

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: 20260821T194114+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 [ASWG](#).

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.

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

Arendt-Tranholm A, et al. (2025) Single-cell characterization of the human C2 dorsal root ganglion recovered from C1-2 arthrodesis surgery: implications for neck pain. bioRxiv : the preprint server for biology.

Ogunmowo TH, et al. (2025) Intersectin and endophilin condensates prime synaptic vesicles for release site replenishment. Nature neuroscience, 28(8), 1649.

Haque R, et al. (2025) Decoding sexual dimorphism of the sex-shared nervous system at single-neuron resolution. bioRxiv : the preprint server for biology.

Duan H, et al. (2025) The locus coeruleus influences behavior by coordinating effective integration of fear memories and sensory input. PLoS biology, 23(7), e3003272.

Garcia JD, et al. (2025) Differential roles of NaV1.2 and NaV1.6 in neocortical pyramidal cell excitability. eLife, 14.

Habib M, et al. (2025) Neuropathic Pain and Distinct CASPR2 Autoantibody IgG Subclasses Drive Neuronal Hyperexcitability. Neurology(R) neuroimmunology & neuroinflammation, 12(4), e200423.

Woodruff BM, et al. (2025) Axon targeting of transcriptionally distinct pioneer neurons is regulated by retinoic acid signaling. Nature communications, 16(1), 5747.

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.

Ye Z, et al. (2025) SNP rs615552 and lncRNA CDKN2B-AS1 influence brain cancer pathogenesis through multi-omic mechanisms. Scientific reports, 15(1), 27490.

Kallogjerovic S, et al. (2025) Retrograde tracing of breast cancer-associated sensory neurons. *Journal of microscopy*, 298(2), 232.

Holloway K, et al. (2025) Elevated p16Ink4a Expression Enhances Tau Phosphorylation in Neurons Differentiated From Human-Induced Pluripotent Stem Cells. *Aging cell*, 24(5), e14472.

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.

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

Yan ZZ, et al. (2025) Integrative transcriptomic analysis reveals oligodendrocyte lineage switching in multiple sclerosis. *Life science alliance*, 8(10).

Fernández de la Puebla M, et al. (2025) IP3R2-Mediated Astrocytic Ca²⁺ Transients Are Critical to Sustain Modulatory Effects of Locomotion on Neurons in Mouse Somatosensory Cortex. *Cells*, 14(14).

Okuda T, et al. (2025) The posterior capsular central amygdala showing synaptic coactivation with nociceptive pain-associated parabrachial neurons in mice. *iScience*, 28(8), 113001.