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FACULTEIT GENEESKUNDE EN FARMACIE

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UITNODIGING

Voor de openbare verdediging van het
doctoraatsproefschrift van

Folefac AMINKENG

dinsdag 7 september 2010

U wordt vriendelijk uitgenodigd op de openbare verdediging van het proefschrift van

Folefac AMINKENG

'Refining the Immunogenetic Risk Assessment for Type 1 Diabetes in the Belgian Population'

Op **dinsdag 7 september 2010** om **17 uur** in auditorium **P. Brouwer** van de Faculteit Geneeskunde & Farmacie, Laarbeeklaan 103, 1090 Brussel

Situering van het proefschrift

Over 50 genetic loci for type 1 diabetes (T1D) have been suggested. Studying these loci in different populations using large representative groups could have potential applications in disease classification, risk assessment, understanding disease heterogeneity and generating hypotheses that can be tested in functional studies. In line with the goals of the Belgian Diabetes Registry (BDR), the aims of this doctoral thesis were to study: 1) the association of a number of candidate genes (*IL2RA/CD25*, *IFIH1*, *TNFA*) suggested by GWAS or other studies in a large representative group of patients, healthy controls and families from the Belgian population; 2) their interaction with major or previously confirmed genetic markers, diabetes phenotypes and immune markers. In this project, we have shown that: 1) *TNFA* is associated with T1D independently of *HLA-DQ* linked risk and that a specific diabetogenic haplotype including *TNFa1* confers significantly higher risk for T1D compared to the risk of *HLA-DQA1*0501-DQB1*0201* haplotype alone; 2) *IFIH1* is not associated with T1D, both before and after stratification according to *HLA-DQ* linked risk and shows no correlation with disease phenotype and immune markers; 3) *IL2RA/CD25* is associated with T1D, independently of sex and this association is present in both early-onset and late-onset disease but more pronounced in early onset disease. Also, the association of *IL2RA/CD25* is not dependent on a specific disease phenotype, immune marker, or *HLA-DQ*, *INS* and *PTPN22* genotype. The design of these studies underscores the importance of national diabetes registries in disclosing the interaction between genetic, clinical and biological characteristics.

Curriculum Vitae

Folefac AMINKENG was born in 1978 in Cameroon. His mother is a Nurse/Midwife and his father a Senior Medical Laboratory Technician with the District Medical Hospital. He most probably got his inspiration from his father, to study Medical Laboratory Sciences (MLS) at the Faculty of Health Sciences of the University of Buea, where he graduated with a BMLS (Hons) in 2001. He became a certified Medical Laboratory Scientist with the National Order of Nurses, Midwives, and Health Technicians of Cameroon thereafter. In 2003, he started a Master-PhD Trajectory by enrolling in the Master program in Medical and Pharmaceutical Research with keen interest on complex genetics, particularly the genetics and genome biology of diabetes. In 2004, he joined the Diabetes Research Center (DRC) and graduated with a Master degree in Medical and Pharmaceutical Research in 2005. He started his PhD in October 2005. Since joining the DRC, his research work has focused on the genetics of type 1 diabetes and is currently author or co-author of six peer reviewed articles in internationally recognised journals in this field. He has also been a key player in interuniversity collaboration projects including the VLIR-SOUTH INITIATIVE 2006, the VLIR-OWN INITIATIVE 2007 and the CAMDER (Cameroon Diabetes Epidemiology and Registry) project. He is married to Tamohnkeng Nicoline Bebongchu and they have two kids, Chris and Pruddy.