

Resource Summary Report

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OpenWorm

RRID:SCR_014650

Type: Tool

Proper Citation

OpenWorm (RRID:SCR_014650)

Resource Information

URL: <http://www.openworm.org/>

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Description: 3D web browser that allows users to simulate and dissect virtual *C. elegans*. Users can explore the anatomy of a virtual, 3D worm by zooming in and out, rotating the model, and viewing the worm's different layers. NeuroML format and connector are used to enhance the simulation, and supporting programs and code are available for coders.

Synonyms: OpenWorm Browser, Open Worm

Resource Type: simulation software, software application, software resource, web application

Defining Citation: [PMID:25404913](https://pubmed.ncbi.nlm.nih.gov/25404913/), [DOI:10.3389/fncom.2014.00137](https://doi.org/10.3389/fncom.2014.00137)

Keywords: simulation, model, web application, web browser, c elegans, nematode, worm, roundworm, open source, 3d, dissect, anatomy, bio.tools

Funding:

Availability: Open source, Code is available on GitHub, Available on the App Store

Resource Name: OpenWorm

Resource ID: SCR_014650

Alternate IDs: SCR_014984, biotools:OpenWorm

Alternate URLs: <https://bio.tools/OpenWorm>

License: MIT

Record Creation Time: 20220129T080321+0000

Record Last Update: 20250424T065322+0000

Ratings and Alerts

No rating or validation information has been found for OpenWorm.

No alerts have been found for OpenWorm.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 19 mentions in open access literature.

Listed below are recent publications. The full list is available at [FDI Lab - SciCrunch.org](#).

Lee HJ, et al. (2025) Automated cell annotation in multi-cell images using an improved CRF_ID algorithm. eLife, 12.

Santschi L, et al. (2024) NeuroLab 2.0: An Alternative Storyline Design Approach for Translating a Research-Based Summer Experience into an Advanced STEM+M Curriculum Unit that Supports Three-Dimensional Teaching and Learning in the Classroom. Journal of STEM outreach, 7(1).

Zhao M, et al. (2024) An integrative data-driven model simulating C. elegans brain, body and environment interactions. Nature computational science, 4(12), 978.

Wolfe Z, et al. (2024) Deep Transcriptomics Reveals Cell-Specific Isoforms of Pan-Neuronal Genes. bioRxiv : the preprint server for biology.

Lee HJ, et al. (2023) Automated cell annotation in multi-cell images using an improved CRF_ID algorithm. bioRxiv : the preprint server for biology.

Liska D, et al. (2023) VISTA: Visualizing the Spatial Transcriptome of the C. elegans Nervous System. bioRxiv : the preprint server for biology.

Chaudhary S, et al. (2021) Graphical-model framework for automated annotation of cell identities in dense cellular images. *eLife*, 10.

Lorimer T, et al. (2021) Tracking changes in behavioural dynamics using prediction error. *PloS one*, 16(5), e0251053.

Sengupta T, et al. (2021) Differential adhesion regulates neurite placement via a retrograde zipper mechanism. *eLife*, 10.

Saberski E, et al. (2021) Networks of Causal Linkage Between Eigenmodes Characterize Behavioral Dynamics of *Caenorhabditis elegans*. *PLoS computational biology*, 17(9), e1009329.

Alicea B, et al. (2020) Raising the Connectome: The Emergence of Neuronal Activity and Behavior in *Caenorhabditis elegans*. *Frontiers in cellular neuroscience*, 14, 524791.

Poupet C, et al. (2020) *Caenorhabditis elegans*, a Host to Investigate the Probiotic Properties of Beneficial Microorganisms. *Frontiers in nutrition*, 7, 135.

Epelde G, et al. (2018) Web-Based Interfaces for Virtual *C. elegans* Neuron Model Definition, Network Configuration, Behavioral Experiment Definition and Experiment Results Visualization. *Frontiers in neuroinformatics*, 12, 80.

Gleeson P, et al. (2018) c302: a multiscale framework for modelling the nervous system of *Caenorhabditis elegans*. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 373(1758).

Coggan JS, et al. (2018) A Process for Digitizing and Simulating Biologically Realistic Oligocellular Networks Demonstrated for the Neuro-Glio-Vascular Ensemble. *Frontiers in neuroscience*, 12, 664.

Sarma GP, et al. (2018) OpenWorm: overview and recent advances in integrative biological simulation of *Caenorhabditis elegans*. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 373(1758).

Sarma GP, et al. (2016) Unit testing, model validation, and biological simulation. *F1000Research*, 5, 1946.

Vachelard J, et al. (2016) A Guide to Scientific Crowdfunding. *PLoS biology*, 14(2), e1002373.

Gillette TA, et al. (2015) Topological characterization of neuronal arbor morphology via sequence representation: I-motif analysis. *BMC bioinformatics*, 16, 216.