Resource Summary Report

Generated by dkNET on May 20, 2025

NEURON

RRID:SCR_017449
Type: Tool

Proper Citation

NEURON (RRID:SCR_017449)

Resource Information

URL: https://neuron.yale.edu/neuron/

Proper Citation: NEURON (RRID:SCR_017449)

Description: Software for computational neurophysiology. Simulation environment is used for building and using computational models of neurons and networks of neurons. NEURON Users Group can participate in collaborative development of documentation, tutorials, and software.

Resource Type: software resource, software application, simulation software

Keywords: Computational, neurophysiology, model, neuron, network, building, BRAIN Initiative

Funding: NIBIB EB022903

Availability: Free, Available for download, Freely available

Resource Name: NEURON

Resource ID: SCR_017449

Alternate URLs: https://github.com/neuronsimulator/nrn

Record Creation Time: 20220129T080335+0000

Record Last Update: 20250519T204000+0000

Ratings and Alerts

No rating or validation information has been found for NEURON.

No alerts have been found for NEURON.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 33 mentions in open access literature.

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

Cirtala G, et al. (2024) Branch-specific clustered parallel fiber input controls dendritic computation in Purkinje cells. iScience, 27(9), 110756.

Chang L, et al. (2023) Spike desensitisation as a mechanism for high-contrast selectivity in retinal ganglion cells. Frontiers in cellular neuroscience, 17, 1337768.

Gleeson P, et al. (2023) Integrating model development across computational neuroscience, cognitive science, and machine learning. Neuron, 111(10), 1526.

Yao HK, et al. (2022) Reduced inhibition in depression impairs stimulus processing in human cortical microcircuits. Cell reports, 38(2), 110232.

Olah VJ, et al. (2022) Biophysical Kv3 channel alterations dampen excitability of cortical PV interneurons and contribute to network hyperexcitability in early Alzheimer's. eLife, 11.

Liu TX, et al. (2022) Connectomic features underlying diverse synaptic connection strengths and subcellular computation. Current biology : CB, 32(3), 559.

Britton OJ, et al. (2022) A population of in silico models identifies the interplay between Nav 1.8 conductance and potassium currents as key in regulating human dorsal root ganglion neuron excitability. F1000Research, 11, 104.

Paknahad J, et al. (2021) Color and cellular selectivity of retinal ganglion cell subtypes through frequency modulation of electrical stimulation. Scientific reports, 11(1), 5177.

Perumal MB, et al. (2021) Microcircuit mechanisms for the generation of sharp-wave ripples in the basolateral amygdala: A role for chandelier interneurons. Cell reports, 35(6), 109106.

Neymotin SA, et al. (2020) Human Neocortical Neurosolver (HNN), a new software tool for interpreting the cellular and network origin of human MEG/EEG data. eLife, 9.

Booker SA, et al. (2020) Input-Output Relationship of CA1 Pyramidal Neurons Reveals Intact Homeostatic Mechanisms in a Mouse Model of Fragile X Syndrome. Cell reports, 32(6),

107988.

Bryman GS, et al. (2020) Optimized Signal Flow through Photoreceptors Supports the High-Acuity Vision of Primates. Neuron, 108(2), 335.

Ankri L, et al. (2020) Antagonistic Center-Surround Mechanisms for Direction Selectivity in the Retina. Cell reports, 31(5), 107608.

Jang HJ, et al. (2020) Distinct roles of parvalbumin and somatostatin interneurons in gating the synchronization of spike times in the neocortex. Science advances, 6(17), eaay5333.

Liao D, et al. (2020) Simulations of Myenteric Neuron Dynamics in Response to Mechanical Stretch. Computational intelligence and neuroscience, 2020, 8834651.

Ray S, et al. (2020) Feedback inhibition and its control in an insect olfactory circuit. eLife, 9.

Zhang X, et al. (2020) Selective Routing of Spatial Information Flow from Input to Output in Hippocampal Granule Cells. Neuron, 107(6), 1212.

Martin JA, et al. (2019) A novel role for the actin-binding protein drebrin in regulating opiate addiction. Nature communications, 10(1), 4140.

Torró-Montell L, et al. (2019) Influence of Olive Extracts on the Expression of Genes Involved in Lipid Metabolism in Medaka Fish. Molecules (Basel, Switzerland), 24(17).

Deleuze C, et al. (2019) Strong preference for autaptic self-connectivity of neocortical PV interneurons facilitates their tuning to ?-oscillations. PLoS biology, 17(9), e3000419.