

Resource Summary Report

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NEURON

RRID:SCR_017449

Type: Tool

Proper Citation

NEURON (RRID:SCR_017449)

Resource Information

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

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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: simulation software, software application, software resource

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: 20260905T132824+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 244 mentions in open access literature.

Listed below are recent publications. The full list is available at [Kravitz](#).

Ben-Shalom R, et al. (2026) Accurately fitting biophysical neuron models to experimental voltage data enabled by meta-learning. Research square.

Moreira JV, et al. (2025) Closed-Loop Connectivity Best Supports Angular Tuning and Sleep Dynamics in a Biophysical Thalamocortical Circuit Model. bioRxiv : the preprint server for biology.

Pazos S, et al. (2025) Synaptic and neural behaviours in a standard silicon transistor. Nature, 640(8057), 69.

Anderson LS, et al. (2025) Sensorimotor integration enhances temperature stimulus processing. PLoS computational biology, 21(6), e1013134.

Vaasjo LO, et al. (2025) Dendritic inhibition terminates plateau potentials in CA1 pyramidal neurons. bioRxiv : the preprint server for biology.

Cuyubamba O, et al. (2025) The Combination of Neurotropic Vitamins B1, B6, and B12 Enhances Neural Cell Maturation and Connectivity Superior to Single B Vitamins. Cells, 14(7).

Müller-Komorowska D, et al. (2025) Recurrent Interneuron Connectivity Does Not Support Synchrony in a Biophysical Dentate Gyrus Model. eNeuro, 12(4).

Jankowicz-Szymańska A, et al. (2025) The impact of corrective exercises, kinesiology taping, and mechanical correction on pain and foot shape in women with hallux valgus. Frontiers in physiology, 16, 1473278.

Bajželj B, et al. (2025) Utilizing Molecular Descriptor Importance to Enhance Endpoint Predictions. Toxics, 13(5).

Stewart RG, et al. (2025) A Kv2 inhibitor combination reveals native neuronal conductances consistent with Kv2/KvS heteromers. eLife, 13.

Zhao K, et al. (2025) 11,12-Diacetyl-Carnosol Ameliorates Depression-Like Behaviors and Memory Dysfunction in CUMS Mouse Model via Inhibiting HMGB1-Mediated Neuroinflammation. CNS neuroscience & therapeutics, 31(5), e70406.

Donovan LJ, et al. (2025) Aging and injury drive neuronal senescence in the dorsal root ganglia. Nature neuroscience, 28(5), 985.

Musselman ED, et al. (2025) Scaling of vagus nerve stimulation parameters does not achieve equivalent nerve responses across species. *Bioelectronic medicine*, 11(1), 11.

Liu Y, et al. (2025) Brain-wide 3D neuron detection and mapping with deep learning. *Neurophotonics*, 12(2), 025012.

Li X, et al. (2025) Accumulation of Damaging Lipids in the Arf1-Ablated Neurons Promotes Neurodegeneration through Releasing mtDNA and Activating Inflammatory Pathways in Microglia. *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*, 12(16), e2414260.

Moreni G, et al. (2025) Cell-type-specific firing patterns in a V1 cortical column model depend on feedforward and feedback-driven states. *PLoS computational biology*, 21(4), e1012036.

Oláh G, et al. (2025) Accelerated signal propagation speed in human neocortical dendrites. *eLife*, 13.

Ghandour K, et al. (2025) Parallel processing of past and future memories through reactivation and synaptic plasticity mechanisms during sleep. *Nature communications*, 16(1), 3618.

Okai T, et al. (2025) AAV delivery of GBA1 suppresses α -synuclein accumulation in Parkinson's disease models and restores functions in Gaucher's disease models. *PloS one*, 20(5), e0321145.

Wang C, et al. (2025) Integrating physical units into high-performance AI-driven scientific computing. *Nature communications*, 16(1), 3609.