



Vrije Universiteit Brussel

Predocctoral Position in Mitochondrial Diseases and Research

The Centre for Medical Genetics of the Vrije Universiteit Brussel (VUB) has a predoctoral research position available in a dynamic team involved in research on mitochondrial (mt) disorders. In particular, the project will focus on the identification of gene defects in the mt and nuclear genome directly involved in the pathogenesis of mt disorders.

The position is immediately available and is funded by VUB research funds for a period of 4 years. Experience in the field of molecular DNA technology is an advantage.

Informal enquiries can be made to S.Seneca, PhD (sara.seneca@uzbrussel.be)

We invite applications with a CV (+ photo) and names and addresses of 2 referees.

Contact: Sara Seneca, Centre for Medical Genetics, UZ Brussel Brussels, Vrije Universiteit Brussel, Laarbeeklaan 101, 1090 Brussels, Belgium. Tel: 00 32 2 477 60 71 Fax: 00 32 2 477 68 60 email: sara.seneca@uzbrussel.be

Mitochondrial cytopathies are a heterogeneous group of progressive disorders caused by a dysfunction of the oxidative phosphorylation system. They present as organ specific or multisystemic diseases, and energy demanding tissues of the human body are particularly vulnerable. Today, numerous mitochondrial and nuclear pathogenic gene defects, causing mitochondrial disease, have already been identified in single patients and large families. The study of the whole mitochondrial genome (dHPLA and Mito CHIP array techniques) or specific nuclear genes, the quantification of mtDNA (SB & real time PCR) and the use of rho zero cell fusions or yeast cells, enzyme activity studies, SDS or BN-PAGE electrophoresis and immunocytochemical staining are all important tools towards the identification of the causative gene mutation. Recently, our attention has turned towards protein synthesis in mitochondria. Looking at the abundance of rRNA, tRNA and mRNA transcripts will inform us about the functional aspects of the transcription and translation machinery in patients and might direct the study to the gene defect.