JINGNAN DU

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ACADEMIC POSITIONS

Harvard University, Department of Psychology, Center for Brain Science 2021.7-now
Postdoctoral Researcher, PI: Randy L. Buckner

MIT, Department of Brain and Cognitive Sciences, McGovern Institute for Brain Research 2025.8-now
Visiting Postdoc, PI: Evelina Fedorenko

EDUCATION

Harvard University, Department of Psychology, Center for Brain Science 2019.9-2021.6
Visiting Ph.D. in Cognitive, Brain and Behavior, PI: Randy L. Buckner

Fudan University, Institute of Science and Technology for Brain-inspired Intelligence 2015.9-2021.6
Ph.D. in Applied Math, Track: Computational Cognitive Neuroscience, PI: Jianfeng Feng

Fudan University, Department of Mathematics, 2015.9-2018.7
M.S. in Mathematics, PI: Engui Fan / Jianfeng Feng

Xidian University, Department of Mathematics 2011.9-2015.6
B.A. in Applied Mathematics

PUBLICATIONS

Journal Publications

1. **Du J**, Tripathi V, Elliott ML, Ladopoulou J, Sun W, Eldaief MC, Buckner RL. "Within-individual precision mapping of brain networks exclusively using task data." *Neuron* 113:1-15, 2025.[pdf]
2. Elliott M, **Du J**, Nielsen JA, Hanford LC, Kivisäkk P, Arnold SE, Dickerson BC, Mair RW, Eldaief MC, Buckner RL. "Precision estimates of longitudinal brain aging capture unexpected individual differences in one year." *medRxiv, major revision in Nature Communications* 2025.[pdf]
3. Sun W, Billot A, **Du J**, Wei X, Lemley RA, Daneshzand M, Nummenmaa A, Buckner RL, Eldaief MC. "Precision network modeling of TMS across individuals suggests therapeutic targets and potential for improvement." *Human Brain Mapping* 46:e70266, 2025.[pdf]
4. Kosakowski HL, **Du J**, Tripathi V, Eldaief MC, Buckner RL. "Ventral striatum is preferentially correlated with the salience network including regions in dorsolateral prefrontal cortex." *Journal of Neurophysiology* 134:193-215, 2025.[pdf]
5. Saadon-Grosman N, **Du J**, Kosakowski HL, Angeli PA, DiNicola LM, Eldaief MC, Buckner RL. "Within-individual organization of the human cognitive cerebellum: Evidence for closely juxtaposed, functionally specialized regions." *Science Advances* 10:eadq4037, 2024.[pdf]
6. **Du J**, DiNicola LM, Angeli PA, Saadon-Grosman N, Sun W, Kaiser S, Ladopoulou J, Xue A, Yeo BTT, Eldaief MC, Buckner RL. "Organization of the human cerebral cortex estimated within individuals: Networks, global topography, and function." *Journal of Neurophysiology* 131:1014-82, 2024.[pdf]

7. Kosakowski HL, Saadon-Grosman N, **Du J**, Eldaief MC, Buckner RL. "Human striatal association megaclusters." *Journal of Neurophysiology* 131:1083-100, 2024.[pdf]
8. Gong W, Fu Y, Wu B-S, **Du J**, Yang L, Zhang YR, Chen SD, Kang J, Mao Y, Dong Q, Tan L, Feng J, Cheng W, Yu J-T. "Whole-exome sequencing identifies protein-coding variants associated with brain iron in 29,828 individuals." *Nature Communications* 15:5540, 2024.[pdf](co-first author)
9. **Du J**, Rolls ET, Gong W, Cao M, Vatansever D, Zhang J, Kang J, Cheng W, Feng J. "Association between parental age, brain structure, and behavioral and cognitive problems in children." *Molecular Psychiatry* 27:967-75, 2022.[pdf]
10. Yang A, Rolls ET, Dong G, **Du J**, Li Y, Feng J, Cheng W, Zhao XM.. "Longer screen time utilization is associated with the polygenic risk for Attention-deficit/hyperactivity disorder with mediation by brain white matter microstructure." *EBioMedicine* 80:104039, 2022.[pdf]
11. **Du J** and Buckner RL. "Precision estimates of macroscale network organization in the human and their relation to anatomical connectivity in the marmoset monkey." *Current Opinion in Behavioral Sciences* 40:144-52, 2021.[pdf]
12. **Du J**, Palaniyappan L, Liu Z, Cheng W, Gong W, Zhu M, Wang J, Zhang J, Feng J. "The genetic determinants of language network dysconnectivity in drug-naïve early stage schizophrenia." *npj Schizophrenia* 7:18, 2021.[pdf]
13. Gong W, Rolls ET, **Du J**, Cheng W, Li Y, Gong W, Qiu J, Feng J. "Brain structure is linked to the association between family environment and behavioral problems in children in the ABCD study." *Nature Communications* 12:3769, 2021.[pdf](co-first author)
14. **Du J**, Liu Z, Hanford LC, Anderson KM, Feng J, Ge T, Buckner RL. "Exploration of Alzheimer's disease MRI biomarkers using APOE4 carrier status in the UK Biobank." *medRxiv* 2021.[pdf]
15. Wang L, Zhou C, Cheng W, Rolls ET, Huang P, Ma N, Liu Y, Zhang Y, Guan X, Guo T, et al. "Dopamine depletion and subcortical dysfunction disrupt cortical synchronization and metastability affecting cognitive function in Parkinson's disease." *Human Brain Mapping* 43:1598-610, 2021.[pdf]
16. **Du J,** Rolls ET, Cheng W, Li Y, Gong W, Qiu J, Feng J. "Functional connectivity of the orbitofrontal cortex, anterior cingulate cortex, and inferior frontal gyrus in humans." *Cortex* 123:185-99, 2020.[pdf]
17. Rolls ET, Cheng W, **Du J**, Wei D, Qiu J, Dai D, Zhou Q, Xie P, Feng J. "Functional connectivity of the right inferior frontal gyrus and orbitofrontal cortex in depression." *Social Cognitive and Affective Neuroscience* 15:75-86, 2020.[pdf](co-first author)
18. Cheng W, Rolls ET, Gong W, **Du J**, Zhang J, Zhang XY, Li F, Feng J. "Sleep duration, brain structure, and psychiatric and cognitive problems in children." *Molecular Psychiatry* 26:3992-4003, 2020.[pdf]
19. Wang H, Rolls ET, Du X, **Du J**, Yang D, Li J, Li F, Cheng W, Feng J. "Severe nausea and vomiting in pregnancy: psychiatric and cognitive problems and brain structure in children." *BMC Medicine* 18:228, 2020.[pdf]
20. Wang L, Cheng W, Rolls ET, Dai F, Gong W, **Du J**, Zhang W, Wang S, Liu F, Wang J, Brown P, et al. "Association of specific biotypes in patients with Parkinson disease and disease progression." *Neurology* 95:e1445-60, 2020.[pdf]
21. Shen C, Luo Q, Chamberlain S, Morgan S, Romero R, **Du J**, Zhao X, Touchette É, Montplaisir J, Vitaro F, Boivin M, et al. "What is the link between Attention-Deficit/Hyperactivity Disorder and sleep disturbance?A multimodal examination of longitudinal relationships and brain structure using large-scale population-based cohorts." *Biological Psychiatry* 88:459-69, 2020.[pdf]
22. Cheng W, Rolls ET, Robbins TW, Gong W, Liu Z, Lv W, **Du J**, Wen H, Ma L, Quinlan EB, Garavan

H, Artiges E, et al. "Decreased brain connectivity in smoking contrasts with increased connectivity in drinking." *eLife* 8:e40765, 2019.[pdf]

23. Liu Z, Rolls ET, Liu Z, Zhang K, Yang M, **Du J**, Gong W, Cheng W, Dai F, Wang H, Ugurbil K, Zhang J, Feng J. "Brain annotation toolbox: Exploring the functional and genetic associations of neuroimaging results." *Bioinformatics* 35:3771-8, 2019.[pdf]

RECENT TALKS

1. "Organization of Human Large-Scale Brain Networks Estimated Within Individuals", *Monash University, Neural Systems and Behavior Lab*, Melbourne, 2025.11.
2. "Organization of Human Large-Scale Brain Networks Estimated Within Individuals", *University of Notre Dame, Department of Psychology*, IN, 2025.11.
3. "Organization of Human Large-Scale Brain Networks Estimated Within Individuals", *Massachusetts Institute of Technology, McGovern Institute for Brain Research*, MA, 2025.11.
4. "Organization of Human Large-Scale Brain Networks Estimated Within Individuals", *Peking University, School of Psychological and Cognitive Sciences*, Beijing, 2025.11.
5. "Mapping Precision Functional Networks in an Individual's Brain", *Tsinghua University, Department of Psychological and Cognitive Sciences*, Beijing, 2025.10.
6. "Mapping Precision Functional Networks in an Individual's Brain", *University of Delaware, Cognitive Area Seminar*, DE, 2025.10.
7. "Organization of Human Large-Scale Brain Networks Estimated Within Individuals", *Harvard University, Department of Psychology*, MA, 2025.10.
8. "Organization of the Human Cerebral Cortex Estimated Within Individuals", *Harvard University, CBS Neurolunch Seminar*, MA, 2025.10.
9. "Within-individual Precision Mapping of Brain Networks", *Chinese Institute for Brain Research*, Beijing, 2025.3.
10. "Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function", *Mass General Hospital, Center for Genomic Medicine*, MA, 2025.2.
11. "Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function", *Stanford University, Department of Linguistic*, CA, 2024.11.
12. "Estimating Precision Brain Networks Using Task Data: Correspondence to Passive Fixation, Predictive Validity, and New Opportunities", *Harvard University, Department of Psychology*, MA, 2024.10.
13. "Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function", *Beijing Normal University, IDG McGovern Institute / Psychology*, Beijing, 2024.8.
14. "Within-Individual Organization of the Human Cerebral Cortex: Networks, Global Topography, and Function", *Fudan University, ISTBI*, Shanghai, 2024.7.
15. "Precision Mapping Using a Novel Multi-Session Hierarchical Bayesian Model", *Harvard University, Center for Brain Science*, MA, 2024.5.
16. "Estimating Cortical Networks Using a Multi-Session Hierarchical Bayesian Model", *Harvard University, Department of Psychology*, MA, 2022.7.
17. "Brain Aging and Alzheimer's disease in the UK Biobank", *Harvard University, Department of Psychology*, MA, 2020.9.
18. "Comparative Network Homology in Human and Marmoset Monkey Brains", *Harvard University, Department of Psychology*, MA, 2020.3.

CONFERENCE PRESENTATIONS

1. **Du J**. "Not Your Average Brain: Individual-Level fMRI as a Paradigm Shift for Cognitive Neuroscience." *Cognitive Neuroscience Society Annual Meeting, Vancouver* 2026 (Selected Symposium, Chair and Speaker).
2. **Du J**, Tripathi V, Elliott ML, Ladopoulou J, Sun W, Eldaief MC, Buckner RL. "Within-individual precision mapping of brain networks using task data and its application in identifying thalamic networks." *Society for Neuroscience, San Diego* 2025.
3. Zhi D, **Du J**, Shahshahani L, Nettekoven C, Pinho AL, Diedrichsen J, Tian G. "Precision Functional Mapping of Individual Human Brain using Rest and Task fMRI Data." *Society for Neuroscience, San Diego* 2025.
4. Libowitz MR, Sun W, Feldman D, **Du J**, Davis T, Rahimpour S, Smith EH, King J, Buckner RL, Shofty B. "Electrophysiology of precision functional networks: Concordant insights from fMRI and iEEG in an oddball paradigm." *Society for Neuroscience, San Diego* 2025.
5. Sun W, Libowitz MR, Feldman D, **Du J**, Billot A, Rodrigues K, Eldaief MC, Davis T, Rahimpour S, Smith EH, King J, Buckner RL, Shofty B. "Automated Precision Functional Network Mapping In Neurosurgical Patients Using A Low-Burden Single MRI Session." *Congress of Neurological Surgeons, Los Angeles* 2025.
6. **Du J**, DiNicola LM, Angeli PA, Saadon-Grosman N, Sun W, Kaiser S, Ladopoulou J, Xue A, Yeo BTT, Eldaief MC, Buckner RL. "DU15NET: A novel 15-network parcellation of the cerebral cortex." *Society for Neuroscience, Chicago* 2024.
7. **Du J**, DiNicola LM, Angeli PA, Saadon-Grosman N, Sun W, Kaiser S, Ladopoulou J, Xue A, Eldaief MC, Buckner RL. "Within-individual organization of the human cerebral cortex revisited." *Organization for Human Brain Mapping Conference, Montreal* 2023.
8. Saadon-Grosman N, **Du J**, Angeli PA, DiNicola LM, Eldaief MC, Buckner RL. "Detailed organization of higher-order networks in the cerebellum estimated within the individual." *Organization for Human Brain Mapping Conference, Montreal* 2023.
9. Hanford L, **Du J**, Saadon-Grosman N, Angeli P, DiNicola LM, Bryce N, Flournoy J, Mair R, Buckner RL, McLaughlin K. "Effects of scan acquisition and smoothing on cortical network parcellations." *Organization for Human Brain Mapping, Montreal* 2023.
10. Buckner RL, Saadon-Grosman N, **Du J**, DiNicola LM, Angeli P, Ladopoulou J, Eldaief MC. "The global organization of the cerebral cortex estimated within the individual." *Organization for Human Brain Mapping Conference, Montreal* 2023.
11. **Du J,** Liu Z, Hanford LC, Anderson KM, Feng J, Ge T, Buckner RL. "Explorations of brain aging in the UK Biobank." *Simons Collaboration on Plasticity and the Aging Brain Conference, NYC* 2022.
12. **Du J,** Rolls ET, Gong W, Cao M, Vatansever D, Zhang J, Kang J, Cheng W, Feng J. "Association between parental age, brain, and psychiatric and cognitive problems in children." *Organization for Human Brain Mapping Conference, Rome* 2019.

AD HOC REVIEW

Proceedings of the National Academy of Sciences (PNAS)
Nature Communications
Developmental Cognitive Neuroscience
Neurology
BMC Medicine
Science Bulletin
Patterns

Human Brain Mapping
Translational Psychiatry
Neuropsychopharmacology

PROFESSIONAL MEMBERSHIP

Organization for Human Brain Mapping
Society for Neuroscience
Cognitive Neuroscience Society
Association for Psychological Science

TEACHING

Computational Neuroscience, Teaching Assistant, Fudan University, 2019
Linear Algebra, Teaching Assistant, Fudan University, 2017-2018

MENTORING

Mentees:
Ella Rowsthorn, OHBM mentee (2025-; Current: PhD Candidate at Monash University)
Negin Javaheri, OHBM mentee (2025-; Current: PhD Candidate at University of Bremen)
Lin Du, visiting graduate student at Harvard (2025-; Current: Visiting graduate student at Harvard University)
Joanna Ladopoulou, research assistant at Harvard (2022-2024; Current: Clinical Psychology at University of Southern California)
Stephanie Kaiser, research assistant at Harvard (2022-2023; Current: Project Coordinator at San Diego State University)
Wendy Sun, Junior MD-PhD student at Harvard (2021-; Current: MD-PhD student at Harvard University)
Jennie Li, visiting college student at Harvard (2020-2021; Current: Computational Biology at Cornell University)
PPREP Mentor, Harvard Prospective PhD and RA Event in Psychology (2024-2025)

HONORS AND AWARDS

Outstanding Graduate Student, Department of Education of Shanghai, 2021
National Scholarship (USD 4,000), Ministry of Education of China, 2019
Outstanding Student of Fudan University, 2019
Meritorious Winner, Interdisciplinary Contest In Modeling, 2014
Second prize, National Undergraduate Mathematical Modeling Contest, 2013

PUBLIC OUTREACH

2025: Harvard Gazette, "New way to map the unique brain organization of individuals". [link]
2024: Harvard Gazette, "Mind Mapper". [link]

SKILLS

- General Software Engineering: MATLAB, R, Python, Git, LATEX
- Neuroimaging: FreeSurfer, FSL, AFNI, SPM12, Connectome Workbench
- Data Visualization: Adobe Illustrator, Adobe Photoshop, Adobe Lightroom, ParaView