Resource Summary Report

Generated by RRID on Apr 8, 2025

KNOSSOS

RRID:SCR_003582
Type: Tool

Proper Citation

KNOSSOS (RRID:SCR_003582)

Resource Information

URL: http://www.knossostool.org/

Proper Citation: KNOSSOS (RRID:SCR_003582)

Description: Software tool for the visualization and annotation of 3D image data and was developed for the rapid reconstruction of neural morphology and connectivity. By dynamically loading only data from the surround of the current view point, seamless navigation is not limited to datasets that fit into the available RAM but works with much larger dataset stored in a special format on disk. Currently, KNOSSOS is limited to 8-bit data. In addition to viewing and navigating, KNOSSOS allows efficient manual neurite annotation ("skeletonization"). KNOSSOS is being used mostly for reconstructing cell morphologies from 3D electron microscopic data generated by Serial Block-Face Electron Microscopy (SBEM), with an occasional application to 2-photon and confocal optical microscopy data.

Abbreviations: KNOSSOS

Resource Type: software resource

Defining Citation: PMID:21743472

Keywords: reconstruct, neuronal morphology, connectivity, electron microscopy, windows, python, retina, neuron, morphology, serial block-face electron microscopy, visualization, annotation, 3d image

Funding:

Availability: GNU General Public License, v2

Resource Name: KNOSSOS

Resource ID: SCR_003582

Alternate IDs: nlx_157725

Record Creation Time: 20220129T080219+0000

Record Last Update: 20250214T183032+0000

Ratings and Alerts

No rating or validation information has been found for KNOSSOS.

No alerts have been found for KNOSSOS.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 46 mentions in open access literature.

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

Johnson MD, et al. (2024) Cell-to-cell interactions revealed by cryo-tomography of a DPANN co-culture system. Nature communications, 15(1), 7066.

Renganathan B, et al. (2024) Transport and Organization of Individual Vimentin Filaments Within Dense Networks Revealed by Single Particle Tracking and 3D FIB-SEM. bioRxiv : the preprint server for biology.

Tecuatl C, et al. (2024) Accelerating the continuous community sharing of digital neuromorphology data. FASEB bioAdvances, 6(7), 207.

Heller DT, et al. (2024) Astrocyte ensheathment of calyx-forming axons of the auditory brainstem precedes accelerated expression of myelin genes and myelination by oligodendrocytes. The Journal of comparative neurology, 532(2), e25552.

Wildenberg G, et al. (2023) Isochronic development of cortical synapses in primates and mice. Nature communications, 14(1), 8018.

Wildenberg G, et al. (2023) The Development of Synapses in Mouse and Macaque Primary Sensory Cortices. bioRxiv : the preprint server for biology.

Hanson L, et al. (2023) Hierarchical retinal computations rely on hybrid chemical-electrical signaling. Cell reports, 42(2), 112030.

Kappel JM, et al. (2022) Visual recognition of social signals by a tectothalamic neural circuit. Nature, 608(7921), 146.

Jain V, et al. (2022) Gain control by sparse, ultra-slow glycinergic synapses. Cell reports, 38(8), 110410.

Carroll BJ, et al. (2022) Layer 5 of cortex innervates the thalamic reticular nucleus in mice. Proceedings of the National Academy of Sciences of the United States of America, 119(38), e2205209119.

Ball JM, et al. (2022) Mitochondria in cone photoreceptors act as microlenses to enhance photon delivery and confer directional sensitivity to light. Science advances, 8(9), eabn2070.

Ishibashi M, et al. (2022) Analysis of rod/cone gap junctions from the reconstruction of mouse photoreceptor terminals. eLife, 11.

Hamnett R, et al. (2022) Regional cytoarchitecture of the adult and developing mouse enteric nervous system. Current biology : CB, 32(20), 4483.

Ding J, et al. (2021) Spatially displaced excitation contributes to the encoding of interrupted motion by a retinal direction-selective circuit. eLife, 10.

Matsumoto A, et al. (2021) Direction selectivity in retinal bipolar cell axon terminals. Neuron, 109(18), 2928.

Fulton KA, et al. (2021) Permeabilization-free en bloc immunohistochemistry for correlative microscopy. eLife, 10.

Wildenberg G, et al. (2021) Partial connectomes of labeled dopaminergic circuits reveal non-synaptic communication and axonal remodeling after exposure to cocaine. eLife, 10.

Sethuramanujam S, et al. (2021) Rapid multi-directed cholinergic transmission in the central nervous system. Nature communications, 12(1), 1374.

Sawant A, et al. (2021) Organization and emergence of a mixed GABA-glycine retinal circuit that provides inhibition to mouse ON-sustained alpha retinal ganglion cells. Cell reports, 34(11), 108858.

Müller A, et al. (2021) 3D FIB-SEM reconstruction of microtubule-organelle interaction in whole primary mouse ? cells. The Journal of cell biology, 220(2).