Theoretical and empirical aspects of aging and rejuvenation

https://neurodegenerationresearch.eu/survey/theoretical-and-empirical-aspects-of-aging-and-rejuvenation/

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Country

Sweden

Title of project or programme

Theoretical and empirical aspects of aging and rejuvenation

Source of funding information

Swedish Foundation for Strategic Research

Total sum awarded (Euro)

€ 652,884

Start date of award

01-09-2014

Total duration of award in years

5.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords
Research Abstract
Ageing is by far the biggest risk factor for a wide range of prevalent clinical conditions caused by accumulated aggregated proteins. My research focus is on the development of novel mathematical models to deeper understand aging and age associated molecular processes as well as their implications on age-dependent diseases. To investigate mechanism of this process and the nature of aggregate inheritance we are developing models on both single–cell and

population level. Models are based on the Ordinary Differential Equations and abstract representation of the cell-to-cell variability in the hierarchical model structure. A stochastic model will be developed to assess the nature of aggregate inheritance. A web-based platform will be established containing database for storing simulation and experimental data, model simulator and visualization tool that allow descriptive representation and interpretation of the results. The project will generate novel insights into the understanding of age-related disorders, especially those associated to aggregate accumulation like Alzheimer's disease. Preliminary results showed that the combination of a single-cell model and a simulation platform permitting parallel composition and dynamic node creation is an efficient tool for exploration of cell behavior.

Lay Summary
Further information available at:

Types:
Investments > €500k

Member States:
Sweden

Diseases:
Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A