Virtual, Physiological and Computational Neuromuscular Models for the Predictive Treatment of Parkinson's Disease

https://neurodegenerationresearch.eu/survey/virtual-physiological-and-computational-neuromuscular-models-for-the-predictive-treatment-of-parkinson%c2%92sdisease/

Principal Investigators
Institution
Contact information of lead PI
Country

European Commission

Title of project or programme

Virtual, Physiological and Computational Neuromuscular Models for the Predictive Treatment of Parkinson's Disease

Source of funding information

European Commission FP7-Seventh Framework Programme

Total sum awarded (Euro)

€ 2,870,522

Start date of award

01/01/2014

Total duration of award in years

3.0

The project/programme is most relevant to:

Parkinson's disease & PD-related disorders

Keywords
Research Abstract
NoTremor aims to provide patient specific computational models of the coupled brain and neuromuscular systems that will be subsequently used to improve the quality of analysis, correlation (of novel and established indicators) and progression of Parkinson's disease. In particular, it aspires to establish the neglected link between brain modelling and neuromuscular systems that will result in a holistic representation of the physiology for PD patients. A significant breakthrough of NoTremor is that these models will not be used for abstract representation of the physiology or as a match between theory and clinical measurements. NoTremor will

integrate computational models of the basal ganglia and brainstem into a unique multi-scale parametric computational model that can be subsequently simulated in the NoTremor simulation engine in a physics-based manner. NoTremor will revolutionize research in the pathophysiology of neurodegenerative movement disorders and provide a novel approach for their analysis founded on a solid computational modelling basis that links midbrain degenerations to motor behaviour. The computational models will be quantified and validated through test campaigns with a very large cohort of PD patients. The ultimate challenging use of the NoTremor virtual patient models will be from the one side clinical decision support and from the other side the investigation, virtual prototyping and modeling of the influence of dopamine levels testing of new drugs using virtual patient models.

Lay Summary
Further information available at:

Types:
Investments > €500k

Member States:
European Commission

Diseases:
Parkinson's disease & PD-related disorders

Years:
2016

Database Categories:
N/A

Database Tags:
N/A