Resource Summary Report

Generated by RRID on Sep 10, 2026

ModelDB

RRID:SCR_007271
Type: Tool

Proper Citation

ModelDB (RRID:SCR_007271)

Resource Information

URL: http://senselab.med.yale.edu/modeldb/

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Description: Curated database of published models so that they can be openly accessed, downloaded, and tested to support computational neuroscience. Provides accessible location for storing and efficiently retrieving computational neuroscience models.Coupled with NeuronDB. Models can be coded in any language for any environment. Model code can be viewed before downloading and browsers can be set to auto-launch the models. The model source code has to be available from publicly accessible online repository or WWW site. Original source code is used to generate simulation results from which authors derived their published insights and conclusions.

Abbreviations: ModelDB

Synonyms: Model_DB, Model Database, Model DB, Model-DB

Resource Type: data or information resource, data repository, database, service resource, storage service resource

Defining Citation: PMID:15218350, PMID:15055399, PMID:8930855

Keywords: repository, collection, network, neuron, computational, neuroscience, model, simulation, neural, data

Funding: Human Brain Project ;
NCI ;
NIDCD P01 DC004732;
NIDCD R01 DC009977;
NIMH ;
NINDS

Availability: Free, Freely available, Acknowledgement requested

Resource Name: ModelDB

Resource ID: SCR_007271

Alternate IDs: nif-0000-00004, r3d100011330

Alternate URLs: https://doi.org/10.17616/R3P61F

Record Creation Time: 20220129T080240+0000

Record Last Update: 20260905T132609+0000

Ratings and Alerts

No rating or validation information has been found for ModelDB.

No alerts have been found for ModelDB.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 312 mentions in open access literature.

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

Dale JA, et al. (2026) Mechanisms mediating dynamic changes in neural responses during deep brain stimulation. Brain stimulation, 19(1), 103002.

Tvrdy TJ, et al. (2026) Axonal spike-count regimes link spinal cord stimulation periodicity to artificial sensory detection and discrimination in rodents. bioRxiv : the preprint server for biology.

Iseri E, et al. (2026) Impact of Aii Amacrine Cell Rewiring in a Pathoconnectome-Based Computational Model of Early Retinal Degeneration. bioRxiv : the preprint server for biology.

Cohen I, et al. (2026) All Models are Wrong, Some are Annotated: Automating Metadata in Biomedical Repositories. bioRxiv : the preprint server for biology.

Earl C, et al. (2026) DeltaQ: Value-Guided Hebbian Learning in Spiking Neuronal Networks for Multi-Goal Navigation. bioRxiv : the preprint server for biology.

Missey F, et al. (2026) Non-invasive temporal interference stimulation of the hippocampus suppresses epileptic biomarkers in patients with Epilepsy: biophysical differences between kilohertz and amplitude modulated stimulation. Brain stimulation, 19(1), 102981.

Eissa A, et al. (2026) Computational Modelling of Novelty Detection in the Mismatch Negativity Protocols and Its Impairments in Schizophrenia. The European journal of

neuroscience, 63(6), e70453.

Mäki-Marttunen T, et al. (2025) Pre- and Post-synaptic Mechanisms of Neuronal Inhibition Assessed Through Biochemically Detailed Modeling of GABAB Receptor Signaling. The Journal of neuroscience : the official journal of the Society for Neuroscience, 45(36).

Eguchi Y, et al. (2025) Kcnq (Kv7) channels exhibit frequency-dependent responses via partial inductor-like gating dynamics. Communications biology, 8(1), 866.

Stojanovic S, et al. (2025) Rebound Bursting Selectively Enables Fast Dynamics in Dopamine Midbrain Neurons Projecting to the Dorsolateral Striatum. The Journal of neuroscience : the official journal of the Society for Neuroscience, 45(44).

Miller JA, et al. (2025) Incorporating the thermodynamic effects of temperature and pressure on modeling neuronal gating kinetics. PloS one, 20(10), e0333592.

Castelfranco AM, et al. (2025) Mitochondria delay action potential propagation. Communications biology, 8(1), 1341.

Manara E, et al. (2025) In silico investigation of the puzzling dopamine effects on excitability and synaptic plasticity in hippocampal CA1 pyramidal neurons. Scientific reports, 15(1), 32822.

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

Bou Diab Z, et al. (2025) Biophysical network modeling of temporal and stereotyped sequence propagation of neural activity in the premotor nucleus HVC. eLife, 14.

Park P, et al. (2025) Dendritic excitations govern back-propagation via a spike-rate accelerometer. Nature communications, 16(1), 1333.

Eissa A, et al. (2025) Computational modelling of novelty detection in the mismatch negativity protocols and its impairments in schizophrenia. bioRxiv : the preprint server for biology.

Takács V, et al. (2024) Synaptic and dendritic architecture of different types of hippocampal somatostatin interneurons. PLoS biology, 22(3), e3002539.

Kamiya H, et al. (2024) Ectopic burst induced by blockade of axonal potassium channels on the mouse hippocampal mossy fiber. Frontiers in cellular neuroscience, 18, 1434165.

Ibañez S, et al. (2024) Myelin dystrophy impairs signal transmission and working memory in a multiscale model of the aging prefrontal cortex. eLife, 12.