PRESTO Project Abstract

NEUROSCINT

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NEUROSCINT project is running as one of the project in the PRESTO Program of Japan Science and Technology Agency since October 2004 (PI: Mihoko Otake).

Title: Development of Bilateral Multiscale Neural Simulator

PI: Mihoko Otake

There is an urgent need for the technological development which is applicable to diagnosis, treatment and prevention of nervous diseases which cause movement disorders because of the rapid aging of this country. In this study, the multiscale simulator is developed which computes both macroscopic whole body motions and microscopic neuronal activities bilaterally. Four-tiered detailed neural model is built comprising molecular, cellular, tissular and individual levels based on anatomy and physiology, whose activities are calculated in parallel. The movement and the internal state of the nervous system will be estimated, which are altered by the chemicals and exercises. The research is promising for the novel diagnosis of neurological disorders and their treatments through medication and movement therapy.

PRESTO is a proposal-oriented research promotion program which aims at cultivating the seeds of precursory science and technology by promoting basic researches in which each researcher's originality and free ideas can be fully realized. "Development of Bilateral Multiscale Neural Simulator" is one of the PRESTO project in the research area "The innovation of simulation technology and the construction of foundations for its practical use".

Links

The innovation of simulation technology and the construction of foundations for its practical use
PRESTO, JST