Resource Summary Report

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MGH-USC Human Connectome Project

RRID:SCR_003490
Type: Tool

Proper Citation

MGH-USC Human Connectome Project (RRID:SCR_003490)

Resource Information

URL: http://www.humanconnectomeproject.org/

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Description: A multi-center project comprising two distinct consortia (Mass. Gen. Hosp. and USC; and Wash. U. and the U. of Minn.) seeking to map white matter fiber pathways in the human brain using leading edge neuroimaging methods, genomics, architectonics, mathematical approaches, informatics, and interactive visualization. The mapping of the complete structural and functional neural connections in vivo within and across individuals provides unparalleled compilation of neural data, an interface to graphically navigate this data and the opportunity to achieve conclusions about the living human brain. The HCP is being developed to employ advanced neuroimaging methods, and to construct an extensive informatics infrastructure to link these data and connectivity models to detailed phenomic and genomic data, building upon existing multidisciplinary and collaborative efforts currently underway. Working with other HCP partners based at Washington University in St. Louis they will provide rich data, essential imaging protocols, and sophisticated connectivity analysis tools for the neuroscience community. This project is working to achieve the following: 1) develop sophisticated tools to process high-angular diffusion (HARDI) and diffusion spectrum imaging (DSI) from normal individuals to provide the foundation for the detailed mapping of the human connectome; 2) optimize advanced high-field imaging technologies and neurocognitive tests to map the human connectome; 3) collect connectomic, behavioral, and genotype data using optimized methods in a representative sample of normal subjects; 4) design and deploy a robust, web-based informatics infrastructure, 5) develop and disseminate data acquisition and analysis, educational, and training outreach materials.

Abbreviations: MGH/UCLA HCP

Synonyms: Harvard/MGH-UCLA Human Connectome Project, Harvard/MGH-UCLA Consortium: Human Connectome Project, HCP Harvard/MGH-UCLA, MGH/UCLA Consortium: Human Connectome Project

Resource Type: data or information resource, instrument manufacture, material service resource, portal, production service resource, service resource

Keywords: human, structural, functional, neural, white matter, fiber, brain, in vivo, genomic, neuroimaging, visualization, neuroanatomy, genotype, connectivity, connectivity model, neural pathway, phenomic, connectomics, quantification, scanner, eeg, meg, shape analysis, spatial transformation, diffusion spectrum, q-ball, tensor metric, fiber tracking, connectome, behavior, scanner, web resource, diffusion spectrum, q-ball, tensor metric, quantification, shape analysis, spatial transformation, fiber tracking, FASEB list

Related Condition: Normal

Funding: NIH ;
NIH Blueprint for Neuroscience Research

Availability: Open unspecified license, (BSD/MIT-Style), LONI Software License, Public Domain

Resource Name: MGH-USC Human Connectome Project

Resource ID: SCR_003490

Alternate IDs: nif-0000-35789

Alternate URLs: http://www.nitrc.org/projects/hcp_mgh-ucla

Record Creation Time: 20220129T080219+0000

Record Last Update: 20260821T193701+0000

Ratings and Alerts

No rating or validation information has been found for MGH-USC Human Connectome Project.

No alerts have been found for MGH-USC Human Connectome Project.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 186 mentions in open access literature.

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

Giacobbe P, et al. (2026) Deep Brain Stimulation to the Subgenual Cingulate Gyrus for Treatment-Resistant Depression: A Randomized Controlled Trial and 2-Year Long-Term Follow-Up: Stimulation cérébrale profonde du gyrus cingulaire subgénual pour traiter la

dépression résistante au traitement : Essai contrôlé à répartition aléatoire et suivi à long terme sur deux ans. Canadian journal of psychiatry. Revue canadienne de psychiatrie, 71(4), 266.

Vicentin S, et al. (2026) The effect of age on the architecture of psychological and cognitive dimensions: a network perspective. European journal of ageing, 23(1).

Chauvel M, et al. (2026) Evolutionary signatures in deep white matter architecture: A comparative study of humans and chimpanzees. Imaging neuroscience (Cambridge, Mass.), 4.

Cui S, et al. (2026) Network diffusion modeling predicts spatiotemporal gray matter alterations in internet gaming disorder. Psychological medicine, 56, e150.

Lee DY, et al. (2026) Identifying affective state via clustering of temporal variability in limbic activity and mediating role of negative emotion. Molecular psychiatry, 31(3), 1546.

Garcia-Ramo KB, et al. (2026) Brain connectivity signatures of cognitive impairment in temporal lobe epilepsy identified by robotic assessment. Neuroimage. Reports, 6(1), 100330.

Matsui T, et al. (2026) System identification and surrogate data analyses imply approximate Gaussianity and non-stationarity of resting-brain dynamics. bioRxiv : the preprint server for biology.

Puxeddu MG, et al. (2025) Leveraging multivariate information for community detection in functional brain networks. Communications biology, 8(1), 840.

Lee DS, et al. (2025) Both k-core percolation and directed graph analysis revealed succession and transition of voxels' spatiotemporal progress on dynamic correlation resting-state fMRI. Frontiers in human neuroscience, 19, 1543854.

Very E, et al. (2025) Hippocampal connectivity changes after traumatic memory reactivation with propranolol for posttraumatic stress disorder: a randomized fMRI study. European journal of psychotraumatology, 16(1), 2466886.

Godinez-Zamora GF, et al. (2025) Contribution of next generation sequencing to the diagnosis of inborn errors of immunity in a pediatric cohort. Frontiers in immunology, 16, 1638544.

Germann J, et al. (2025) Biomarker changes associated with fornix deep brain stimulation in Alzheimer's disease. Alzheimer's & dementia : the journal of the Alzheimer's Association, 21(6), e70394.

Hu H, et al. (2025) Typical and disrupted small-world architecture and regional communication in full-term and preterm infants. PNAS nexus, 4(2), pgaf015.

Adewale Q, et al. (2025) Patient-centered brain transcriptomic and multimodal imaging determinants of clinical progression, physical activity, and treatment needs in Parkinson's disease. NPJ Parkinson's disease, 11(1), 29.

Cassone B, et al. (2025) TR(Acking) Individuals Down: Exploring the Effect of Temporal Resolution in Resting-State Functional MRI Fingerprinting. Human brain mapping, 46(2), e70125.

Marek MJ, et al. (2025) The measurement of self-regulation in the Adolescent Brain Cognitive Development (ABCD) Study. PloS one, 20(5), e0322795.

Goede LL, et al. (2025) Convergent mapping of a tremor treatment network. Nature communications, 16(1), 4772.

Quabs J, et al. (2025) Structural Connectivity Differences Reflect Microstructural Heterogeneity of the Human Insular Cortex. Human brain mapping, 46(8), e70231.

Valenza G, et al. (2024) Sympathetic and parasympathetic central autonomic networks. Imaging neuroscience (Cambridge, Mass.), 2.

Cai W, et al. (2024) Subthalamic nucleus-language network connectivity predicts dopaminergic modulation of speech function in Parkinson's disease. Proceedings of the National Academy of Sciences of the United States of America, 121(22), e2316149121.