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Bio

MD, University of Ghent, 2007
MSc in Biotechnology, University of Ghent, 2008
PhD in Medical Sciences, University of Antwerp, 2012

Current Position

Postdoctoral scientist at the University of Antwerp, since 2012

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Keywords
frontotemporal lobar degeneration - genetics - biosampling - translational research

Science

Frontotemporal lobar degeneration (FTLD) is a form of dementia characterized by progressive changes in behavior, personality and/or language problems. Up to 40% of patients with FTLD have a family history of the disease indicating an important role of genetic factors to the development of the disease. Causal mutations are found in the *PGRN*, *MAPT*, *VCP* and *CHMP2B* genes, which account now for 8-17% of total FTLD cases. In this project I seek to identify novel genetic factors that contribute to the risk of developing FTLD. To this end, genome-wide association studies will be conducted which allow screening of the complete genome in high density and in an unbiased manner for association between genetic variants and disease. When large families with Mendelian segregation of the disease are collected, genetic linkage analysis will be performed to identify novel causal genes for FTLD. Newly identified genetic factors will be evaluated whether they are correlated to clinical subtypes, specific abnormalities on neurological imaging, protein profiles in serum and plasma and neuropathological findings. For these purposes I will invest in assembling a large study population of FTLD patients, which will be clinically, genetically and pathologically characterized in detail and of whom different sources of biological material will be collected – DNA, cell-lines, serum, plasma and brain.

Selected Research Projects and Fellowships

Institute for Science and Technology (IWT). Second Term Research Fellowship
Period: 01.01.2011 – 31.12.2012
Title: 'Molecular genetic research into the complex genetics of frontotemporal lobar dementia.'
Role: Fellow

Institute for Science and Technology (IWT). First Term Research Fellowship
Period: 01.01.2009 – 31.12.2010
Title: 'Molecular genetic research into the complex genetics of frontotemporal lobar dementia.'
Role: Fellow

All Projects and Fellowships

Selected Publications

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): 808-815 (2011) (PMID:21354975)

Van Langenhove, T., van der Zee, J., Sleegers, K., Engelborghs, S., Vandenberghe, R., Gijselinck, I., Van den Broeck, M., Mattheijssens, M., Peeters, K., De Deyn, P. P., Cruts, M., Van Broeckhoven, C.: Genetic contribution of FUS to Frontotemporal Lobar Degeneration. Neurology 74 (5): 366-371 (2009) (PMID: 20124201)

van der Zee, J., Pirici, D., **Van Langenhove, T.**, Engelborghs, S., Vandenberghe, R., Hoffmann, M., Pusswald, G., Van den Broeck, M., Peeters, K., Mattheijssens, M., Martin, J.-J., De Deyn, P. P., Cruts, M., Haubenberger, D., Kumar-Singh, S., Zimprich, A., Van Broeckhoven, C.: Clinical heterogeneity in 3 unrelated families linked to VCP p.Arg159His. Neurology 73 (8): 626-632 (2009) (PMID: 19704082)

All publications