

Resource Summary Report

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GENESIS Neural Database and Modelers Workspace

RRID:SCR_002357

Type: Tool

Proper Citation

GENESIS Neural Database and Modelers Workspace (RRID:SCR_002357)

Resource Information

URL: <http://www.genesis-sim.org/hbp/>

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Description: Software system to assist computational neuroscientists in interacting with databases of models and with neural simulation packages such as GENESIS. There are three components in the system: a user interface, a database server, and a global registry and repository. The collection of software tools with a graphical user interface enables users to interact over the WWW with databases of models and data. It provides facilities for searching multiple remote databases for model components based on various criteria; visualizing the characteristics of the components retrieved; creating new components, either from scratch or derived from existing models; combining components into new models; linking models to experimental data as well as online publications; and interacting with simulation packages such as GENESIS to simulate the new constructs. Although the initial version uses GENESIS as the simulator, the design permits the use of multiple simulation systems, with or without the use of a database. This allows modeling at multiple levels of scale from the molecular level, through the subcellular (e.g. ion channel), single cell, and network levels, to the systems level (e.g. relating models to fMRI studies). The system is intended to help users create and organize models and to interact with databases of models and neuronal simulation software. More specifically, the Modeler's Workspace is designed to provide the following: * Search and retrieval facilities for interacting with databases of models and other information; * Facilities for creating, editing and visualizing the characteristics of models; * Facilities for combining model components together and translating them into formats suitable for simulation systems such as GENESIS and NEURON; * Facilities for managing a personal database where a user can collect models and other objects; and * Collaboration facilities for connecting one or more users together, to allow them to simultaneously edit objects in a shared database and communicate with each other using real-time chat. The Modeler's Workspace is written in Java for portability and extensibility. It is modular in design and uses pluggable components for supporting different data formats, which means that new data types can be supported by loading an appropriate plug-in. To increase the probability that the

Modeler's Workspace will be compatible with future databases and tools, they are using the eXtensible Markup Language (XML) as the interchange format for communicating with databases.

Abbreviations: Modeler's Workspace, Modelers Workspace

Synonyms: GENESIS Neural Database and Modeler's Workspace

Resource Type: software resource, service resource

Keywords: channel, ion, model, neuron, simulation, visualization, xml, neural model, neural simulation, data sharing, database, neuronal cell, voltage-gated channel, data repository, registry

Funding: Human Brain Project ;
Sun Microsystems Inc. ;
Academic Equipment

Availability: The community can contribute to this resource

Resource Name: GENESIS Neural Database and Modelers Workspace

Resource ID: SCR_002357

Alternate IDs: nif-0000-21168

Old URLs: <http://www.modelersworkspace.org/>

Record Creation Time: 20220129T080213+0000

Record Last Update: 20260808T190439+0000

Ratings and Alerts

No rating or validation information has been found for GENESIS Neural Database and Modelers Workspace.

No alerts have been found for GENESIS Neural Database and Modelers Workspace.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We have not found any literature mentions for this resource.