Resource Summary Report

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NEST Simulator

RRID:SCR_002963
Type: Tool

Proper Citation

NEST Simulator (RRID:SCR_002963)

Resource Information

URL: http://www.nest-simulator.org/

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Description: Software tool as simulator for spiking neural network models that focuses on dynamics, size and structure of neural systems rather than on exact morphology of individual neurons. Used for any size spiking neurons networks including models of information processing, models of network activity dynamics, models of learning and plasticity.

Abbreviations: NEST

Synonyms: Neural Simulation Tool, NEural Simulation Tool, nest, nest-simulator

Resource Type: software resource, software application, simulation software

Defining Citation: DOI:10.1007/978-1-4614-7320-6_258-5

Keywords: simulation, neuron, spiking, neural network, model, neural system, bio.tools

Funding:

Availability: Free, Available for download, Freely available

Resource Name: NEST Simulator

Resource ID: SCR_002963

Alternate IDs: nif-0000-00162, biotools:nest

Alternate URLs: https://github.com/nest/nest-simulator, https://bio.tools/nest

License: GNU General Public License

Record Creation Time: 20220129T080216+0000

Record Last Update: 20250513T060453+0000

Ratings and Alerts

No rating or validation information has been found for NEST Simulator.

No alerts have been found for NEST Simulator.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 166 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

Wang X, et al. (2025) KSHV hijacks the antiviral kinase IKK? to initiate lytic replication. PLoS pathogens, 21(1), e1012856.

Wang X, et al. (2025) Rescue RM/CS-AKI by blocking strategy with one-dose anti-myoglobin RabMAb. Nature communications, 16(1), 1044.

Johnsen KA, et al. (2024) Bridging model and experiment in systems neuroscience with Cleo: the Closed-Loop, Electrophysiology, and Optophysiology simulation testbed. bioRxiv : the preprint server for biology.

Robens M, et al. (2024) NoC simulation steered by NEST: McAERsim and a Noxim patch. Frontiers in neuroscience, 18, 1371103.

Heer P, et al. (2024) Comprehensive energy demand and usage data for building automation. Scientific data, 11(1), 469.

Jiang HJ, et al. (2024) A layered microcircuit model of somatosensory cortex with three interneuron types and cell-type-specific short-term plasticity. Cerebral cortex (New York, N.Y. : 1991), 34(9).

Senk J, et al. (2024) Reconciliation of weak pairwise spike-train correlations and highly coherent local field potentials across space. Cerebral cortex (New York, N.Y. : 1991), 34(10).

Kusch L, et al. (2024) Multiscale co-simulation design pattern for neuroscience applications.

Frontiers in neuroinformatics, 18, 1156683.

Cox CE, et al. (2024) Mobile Application-Based Communication Facilitation Platform for Family Members of Critically Ill Patients: A Randomized Clinical Trial. JAMA network open, 7(1), e2349666.

Beck RJ, et al. (2024) Evolutionary development of mother-child scaffolding for moral comprehension. Frontiers in psychology, 15, 1397547.

Steiner LA, et al. (2024) Neural signatures of indirect pathway activity during subthalamic stimulation in Parkinson's disease. Nature communications, 15(1), 3130.

Znamenskiy P, et al. (2024) Functional specificity of recurrent inhibition in visual cortex. Neuron, 112(6), 991.

Zajzon B, et al. (2023) Signal denoising through topographic modularity of neural circuits. eLife, 12.

Wu S, et al. (2023) Dissecting Sperm Mitochondrial G-Quadruplex Structures Using a Fluorescent Probe Biomarker to Monitor and Regulate Fertilization Capability. ACS sensors, 8(6), 2186.

Gandolfi D, et al. (2023) Full-scale scaffold model of the human hippocampus CA1 area. Nature computational science, 3(3), 264.

Rigby M, et al. (2023) Multi-synaptic boutons are a feature of CA1 hippocampal connections in the stratum oriens. Cell reports, 42(5), 112397.

Riquelme JL, et al. (2023) Single spikes drive sequential propagation and routing of activity in a cortical network. eLife, 12.

Anil S, et al. (2023) Repetitive transcranial magnetic stimulation (rTMS) triggers dose-dependent homeostatic rewiring in recurrent neuronal networks. bioRxiv : the preprint server for biology.

Lorents A, et al. (2023) Human Brain Project Partnering Projects Meeting: Status Quo and Outlook. eNeuro, 10(9).

Anil S, et al. (2023) Repetitive transcranial magnetic stimulation (rTMS) triggers dose-dependent homeostatic rewiring in recurrent neuronal networks. PLoS computational biology, 19(11), e1011027.