Resource Summary Report

Generated by SPARC SAWG on Jul 30, 2026

NeuroRD

RRID:SCR_014769
Type: Tool

Proper Citation

NeuroRD (RRID:SCR_014769)

Resource Information

URL: http://krasnow1.gmu.edu/CENlab/software.html

Proper Citation: NeuroRD (RRID:SCR_014769)

Description: Stochastic reaction-diffusion simulator in Java which is used for simulating neuronal signaling pathways.

Resource Type: software application, simulation software, software resource

Keywords: simulation software, simulator, java, neuronal signaling pathway, neuron

Funding: HFSP ;
NIMH K21-MH01141;
NSF IBN 0077509;
CRCNS program R01 AA16022;
CRCNS program AA18066

Availability: Available for download

Resource Name: NeuroRD

Resource ID: SCR_014769

Alternate URLs: https://github.com/neurord/stochdiff/releases

Record Creation Time: 20220129T080322+0000

Record Last Update: 20260728T043443+0000

Ratings and Alerts

No rating or validation information has been found for NeuroRD.

No alerts have been found for NeuroRD.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 13 mentions in open access literature.

Listed below are recent publications. The full list is available at SPARC SAWG .

Eriksson O, et al. (2022) Combining hypothesis- and data-driven neuroscience modeling in FAIR workflows. eLife, 11.

Miningou Zobon NT, et al. (2021) Temporal pattern and synergy influence activity of ERK signaling pathways during L-LTP induction. eLife, 10.

Mäki-Marttunen T, et al. (2020) A unified computational model for cortical post-synaptic plasticity. eLife, 9.

Rastenyte D, et al. (2020) Diagnostic Ability of Structural Transcranial Sonography in Patients with Alzheimer's Disease. Diagnostics (Basel, Switzerland), 10(7).

Manninen T, et al. (2018) Challenges in Reproducibility, Replicability, and Comparability of Computational Models and Tools for Neuronal and Glial Networks, Cells, and Subcellular Structures. Frontiers in neuroinformatics, 12, 20.

Luczak V, et al. (2017) Dendritic diameter influences the rate and magnitude of hippocampal cAMP and PKA transients during ?-adrenergic receptor activation. Neurobiology of learning and memory, 138, 10.

Chay A, et al. (2016) Control of ?AR- and N-methyl-D-aspartate (NMDA) Receptor-Dependent cAMP Dynamics in Hippocampal Neurons. PLoS computational biology, 12(2), e1004735.

Kim B, et al. (2013) Signaling pathways involved in striatal synaptic plasticity are sensitive to temporal pattern and exhibit spatial specificity. PLoS computational biology, 9(3), e1002953.

McDougal RA, et al. (2013) Water-tight membranes from neuronal morphology files. Journal of neuroscience methods, 220(2), 167.

Blackwell KT, et al. (2013) Approaches and tools for modeling signaling pathways and calcium dynamics in neurons. Journal of neuroscience methods, 220(2), 131.

Oliveira RF, et al. (2012) Subcellular location of PKA controls striatal plasticity: stochastic simulations in spiny dendrites. PLoS computational biology, 8(2), e1002383.

Kim M, et al. (2011) Colocalization of protein kinase A with adenylyl cyclase enhances protein kinase A activity during induction of long-lasting long-term-potentiation. PLoS computational biology, 7(6), e1002084.

Oliveira RF, et al. (2010) The role of type 4 phosphodiesterases in generating microdomains of cAMP: large scale stochastic simulations. PloS one, 5(7), e11725.