Resource Summary Report

Generated by NIF on May 17, 2025

Fly EM

RRID:SCR_002242
Type: Tool

Proper Citation

Fly EM (RRID:SCR_002242)

Resource Information

URL: http://www.janelia.org/team-project/fly-em

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Description: A project producing datasets, software, and algorithms that is developing the technology to produce connectomes at the electron microscopic level of behaviorally-relevant neural circuits as well as the entire Drosophila nervous system. This technology will enable them to create a map of every neuron and synapse in the Drosophila nervous system, using novel approaches to electron microscopy (EM) as the foundation. In the same way that the fly genome paved the way for larger projects, including sequencing the human genome, Fly EM may ultimately contribute to our understanding of the human brain by establishing a fly "connectome" a map that shows how all neurons in the fly brain are connected to each other. They began their entry into EM reconstruction with the fly's adult visual system, where much is known about cell types from previous EM and histological studies, as well as ongoing studies in the Fly Light Project. In addition to establishing and publishing a fly connectome, Fly EM will make technology and methodology available that is needed to perform large-scale EM reconstructions. Fly EM will generally pursue an open policy with their datasets, software, and algorithms after relevant publications. When an EM reconstruction is published, the derived connectome and reconstructed neuronal skeletons will be made available online. The raw data and annotatations will be made available upon request as logistics dictate. To encourage further collaboration and scientific discovery, a small fraction of their raw data and corresponding segmentation will be made available independent of publication. Their goal is to enable others who wish to approach the many algorithmic challenges, but who do not have access to an EM facility, to have the data they need to support methods development, as well as their results to use as a benchmark. Fly EM emphasizes publication of supporting techniques and software approaches before major EM reconstruction releases to encourage rapid feedback from the community and adoption of their strategies. FlyEM maintains much of its software in the open-source repository GitHub:http://janelia-flyem.github.com. They will provide information on official release

versions of these packages on git-hub when it reaches reasonable maturity.

Abbreviations: Fly EM, FlyEM

Synonyms: Fly EM Project

Resource Type: software application, data set, topical portal, data processing software, segmentation software, data or information resource, portal, image analysis software, software resource

Defining Citation: PMID:30033368

Keywords: neuron, synapse, nervous system, electron microscopy, visual system, connectome, reconstruction, adult, optic lobe, medulla, lobula

Funding:

Availability: Janelia Farm license, A 3-clause BSD license

Resource Name: Fly EM

Resource ID: SCR_002242

Alternate IDs: nlx_155555

Record Creation Time: 20220129T080212+0000

Record Last Update: 20250517T055524+0000

Ratings and Alerts

No rating or validation information has been found for Fly EM.

No alerts have been found for Fly EM.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 3 mentions in open access literature.

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

Ascoli GA, et al. (2021) Farewell, Neuroinformatics! Neuroinformatics, 19(4), 551.

Feng D, et al. (2015) Exploration and visualization of connectivity in the adult mouse brain.

Methods (San Diego, Calif.), 73, 90.

Peng H, et al. (2013) Automated image computing reshapes computational neuroscience. BMC bioinformatics, 14, 293.