Resource Summary Report

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NeuroMatic

RRID:SCR_004186
Type: Tool

Proper Citation

NeuroMatic (RRID:SCR_004186)

Resource Information

URL: http://www.neuromatic.thinkrandom.com/

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Description: NeuroMatic is a collection of Igor Pro functions for analyzing electrophysiological data. By allowing users to organize their data into Sets and Groups, NeuroMatic makes it relatively easy to compute transformations and statistical analyses on their data, including scaling, alignment averaging, baseline subtraction, spike detection, stationarity analysis, rise-time computations, etc. Being open source and modular designed, NeuroMatic also allows users to develop their own analysis functions that can be easily incorporated into NeuroMatic's framework. Note, if you have reached this page in search of a freeware tool for neuronal reconstructions, you are more likely to be interested in Neuromantic, a software package that sounds like NeuroMatic, but is not quite the same. Features of NeuroMatic Include * Sorting, Scaling, Averaging, Interpolation * Max / Min / Mean / Level / Rise Time / FWHM / Slope Measurements * Stability / Stationarity Analysis * Event Detection * Waveform Template Matching * Spike Raster Plots * Interspike-Interval and Peri-Stimulus Time (PST) Histograms * Compact Easy-to-Use Interface * Modular design as a basis for your own procedures * Extra space for your own buttons and controls * Import functions for Axograph and Pclamp data * Automatic macro generation for batch processing Supporting Agencies: MRC, Wellcome Trust Spike, Event, Fit, NClamp, Acquisition, spike train, EPSP, IPSP, IPSC, EPSC

Synonyms: NeuroMatic

Resource Type: data analysis software, software resource, software application, data processing software

Defining Citation: PMID:29670519

Keywords: epsc, epsp, event, fit, acquisition, data management, ipsc, ipsp, nclamp, software, spike, spike train, bio.tools

Funding:

Resource Name: NeuroMatic

Resource ID: SCR_004186

Alternate IDs: nif-0000-00073, biotools:neuromatic

Alternate URLs: https://bio.tools/neuromatic

Record Creation Time: 20220129T080223+0000

Record Last Update: 20250421T053420+0000

Ratings and Alerts

No rating or validation information has been found for NeuroMatic.

No alerts have been found for NeuroMatic.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 277 mentions in open access literature.

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

McIlvried LA, et al. (2025) Intrinsic adaptive plasticity in mouse and human sensory neurons. The Journal of general physiology, 157(1).

Sonsalla G, et al. (2024) Direct neuronal reprogramming of NDUFS4 patient cells identifies the unfolded protein response as a novel general reprogramming hurdle. Neuron.

Kreeger LJ, et al. (2024) An Anatomical and Physiological Basis for Flexible Coincidence Detection in the Auditory System. bioRxiv : the preprint server for biology.

Matthews EA, et al. (2024) RNA-programmable cell type monitoring and manipulation in the human cortex with CellREADR. bioRxiv : the preprint server for biology.

Ngodup T, et al. (2024) The Na+ leak channel NALCN controls spontaneous activity and

mediates synaptic modulation by ?2-adrenergic receptors in auditory neurons. eLife, 12.

Bruentgens F, et al. (2024) The Lack of Synapsin Alters Presynaptic Plasticity at Hippocampal Mossy Fibers in Male Mice. eNeuro, 11(7).

Moffa JC, et al. (2024) Cell-Specific Single Viral Vector CRISPR/Cas9 Editing and Genetically Encoded Tool Delivery in the Central and Peripheral Nervous Systems. eNeuro, 11(7).

Giacomoni J, et al. (2024) 3D model for human glia conversion into subtype-specific neurons, including dopamine neurons. Cell reports methods, 4(9), 100845.

Contini D, et al. (2024) Simultaneous recordings from vestibular Type I hair cells and their calyceal afferents in mice. Frontiers in neurology, 15, 1434026.

Jaime Tobón LM, et al. (2024) Bridging the gap between presynaptic hair cell function and neural sound encoding. eLife, 12.

Peace ST, et al. (2024) Coherent olfactory bulb gamma oscillations arise from coupling independent columnar oscillators. Journal of neurophysiology, 131(3), 492.

Mancini C, et al. (2024) Secure attachment to caregiver prevents adult depressive symptoms in a sex-dependent manner: A translational study. iScience, 27(12), 111328.

Ibrahim KM, et al. (2024) Dorsal hippocampus to nucleus accumbens projections drive reinforcement via activation of accumbal dynorphin neurons. Nature communications, 15(1), 750.

Cazé RD, et al. (2024) Demonstration that sublinear dendrites enable linearly non-separable computations. Scientific reports, 14(1), 18226.

Ruschig M, et al. (2024) Human antibodies neutralizing the alpha-latrotoxin of the European black widow. Frontiers in immunology, 15, 1407398.

Huang Z, et al. (2024) A disinhibitory microcircuit of the orbitofrontal cortex mediates cocaine preference in mice. Molecular psychiatry, 29(10), 3160.

Riva M, et al. (2023) Aberrant survival of hippocampal Cajal-Retzius cells leads to memory deficits, gamma rhythmopathies and susceptibility to seizures in adult mice. Nature communications, 14(1), 1531.

Xiao K, et al. (2023) A critical role for CaMKII in behavioral timescale synaptic plasticity in hippocampal CA1 pyramidal neurons. Science advances, 9(36), eadi3088.

Kintscher M, et al. (2023) A striatal circuit balances learned fear in the presence and absence of sensory cues. eLife, 12.

Wong TLH, et al. (2023) Transient photocurrents in a subthreshold evidence accumulator accelerate perceptual decisions. Nature communications, 14(1), 2770.