

Resource Summary Report

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eConnectome

RRID:SCR_009618

Type: Tool

Proper Citation

eConnectome (RRID:SCR_009618)

Resource Information

URL: <http://econnectome.umn.edu/>

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Description: An open-source MATLAB software package for imaging brain functional connectivity from electrophysiological signals. It provides interactive graphical interfaces for EEG/ECOG/MEG preprocessing, source estimation, connectivity analysis and visualization. Connectivity from EEG/ECOG/MEG can be mapped over sensor and source domains. This package is designed for use by researchers in neuroscience, psychology, cognitive science, clinical neurophysiology, neurology and other disciplines. The graphical interface-based platform requires little programming knowledge or experience with MATLAB. eConnectome is developed by the Biomedical Functional Imaging and Neuroengineering Laboratory at the University of Minnesota, directed by Dr. Bin He. The visualization module is jointly developed with Drs. Fabio Babiloni and Laura Astolfi at the University of Rome La Sapienza.

Abbreviations: eConnectome

Synonyms: Electrophysiological Connectome

Resource Type: image processing software, data processing software, software application, image analysis software, software resource

Keywords: eeg, meg, electrocorticography, forward - inverse, matlab, microsoft, modeling, multivariate analysis, region of interest, segmentation, statistical operation, visualization, windows, windows xp

Funding: NIBIB RO1 EB006433;
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Availability: GNU General Public License

Resource Name: eConnectome

Resource ID: SCR_009618

Alternate IDs: nlx_155844

Alternate URLs: <http://www.nitrc.org/projects/econnectome>

Record Creation Time: 20220129T080254+0000

Record Last Update: 20260810T040525+0000

Ratings and Alerts

No rating or validation information has been found for eConnectome.

No alerts have been found for eConnectome.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 31 mentions in open access literature.

Listed below are recent publications. The full list is available at [NIF](#).

Sun J, et al. (2024) An ensemble learning model for continuous cognition assessment based on resting-state EEG. npj aging, 10(1), 1.

Casagrande WD, et al. (2024) Electroencephalography Neurofeedback Training with Focus on the State of Attention: An Investigation Using Source Localization and Effective Connectivity. Sensors (Basel, Switzerland), 24(18).

Sun S, et al. (2023) Functional connectivity between the amygdala and prefrontal cortex underlies processing of emotion ambiguity. Translational psychiatry, 13(1), 334.

Juel BE, et al. (2021) Validation of a new approach for distinguishing anesthetized from awake state in patients using directed transfer function applied to raw EEG. Journal of clinical monitoring and computing, 35(6), 1381.

Fanciullacci C, et al. (2021) Connectivity Measures Differentiate Cortical and Subcortical Sub-Acute Ischemic Stroke Patients. Frontiers in human neuroscience, 15, 669915.

Ahn MH, et al. (2020) Temporal Dynamics of Visually Induced Motion Perception and Neural Evidence of Alterations in the Motion Perception Process in an Immersive Virtual Reality Environment. Frontiers in neuroscience, 14, 600839.

leong HF, et al. (2019) Machine learning: assessing neurovascular signals in the prefrontal cortex with non-invasive bimodal electro-optical neuroimaging in opiate addiction. Scientific reports, 9(1), 18262.

Bou Assi E, et al. (2019) Effective connectivity analysis of iEEG and accurate localization of the epileptogenic focus at the onset of operculo-insular seizures. *Epilepsy research*, 152, 42.

Lin Y, et al. (2019) Electroencephalography and Functional Magnetic Resonance Imaging-Guided Simultaneous Transcranial Direct Current Stimulation and Repetitive Transcranial Magnetic Stimulation in a Patient With Minimally Conscious State. *Frontiers in neuroscience*, 13, 746.

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Wang X, et al. (2018) Effects of disparity on visual discomfort caused by short-term stereoscopic viewing based on electroencephalograph analysis. *Biomedical engineering online*, 17(1), 166.

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Pandria N, et al. (2018) Exploring the Neuroplastic Effects of Biofeedback Training on Smokers. *Behavioural neurology*, 2018, 4876287.

Kim S, et al. (2018) Altered cortical functional network during behavioral inhibition in individuals with childhood trauma. *Scientific reports*, 8(1), 10123.

Gonzalez A, et al. (2018) Seizure-like episodes and EEG abnormalities in patients with long QT syndrome. *Seizure*, 61, 214.

Athanasίου A, et al. (2018) Functional Brain Connectivity during Multiple Motor Imagery Tasks in Spinal Cord Injury. *Neural plasticity*, 2018, 9354207.

Ochoa JF, et al. (2017) Successful Object Encoding Induces Increased Directed Connectivity in Presymptomatic Early-Onset Alzheimer's Disease. *Journal of Alzheimer's disease : JAD*, 55(3), 1195.

Petrichella S, et al. (2017) The influence of corticospinal activity on TMS-evoked activity and connectivity in healthy subjects: A TMS-EEG study. *PloS one*, 12(4), e0174879.

Artoni F, et al. (2017) Unidirectional brain to muscle connectivity reveals motor cortex control of leg muscles during stereotyped walking. *NeuroImage*, 159, 403.

Shim M, et al. (2017) Disrupted cortical brain network in post-traumatic stress disorder patients: a resting-state electroencephalographic study. *Translational psychiatry*, 7(9), e1231.