Resource Summary Report

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Open Connectome Project

RRID:SCR_004232
Type: Tool

Proper Citation

Open Connectome Project (RRID:SCR_004232)

Resource Information

URL: http://openconnectomeproject.org/

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Description: THIS RESOURCE IS NO LONGER IN SERVICE. Documented on January 9, 2023. Connectomes repository to facilitate the analysis of connectome data by providing a unified front for connectomics research. With a focus on Electron Microscopy (EM) data and various forms of Magnetic Resonance (MR) data, the project aims to make state-of-the-art neuroscience open to anybody with computer access, regardless of knowledge, training, background, etc. Open science means open to view, play, analyze, contribute, anything. Access to high resolution neuroanatomical images that can be used to explore connectomes and programmatic access to this data for human and machine annotation are provided, with a long-term goal of reconstructing the neural circuits comprising an entire brain. This project aims to bring the most state-of-the-art scientific data in the world to the hands of anybody with internet access, so collectively, we can begin to unravel connectomes. Services: * Data Hosting - Their Bruster (brain-cluster) is large enough to store nearly any modern connectome data set. Contact them to make your data available to others for any purpose, including gaining access to state-of-the-art analysis and machine vision pipelines. * Web Viewing - Collaborative Annotation Toolkit for Massive Amounts of Image Data (CATMAID) is designed to navigate, share and collaboratively annotate massive image data sets of biological specimens. The interface is inspired by Google Maps, enhanced to allow the exploration of 3D image data. View the fork of the code or go directly to view the data. * Volume Cutout Service - RESTful API that enables you to select any arbitrary volume of the 3d database (3ddb), and receive a link to download an HDF5 file (for matlab, C, C++, or C#) or a NumPy pickle (for python). Use some other programming language? Just let them know. * Annotation Database - Spatially co-registered volumetric annotations are compactly stored for efficient queries such as: find all synapses, or which neurons synapse onto this one. Create your own annotations or browse others. *Sample Downloads - In addition to being able to select arbitrary downloads from the datasets, they have also collected a few choice

volumes of interest. * Volume Viewer - A web and GPU enabled stand-alone app for viewing volumes at arbitrary cutting planes and zoom levels. The code and program can be downloaded. * Machine Vision Pipeline - They are building a machine vision pipeline that pulls volumes from the 3ddb and outputs neural circuits. - a work in progress. As soon as we have a stable version, it will be released. * Mr. Cap - The Magnetic Resonance Connectome Automated Pipeline (Mr. Cap) is built on JIST/MIPAV for high-throughput estimation of connectomes from diffusion and structural imaging data. * Graph Invariant Computation - Upload your graphs or streamlines, and download some invariants. * iPad App - WholeSlide is an iPad app that accesses utilizes our open data and API to serve images on the go.

Abbreviations: Open Connectome Project

Synonyms: openconnectomeproject, Open Connectome Project: Collectively reverse-engineering the brain one synapse at a time., Open Connectome Project: Collectively reverse-engineering the brain one synapse at a time

Resource Type: production service resource, web service, data repository, data or information resource, data analysis service, analysis service resource, service resource, data access protocol, source code, data set, software resource, image repository, storage service resource

Defining Citation: PMID:23707591

Keywords: human, primary visual cortex, data sharing, male, electron microscopy, mri, connectome, annotation, image collection, array tomography

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Availability: THIS RESOURCE IS NO LONGER IN SERVICE

Resource Name: Open Connectome Project

Resource ID: SCR_004232

Alternate IDs: SciRes_000189, nlx_143645

Alternate URLs: http://openconnecto.me, http://www.nitrc.org/projects/ocp/

Record Creation Time: 20220129T080223+0000

Record Last Update: 20250524T060003+0000

Ratings and Alerts

No rating or validation information has been found for Open Connectome Project.

No alerts have been found for Open Connectome Project.

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 NIF.

Hsu A, et al. (2017) Comparative ultrastructural features of excitatory synapses in the visual and frontal cortices of the adult mouse and monkey. The Journal of comparative neurology, 525(9), 2175.

Kornfeld J, et al. (2017) EM connectomics reveals axonal target variation in a sequence-generating network. eLife, 6.

Schlegel P, et al. (2016) Synaptic transmission parallels neuromodulation in a central food-intake circuit. eLife, 5.

Wanner AA, et al. (2015) Challenges of microtome-based serial block-face scanning electron microscopy in neuroscience. Journal of microscopy, 259(2), 137.

Weiler NC, et al. (2014) Synaptic molecular imaging in spared and deprived columns of mouse barrel cortex with array tomography. Scientific data, 1, 140046.

Lee WC, et al. (2011) Specificity and randomness: structure-function relationships in neural circuits. Current opinion in neurobiology, 21(5), 801.

Gratiy SL, et al. (2011) On the estimation of population-specific synaptic currents from laminar multielectrode recordings. Frontiers in neuroinformatics, 5, 32.