Brain 134(Pt 3):808-15 (2011) (I.F.:9.490) (PMID: 21354975)

All Publications