Resource Summary Report

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Computational Neurobiology Laboratory at the Salk Institute

RRID:SCR_002809
Type: Tool

Proper Citation

Computational Neurobiology Laboratory at the Salk Institute (RRID:SCR_002809)

Resource Information

URL: http://www.cnl.salk.edu/

Proper Citation: Computational Neurobiology Laboratory at the Salk Institute (RRID:SCR_002809)

Description: The long range goal of this laboratory is to understand the computational resources of brains from the biophysical to the systems levels. The central issues being addressed are how dendrites integrate synaptic signals in neurons, how networks of neurons generate dynamical patterns of activity, how sensory information is represented in the cerebral cortex, how memory representations are formed and consolidated during sleep, and how visuo-motor transformations are adaptively organized. Additionally, new techniques have been developed for modeling cell signaling using Monte Carlo methods (MCell) and the blind separation of brain imaging data into functionally independent components (ICA).

Synonyms: Computational Neurobiology Lab

Resource Type: data or information resource, laboratory portal, organization portal, portal, simulation software, software application, software resource

Keywords: biophysical, brain, cell, cerebral cortex, computational, dendrite, laboratory, memory, model, neuron, signal, sleep, synaptic, transformation, visuo-motor

Availability: Free, Freely available

Resource Name: Computational Neurobiology Laboratory at the Salk Institute

Resource ID: SCR_002809

Alternate IDs: nif-0000-24693

Record Creation Time: 20220129T080215+0000

Record Last Update: 20260905T132454+0000

Ratings and Alerts

No rating or validation information has been found for Computational Neurobiology Laboratory at the Salk Institute.

No alerts have been found for Computational Neurobiology Laboratory at the Salk Institute.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 7 mentions in open access literature.

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

Ullah I, et al. (2012) Neuroprotection with metformin and thymoquinone against ethanol-induced apoptotic neurodegeneration in prenatal rat cortical neurons. BMC neuroscience, 13, 11.

Michels L, et al. (2010) Simultaneous EEG-fMRI during a working memory task: modulations in low and high frequency bands. PloS one, 5(4), e10298.

Naseer MI, et al. (2009) Maternal epileptic seizure induced by pentylenetetrazol: apoptotic neurodegeneration and decreased GABAB1 receptor expression in prenatal rat brain. Molecular brain, 2, 20.

Esposito F, et al. (2006) A multivariate approach for processing magnetization effects in triggered event-related functional magnetic resonance imaging time series. NeuroImage, 30(1), 136.

Bartels A, et al. (2004) The chronoarchitecture of the human brain--natural viewing conditions reveal a time-based anatomy of the brain. NeuroImage, 22(1), 419.

Franks KM, et al. (2002) A Monte Carlo model reveals independent signaling at central glutamatergic synapses. Biophysical journal, 83(5), 2333.

Laubach M, et al. (1999) Independent component analyses for quantifying neuronal ensemble interactions. Journal of neuroscience methods, 94(1), 141.